



भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 228^{वीं} बैठक का कार्यवृत्त |

Subject: Minutes of the 228th OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 228^{वीं} बैठक दिनांक 14.02.2025 को आयोजित की गयी थी। उक्त बैठक का कार्यवृत्त उत्तर क्षेत्रीय विद्युत समिति की वेबसाइट <http://164.100.60.165> पर उपलब्ध है। यदि कार्यवृत्त पर कोई टिप्पणी हो तो कार्यवृत्त जारी करने के एक सप्ताह के अन्दर इस कार्यालय को भेजें |

The 228th meeting of the Operation Co-ordination Sub-Committee (OCC) of NRPC was held on 14.02.2025. The Minutes of this meeting has been uploaded on the NRPC website <http://164.100.60.165>. Any comments on the minutes may kindly be submitted within a week of issuance of the minutes.

संलग्नक: यथोपरि।

Signed by Dharmendra
Kumar Meena
Date: 03-03-2025 13:08:07

(डी. के. मीना)

निदेशक (प्रचालन)

सेवा में,

उ.क्षे.वि.स. के प्रचालन समन्वय उप-समिति के सभी सदस्य

Contents

A.1. Confirmation of Minutes.....	7
A.2. Status of action taken on decisions of 227 th OCC meeting of NRPC.....	7
A.3. Review of Grid operations of January 2025.....	7
A.4. Maintenance Programme of Generating units and Transmission Lines.....	8
A.5. Anticipated Power Supply Position in Northern Region for March 2025.....	8
A.6. Follow-up of issues from various OCC Meetings - Status update.....	9
A.7. NR Islanding scheme.....	9
A.8. Coal Supply Position of Thermal Plants in Northern Region.....	10
A.9. Updating outage Details by Generating Station/utilities (Agenda by CEA).....	11
A.10. Implementation of AUFLS scheme in accordance with the report of Task Force on Automatic under Frequency Load Shedding (AUFLS) (Agenda by NRPC Sectt.)	11
A.11. Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) in Himachal Pradesh (Agenda by NRPC Sectt.).....	13
A.12. Periodic testing of generators and FACTS/HVDC Devices (Agenda by CEA)	16
A.13. Implementation of SPS arrangement at Jhatikra for load shedding is required to ensure stable transmission in case of contingency of 765/400 kV ICTs in upcoming summer loading (Agenda by Powergrid NR-1).....	19
A.14. 220kV AGRA(PG)-Bharatpur (RVVNL) Line Shutdown required for Line Impedance Measurement (Agenda by Powergrid NR-3).....	20
A.15. First Time Charging (FTC) of Future Bays at 765/400/220kV GIS, Rampur and 400/220/132kV GIS, Sambhal under PRSTL (Agenda by Powergrid NR-3).....	23
B.1 NR Grid Highlights for January 2025 and demand forecasting related.....	24
B.2 Demand forecasting and resource adequacy related.....	26
B.3 Compliance verification and Monitoring of intrastate renewable plants.....	32
B.4 Reactive power injection from LV side to HV side by state transmission network	33
B.5 Mock testing of islanding scheme and simulation studies.....	39
B.6 Tap Optimization of 400/220kV ICTs at Bhadla-PG.....	42
B.7 Reactive power performance of generators.....	43
B.8 Sharing of ATC/TTC assessment and basecase with NRLDC.....	49
B.9 Workforce Adequacy Guidelines for Load Despatch Centres and Guidelines for Deputation of Workforce from SLDCs to Grid India for Fixed terms.....	53
B.10 Multiple element tripping events in Northern region in the month of January 2025:	54

B.11	Status of submission of DR/EL and tripping report of utilities for the month of January 2025:.....	55
B.12	Frequency response performance for the reportable events of month of January 2025:.....	56
B.13	Mock trial run and testing of black start facilities at generating stations in Northern Region.....	62
B.14	Mock testing of System Protection Schemes (SPS) in Northern Region.....	64
B.15	Revision of document for System Restoration Procedure Document of Northern Region:.....	66

List of addressee (via mail)

OCC Members for FY 2024-25			
S. No	OCC Member	Category	E-mail
1	NLDC	National Load Despatch Centre	nomination awaited (susha@grid-india.in)
2	NRLDC	Northern Regional Load Despatch Centre	somara.lakra@grid-india.in
3	CTUIL	Central Transmission Utility	kashish@powergrid.in
4	PGCIL	Central Government owned Transmission Company	rtamc.nr1@powergrid.in rtamcjammu@powergrid.in cpcc.nr3@powergrid.in
5	NTPC	Central Generating Company	hastogi@ntpc.co.in
6	BBMB		powerc@bbmb.nic.in
7	THDC		ravindrasrana@thdc.co.in
8	SJVN		sjvn.cso@sjvn.nic.in
9	NHPC		surendramishra@nhpc.nic.in
10	NPCIL		df@npcil.co.in
11	Delhi SLDC	State Load Despatch Centre	gmsldc@delhisldc.org
12	Haryana SLDC		cesocomml@hvpn.org.in
13	Rajasthan SLDC		ce.ld@rvpn.co.in
14	Uttar Pradesh SLDC		cepso@upsldc.org
15	Uttarakhand SLDC		se_sldc@ptcul.org
16	Punjab SLDC		ce-sldc@pstcl.org
17	Himachal Pradesh SLDC		cehpsldc@gmail.com
18	DTL	State Transmission Utility	bl.gujar@dtl.gov.in
19	HVPNL		cetspkl@hvpn.org.in
20	RRVPNL		ce.ppm@rvpn.co.in
21	UPPTCL		smart.saxena@gmail.com
22	PTCUL		ce_oandmk@ptcul.org
23	PSTCL		ce-tl@pstcl.org
24	HPPTCL		gmprojects.tcl@hpmail.in
25	IPGCL		ncsharma@ipgcl-ppcl.nic.in
26	HPGCL	seom2.rgtpp@hpgcl.org.in	
27	RRVUNL	State Generating Company	ce.ppmcit@rrvun.com
28	UPRVUNL		cgm.to@uprvunl.org
29	UJVNL		gm_engg_ujvn@yahoo.co.in
30	HPPCL		gm_generation@hppcl.in

31	PSPCL	State Generating Company & State owned Distribution Company	ce-ppr@pspcl.in
32	UHBVN	State owned Distribution Company (alphabetical rotational basis/nominated by state govt.)	nomination awaited md@uhbvn.org.in
33	Jodhpur Vidyut Vitran Nigam Ltd.		addlcehqjdvvnl@gmail.com
34	Paschimanchal Vidyut Vitaran Nigam Ltd.		nomination awaited md@pvvnl.org
35	UPCL		cgmupcl@yahoo.com
36	HPSEB		cesysophpsebl@gmail.com
37	Prayagraj Power Generation Co. Ltd.		IPP having more than 1000 MW installed capacity
38	Aravali Power Company Pvt. Ltd	amit.hooda01@gmail.com	
39	Apraave Energy Ltd.,	rajneesh.setia@apraava.com	
40	Talwandi Sabo Power Ltd.	ravinder.thakur@vedanta.co.in	
41	Nabha Power Limited	Durvesh.Yadav@larsentoubro.com	
42	MEIL Anpara Energy Limited	arun.tholia@meilanparapower.com	
43	Rosa Power Supply Company Ltd	Suvendu.Dey@relianceada.com	
44	Lalitpur Power Generation Company Ltd	avinashkumar.ltp@lpgcl.com	
45	MEJA Urja Nigam Ltd.	rsjuneja@ntpc.co.in	
46	Adani Power Rajasthan Limited	manoj.taunk@adani.com	
47	JSW Energy Ltd. (KWHEP)	roshan.zipta@jsw.in	
48	TATA POWER RENEWABLE	IPP having less than 1000 MW installed capacity (alphabetical rotational basis)	nomination awaited dhmahabale@tatapower.com
49	UT of J&K	From each of the Union Territories in the region, a	sojpdd@gmail.com

50	UT of Ladakh	representative nominated by the administration of the Union Territory concerned out of the entities engaged in generation/ transmission/ distribution of electricity in the Union Territory.	cepdladakh@gmail.com
51	UT of Chandigarh		elop2-chd@nic.in
52	Noida Power Company limited	Private Distribution Company in region (alphabetical rotational basis)	nomination awaited (ssrivastava@noidapower.com)
53	Fatehgarh Bhadla Transmission Limited	Private transmission licensee (nominated by central govt.)	nomination awaited (nitesh.ranjan@adani.com)
54	NTPC Vidyut Vyapar Nigam Ltd.	Electricity Trader (nominated by central govt.)	nomination awaited (ceonvvn@ntpc.co.in)

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 228^{वीं} बैठक का कार्यवृत्त

The 228th OCC meeting of NRPC was held on 14.02.2025 through video conferencing. MS, NRPC welcomed all the participants connected through VC and requested for the presentation of the agenda items.

खण्ड-क:उ.क्षे.वि.स.

PART-A:NRPC

A.1. Confirmation of Minutes

Minutes of the 227th OCC meeting was issued on 07.02.2025. OCC confirmed the minutes of the meeting.

A.2. Status of action taken on decisions of 227th OCC meeting of NRPC

A.2.1. MS, NRPC conveyed that the agenda has been taken to track the status of action taken as per decision of last meeting. Accordingly, issues may be resolved at the earliest.

A.2.2. Concerned utilities submitted the status of action taken.

Decision of OCC Forum:

Concerned utilities submitted the status of action taken and the same has been complied as **Annexure- 0**.

A.3. Review of Grid operations of January 2025

Anticipated vis-à-vis Actual Power Supply Position (Provisional) for January 2025

Reasons submitted by States for significant deviation of actual demand from anticipated figures during the month of January 2025 are as under:

- **Delhi**

Delhi experienced, warmer January as compared to past years with an average minimum temperature of 8.5 degree Celsius. As such, peak demand and energy consumption was on lower side than expected.

- **Haryana**

It is intimated that agriculture load in Haryana was quite less than the load felt during the last year, resulting in decrease in peak demand and energy consumption.

- **Himachal Pradesh**

The negative variation in Actual Power Supply Position (Provisional) vis-à-vis anticipated figures occurred due to dry weather conditions.

- **Punjab**

It is intimated that actual maximum demand is less as compared to anticipated maximum demand as temperatures remained above normal during most of the month in January 2025 in the state of Punjab

A.4. Maintenance Programme of Generating units and Transmission Lines

The maintenance programme of generating units and transmission lines for the month of March 2025 was deliberated in the meeting on 13.02.2025.

A.5. Anticipated Power Supply Position in Northern Region for March 2025

The updated anticipated Power Supply Position for March 2025 is as below:

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
CHANDIGARH	Availability	130	330	No Revision submitted
	Requirement	128	289	
	Surplus / Shortfall	2	41	
	% Surplus / Shortfall	1.3%	14.4%	
DELHI	Availability	3440	5256	13-Feb-25
	Requirement	2300	4800	
	Surplus / Shortfall	1140	456	
	% Surplus / Shortfall	49.6%	9.5%	
HARYANA	Availability	5880	9435	13-Feb-25
	Requirement	4448	8428	
	Surplus / Shortfall	1432	1007	
	% Surplus / Shortfall	32.2%	11.9%	
HIMACHAL PRADESH	Availability	1077	2023	11-Feb-25
	Requirement	1092	2059	

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
	Surplus / Shortfall	-15	-36	
	% Surplus / Shortfall	-1.4%	-1.7%	
J&K and LADAKH	Availability	1370	3240	No Revision submitted
	Requirement	1977	3634	
	Surplus / Shortfall	-607	-394	
	% Surplus / Shortfall	-30.7%	-10.8%	
PUNJAB	Availability	6610	10860	13-Feb-25
	Requirement	4812	10415	
	Surplus / Shortfall	1798	445	
	% Surplus / Shortfall	37.4%	4.3%	
RAJASTHAN	Availability	8790	18020	No Revision submitted
	Requirement	10008	18666	
	Surplus / Shortfall	-1218	-646	
	% Surplus / Shortfall	-12.2%	-3.5%	
UTTAR PRADESH	Availability	11100	23300	07-Feb-25
	Requirement	10950	23300	
	Surplus / Shortfall	150	0	
	% Surplus / Shortfall	1.4%	0.0%	
UTTARAKHAND	Availability	1280	2300	07-Feb-25
	Requirement	1287	2350	
	Surplus / Shortfall	-6	-50	
	% Surplus / Shortfall	-0.5%	-2.1%	
NORTHERN REGION	Availability	39678	70400	
	Requirement	37002	69600	
	Surplus / Shortfall	2676	800	
	% Surplus / Shortfall	7.2%	1.1%	

A.6. Follow-up of issues from various OCC Meetings - Status update

- A.6.1. The updated status of agenda items is enclosed at **Annexure-A.I.**
- A.6.2. In 228th OCC, SLDCs were requested again to coordinate with respective Transmission Utilities of states/UTs and submit details about the updated status of Down Stream network by State Utilities from ISTS Station (enclosed as **Annexure-A-I.I**) before every OCC meeting.

A.7. NR Islanding scheme

- A.7.1. In the meeting (228th OCC), UPPTCL representative apprised that Unchahar-Lucknow Islanding scheme has been successfully implemented and same is visible at SCADA of UPSLDC except 01 Substation: 132 kV S/s Hussainganj. The data of above 01 substation is not available at UPSLDC due to lack of OPGW. The work of laying OPGW cable is under progress and same shall be completed by end of April, 2025.
- A.7.2. With regard to Agra islanding scheme, UPPTCL representative apprised to forum that their management is of view that procurement of UFRs for the Lalitpur-Agra islanding scheme should be explored through PSDF funding. A proposal for the same has been prepared and submitted to the PSDF Secretariat and are awaiting confirmation regarding the status of PSDF funding from PSDF Sectt.
- A.7.3. RRVPNL representative stated that they have submitted their proposal of Jodhpur-Barmer-Rajwest islanding scheme to PSDF Secretariat on 16.01.2025 for PSDF funding and are awaiting confirmation regarding the status of PSDF funding from PSDF Sectt.
- A.7.4. RRVPNL representative mentioned that DPR for implementation of Suratgarh islanding scheme would be submitted after confirmation of status of PSDF funding from PSDF Sectt. for Jodhpur-Barmer-Rajwest islanding scheme.
- A.7.5. With regard to Patiala-Nabha Power Rajpura islanding scheme representative from Punjab SLDC informed that they have submitted their proposal to PSDF Secretariat and are awaiting confirmation regarding the status of PSDF funding from PSDF Sectt.
- A.7.6. HPSLDC representative apprised that proposed UFR scheme for Kullu- Manali islanding scheme has been recommended by the Appraisal Committee of the State PSDF for approval of Hon'ble HPERC. The islanding scheme would now be taken up with Monitoring committee for State PSDF funding approval. Meeting of Monitoring committee is planned in March, 2025.
- A.7.7. Further, with regard to Shimla-Solan Islanding scheme, a separate meeting was conducted by NRPC Sectt. with HPSLDC, HPSEBL and M/s GE on 18.09.2024) wherein HPSEBL informed that payment to M/s GE would be made within two months and subsequently work regarding the implementation in revised setting of

Bhaba HEP would be completed by M/s GE within one month. In the 227th OCC meeting, HPSLDC also informed that they had sent a letter to all concerned generators requesting them to lower the UFR settings of their generators to below 47.5 Hz. In this regard, HPSLD Chas intimated vide letter dated 06.01.2025 (a copy of which is attached as **Annexure-A.II**) that expect generators under HPSEBL and Sandhya HEP (which is under force outage) all the rest generators have lower the UFR settings of their generators to below 47.5 Hz.

A.8. Coal Supply Position of Thermal Plants in Northern Region

- A.8.1. In the meeting, NRPC representative apprised forum about the coal stock position of generating stations in northern region during current month (till 10th February 2025).
- A.8.2. Average coal stock position of generating stations in northern region, having critical stock, during first ten days of January 2025 is NIL.

A.9. Updating outage Details by Generating Station/utilities (Agenda by CEA)

- A.9.1 NRPC representative apprised forum that to enhance the monitoring of approved Planned Maintenance schedules, CEA has asked that information regarding actual maintenance availed against approved planned maintenance is to be updated on priority by respective RPCs regularly on monthly basis.
- A.9.2 In the 221st OCC meeting of NRPC, forum asked generating stations of NR to update the status of Planned Maintenance schedules versus actual maintenance availed for the previous month before every OCC meeting and it was decided that to enhance the monitoring of approved Planned Maintenance schedules the said agenda item shall be taken as rolling/follow-up agenda in OCC meetings.
- A.9.3 In this regard, list of Planned Maintenance schedules versus actual maintenance availed for the year 2024-25 for the month of January-2025 attached as Annexure-A.IV of agenda was shared with the relevant generating stations of NR and based on the inputs received from them the updated information is attached as **Annexure-A.III**.

A.10. Implementation of AUFLS scheme in accordance with the report of Task Force on Automatic under Frequency Load Shedding (AUFLS) (Agenda by NRPC Sectt.)

- A.10.1. EE(O) NRPC apprised forum that in line with the report of Task Force on Automatic under Frequency Load Shedding (AUFLS) and df/dt scheme and Region wise quantum of load shedding in different stages of AUFLS communicated by NPC Secretariat, NRPC Sectt. has computed Stage-wise

AUFLS relief quantum for each State/UT of NR. The details of which are mentioned in the table below: -

State/UT	Stage-1 49.4 Hz (5%)	Stage-2 49.2 Hz (6%)	Stage-3 49.0 Hz (7%)	Stage-4 48.8 Hz (7%)	Total
	Stage-1 Relief	Stage-2 Relief	Stage-3 Relief	Stage-4 Relief	
Chandigarh	15.850	19.020	22.190	22.190	79.248
Delhi	299.338	359.205	419.073	419.073	1496.690
Haryana	526.332	631.599	736.865	736.865	2631.661
Himachal Pradesh	97.246	116.695	136.145	136.145	486.231
UT J&K & Ladakh	145.406	174.487	203.569	203.569	727.031
Punjab	601.638	721.966	842.293	842.293	3008.190
Rajasthan	811.056	973.268	1135.479	1135.479	4055.282
Uttar Pradesh	1191.769	1430.122	1668.476	1668.476	5958.843
Uttarakhand	113.069	135.682	158.296	158.296	565.343
Total	3801.704	4562.045	5322.386	5322.386	19008.52

A.10.2. In 15th NPC meeting held on 14.11.2024 following was approved by the committee: -

- The AUFLS scheme must ensure Pumped storage hydro plants operating in pumping mode or ESS operating in charging mode shall be automatically disconnected before the first stage of UFR.
- Bulk consumers connected to ISTS and STU networks must implement the UFR scheme. Compliance should be ensured during the grant of connectivity by CTU and STU.
- The implementation of the **AUFLS and df/dt schemes must be completed by March 2025**. RPCs are required to regularly monitor the implementation of the UFR scheme as a whole including the bulk consumers connected at the ISTS level. RPCs may communicate above decisions to the respective States for implementation.

A.10.3. States/UT shall identify the load relief for each stage considering the Quantum of relief and their demand contribution considering the intra-day, seasonality etc. 10% additional relief would be finalized considering the demand growth of the year, planned and forced outages, UFR and breaker issues etc. SLDC would communicate feeder-wise, Stage-wise details etc. to RPC/RLDC.

A.10.4. MS, NRPC mentioned that NRPC has written a letter to head of STU's and SLDC's of NR States/UTs to ensure timely implementation of the prescribed AUFLS relief quantum by 31st March 2025.

A.10.5. CGM(SO), NRLDC asked respective SLDCs of NR States/UTs to confirm via mail the relief quantum at different stages of AUFLS as on present date.

GUIDELINES FOR IDENTIFICATION OF AUFLS FEEDERS

The following to be considered for identification of feeders:

i. AUFLS relays under Stage-1 & Stage-2 should be implemented preferably on downstream network at 11/22/33 kV level.

ii. AUFLS relays under Stage-3 & Stage-4 should be implemented on upstream network at EHV (66/110/132 kV) level so that load relief obtained is fast and reliable as it is a desperate measure for areas that have disintegrated.

iii. As far as possible the feeders/transformers are feeding radial loads shall be identified.

iv. Telemetry availability would be considered as important factor so that the feeders/transformer loading can be extended to SLDC/RLDC for mapping

v. Feeders catering to critical loads are to be avoided. VIP areas, Airport, Metro, Railways, Defence, Govt. Hospitals, Government Offices, continuous process industries etc. needs to be prioritized

vi. No mixed feeders with RE/Distributed generations should be identified. If identified the feeder should be never in injecting mode. Steps to segregate the feeder (load/RE/Distributed generation) would be taken.

vii. If Grid feeder is identified the other side breakers should be in normally open condition. If they are to be closed frequently then UFR with same set points to be provided at other ends.

viii. The feeders identified for AUFLS would be as far as possible not common for df/dt, scheduled power cuts, load shedding, SPS, ADMS etc. In case of difficulty to identify dedicated feeders the same is to be approved in OCC/PCSC. Adequate care is to be taken if round robin scheme is adopted for ADMS, SPS etc.

ix. The Islanding loads/feeders which are to be retained would not be enabled for AUFLS. However, loads in the Island can be identified for AUFLS but same has to be factored while designing the Island.

A.10.6. OCC forum in line with the report of task force on AUFLS and df/dt scheme asked States/UTs of NR to communicate feeder-wise, Stage-wise AUFLS quantum to NRPC/NRLDC before next OCC meeting.

Decision of OCC Forum:

Forum asked States/UTs of NR to communicate feeder-wise, Stage-wise AUFLS quantum to NRPC/NRLDC before next OCC meeting.

SLDC's to co-ordinate with STU/DISCOMS and confirm before next OCC meeting the relief quantum at different stages of AUFLS as on present date.

A.11. Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) in Himachal Pradesh (Agenda by NRPC Sectt.)

A.11.1 NRPC representative apprised forum that a meeting was held in CEA on 30.01.2025, for deliberation on the transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) in Himachal Pradesh (copy of MoM of the meeting is attached as Annexure-A.IV of agenda)

Background:

The transmission scheme "Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)" is currently under bidding. The broad scope of the transmission scheme is given below:

- Establishment of 2x315 MVA 400/220 kV GIS Pooling Station at Jhangi
- 400 kV Jhangi PS – Wangtoo (Quad) D/c line
- LILO of one circuit of Jhangi PS – Wangtoo (HPPTCL) 400 kV D/c (Quad) line at generation switchyard of Shongtong HEP
- Wangtoo (HPPTCL) – Panchkula (PG) 400 kV D/c line

The above transmission scheme is under bidding with implementation timeframe of 30 months.

A.11.2 In the said meeting HPPTCL informed that HPPCL has intimated scheduled commissioning of Shongtong HEP in November 2026 and transmission scheme (under TBCB) for evacuation of power from Shongtong HEP has not yet been awarded for execution. As only 22 months are left for the proposed commissioning of Shongtong HEP, HPPTCL had proposed following interim arrangement for evacuation of power from Shongtong HEP:

- LILO of one circuit of Baspa-II – Karcham Wangtoo 400 kV line (Triple snowbird) at Shongtong HEP

A.11.3 Further, HPPTCL mentioned that as there is limited corridor in the narrow valley, the LILO portion may be constructed on Quad configuration under ISTS and the same would become part of the final transmission scheme.

A.11.4 In the said meeting after detailed deliberation following was agreed:

- (i) HPPTCL is requested to take the matter in the coming meeting of NRPC for consultation with all the stakeholders.
- (ii) Decision on the interim arrangement would be taken based on the timeline of commissioning of the planned transmission scheme and the timeline of commissioning of Shongtong Karcham HEP.

A.11.5 The representative of HPPCL informed that the proposed scheme was approved by the Ministry of Power (MoP) in April 2023. According to the scheme, construction activities for the Tidong Hydroelectric Project (HEP) were scheduled for completion in the first phase by July 1, 2026, while construction activities for the Shongtong HEP were to be completed in the second phase by July 31, 2026. However, the bidding process has taken over one and a half years and is yet to be completed.

A.11.6 Additionally, HPPCL anticipates that water availability is expected by November 2026, and their machines would be ready to generate power by December 1, 2026. Given that only 21 months remain until the proposed commissioning of the Shongtong HEP, approval is sought for the LILO (Loop-In Loop-Out) of one circuit of the Baspa-II – Karcham Wangtoo 400 kV line (Triple Snowbird) at Shongtong HEP as an interim arrangement.

A.11.7 HPPCL representative informed that delays in obtaining certain clearances were caused by issues related to the barrage. However, the barrage works were completed and handed over in August 2024. As a result, there are no remaining issues that could delay the Shongtong project.

A.11.8 On the cited matter NRLDC mentioned the following

- i. In case Shongtong and Tidong generation is to be evacuated before commissioning of 400kV Wangtoo – Panchkula D/c line, switchgear replacement for Jhakri – Panchkula section and Rampur – Nallagarh section may be carried out as it may lead to SPS requirement under N-1 contingency.
- ii. Modification of SPS under different contingencies needs to be discussed with all stakeholders at OCC/NRPC level after revised simulation studies and also depending on switchgear upgradation work at POWERGRID/Hydro stations.
- iii. Shongtong HEP should confirm whether they will be able to receive SPS signal from Nathpa Jhakri/Rampur/Gumma and trip their units in case of N-1-1 contingency of lines, as the comprehensive SPS logic of the whole complex would require tripping of Shongtong generation.
- iv. For replacement of terminal equipment, prolonged shutdown may be required. Shutdown requirement for terminal equipment replacement also to be discussed beforehand to take judicious call as most substations in the complex are GIS substations.

- A.11.9 CGM(SO), NRLDC stated that with the proposed arrangement, power of Shontong HEP would then be evacuated through 400KV Karcham-Wangtoo-KalaAmb-Abdullapur section which has been implemented under ISTS. As it would increase powerflow on the ISTS network, so the proposed interim arrangement must first be discussed in the CMETS meeting before being presented to the NRPC forum.
- A.11.10 CTU highlighted that earlier JSW raised the issue of under rated XLPE cable (630 sqmm) at Karcham Wangtoo end of Baspa-II – Kancham Wangtoo 400 kV D/c line which limits the capacity of this Triple snowbird line. Upon query regarding the change of under rated cable, JSW stated that the cable delivery would take at least couple of years and long shutdown would also be required for the same. Further, JSW expressed concerns about congestion in the existing corridor due to the interim arrangement and opined for realignment of SPS setting in the complex.
- A.11.11 MS, NRPC was of view that in case of delays in likely commissioning of Shongtong (450MW) HEP beyond December,26 the evacuation system may be constructed as per originally planned scheme of 400kV D/C (Quad HLTS) line upto Wangtoo SS (about 18 km length). In case Shongtong HEP is in advance stage and could be commissioned by November/December 2026, then interim LILO arrangement (about 6 km length) as proposed by HPPTCL may be considered subject to other requirements (SPS etc).
- A.11.12 MS, NRPC suggested that additionally a team of hydro experts from CEA may visit the site to assess the progress of the ongoing work and likely commissioning of the Shontong HEP (450MW) project. Based on their assessment, a decision could be made on whether to proceed with the proposed interim arrangement or as per originally planned evacuation system.

Decision of OCC Forum:

OCC forum was of the view that proposed interim arrangement i.e. LILO of one circuit of the Baspa-II – Karcham Wangtoo 400 kV line (Triple Snowbird) at Shongtong HEP must first be discussed in CMETS meeting and thereafter it may be taken up in the upcoming NRPC meeting as power of Shontong HEP would be evacuated through 400KV Karcham-Wangtoo-KalaAmb-Abdullapur section which has been implemented under ISTS.

Further, a team of hydro experts from CEA may visit the site to assess the progress of the ongoing work and likely commissioning of the Shontong HEP (450MW) project. Based on their assessment, a decision could be made on whether to proceed with the proposed interim arrangement or as per originally planned evacuation system.

A.12. Periodic testing of generators and FACTS/HVDC Devices (Agenda by CEA)

- A.12.1 NRPC representative stated that Regulation 40 (1) of CERC (IEGC) Regulations, 2023 stipulate that there shall be periodic tests, as required under clause (3) of this Regulation, carried out on power system elements for ascertaining the correctness of mathematical models used for simulation studies as well as ensuring desired performance during an event in the system.
- A.12.2 The tests shall be performed once every five (5) years or whenever major retrofitting is done. If any adverse performance is observed during any grid event, then the tests shall be carried out even earlier, if advised by SLDC or RLDC or NLDC or RPC, as the case may be.
- A.12.3 Further, Regulation 40(1)(b) stipulate that “All equipment owners shall submit a testing plan for the next year to the concerned RPC by 31st October to ensure proper coordination during testing as per the schedule. In case of any change in the schedule, the owners shall inform the concerned RPC in advance.”
- A.12.4 Extract of IEGC 2023 clause 40,

“40. PERIODIC TESTING

(1) There shall be periodic tests, as required under clause (3) of this Regulation, carried out on power system elements for ascertaining the correctness of mathematical models used for simulation studies as well as ensuring desired performance during an event in the system.

(2) General provisions

(a) The owner of the power system element shall be responsible for carrying out tests as specified in these regulations and for submitting reports to NLDC, RLDCs, CEA and CTU for all elements and to STUs and SLDCs for intra-State elements.

(b) All equipment owners shall submit a testing plan for the next year to the concerned RPC by 31st October to ensure proper coordination during testing as per the schedule. In case of any change in the schedule, the owners shall inform the concerned RPC in advance.

(c) The tests shall be performed once every five (5) years or whenever major retrofitting is done. If any adverse performance is observed during any grid event, then the tests shall be carried out even earlier, if so advised by SLDC or RLDC or NLDC or RPC, as the case may be.

(d) The owners of the power system elements shall implement the recommendations, if any, suggested in the test reports in consultation with NLDC, RLDC, CEA, RPC and CTU.

(3) Testing requirements

The following tests shall be carried out on the respective power system elements:

TABLE 9 : TESTS REQUIRED FOR POWER SYSTEM ELEMENTS

Power System Elements	Tests	Applicability
Synchronous Generator	<ol style="list-style-type: none"> (1) Real and Reactive Power Capability assessment. (2) Assessment of Reactive Power Control Capability as per CEA Technical Standards for Connectivity (3) Model Validation and verification test for the complete Generator and Excitation System model including PSS. (4) Model Validation and verification of Turbine/Governor and Load Control or Active Power/ Frequency Control Functions. (5) Testing of Governor performance and Automatic Generation Control. 	Individual Unit of rating 100MW and above for Coal/lignite, 50MW and above gas turbine and 25 MW and above for Hydro.
Non Synchronous Generator (Solar/Wind)	<ol style="list-style-type: none"> (1) Real and Reactive Power Capability for Generator (2) Power Plant Controller Function Test (3) Frequency Response Test (4) Active Power Set Point change test. (5) Reactive Power (Voltage / Power Factor / Q) Set Point change test 	Applicable as per CEA Technical Standards for Connectivity.
HVDC/FACTS Devices	<ol style="list-style-type: none"> (1) Reactive Power Controller (RPC) Capability for HVDC/FACTS (2) Filter bank adequacy assessment based on present grid condition, in consultation with NLDC. (3) Validation of response by FACTS devices as per settings. 	To all ISTS HVDC as well as Intra-State HVDC/FACTS, as applicable

A.12.5 In accordance with above, Generators and HVDC/FACT owners were supposed to furnish the Testing schedule for 2025-26 by 31st October 2024.

A.12.6 The procedure for testing is available at the NLDC website at <https://posoco.in/wpcontent/uploads/2023/09/Final-Procedure-of-Periodic-Testing-for-Power-SystemElements-submitted-to-CERC.pdf>. This may be used for testing.

A.12.7 In 73 NRPC meeting, NRPC forum asked all Generators and HVDC/FACT owners to furnish the Testing schedule for 2024-25 and 2045-26 to NRPC/NRLDC at the earliest. However, the same is still pending.

A.12.8 In 226 OCC meeting, NRLDC representative stated that as the testing plan is yet to be received from utilities, a google sheet has been prepared and it is requested that testing plan for 2024-25 and 2025-26 may be updated in the sheet provided at the earliest as per the requirement of IEGC 2023 and decision of 73 NRPC meeting.

Google sheet link is:

https://docs.google.com/spreadsheets/d/18KTutJ66bK9LdOOHuHfzImBeYH7_TgMs/edit?gid=849497112#gid=849497112

A.12.9 NHPC representative intimated that they have updated the testing schedule of its generators in the above cited goggle sheet link.

- A.12.10 NTPC representative intimated that they have communicated to their corporate OS Department to take up the matter with the OEM regarding the periodic testing of its generators to comply with IEGC 2023.
- A.12.11 Powergrid informed that they have updated the testing schedule of HVDC Champa-Kurukshetra and their STATCOMS installed in Bhadla RE complex in the goggle sheet link.
- A.12.12 In view of the above, MS NRPC asked Generators and HVDC/FACT owners to furnish Testing schedule for 2025-26 in the format attached as Annexure-A.V. of agenda.

Decision of OCC Forum:

OCC forum asked all Generators and HVDC/FACT owners to update the Testing schedule for 2024-25 in the below mentioned google sheet link at the earliest

Google sheet link is:

https://docs.google.com/spreadsheets/d/18KTutJ66bK9LdOOHuHfzImBeYH7_TgMs/edit?gid=849497112#gid=849497112

A.13. Implementation of SPS arrangement at Jhatikra for load shedding is required to ensure stable transmission in case of contingency of 765/400 kV ICTs in upcoming summer loading (Agenda by Powergrid NR-1)

- A.13.1. NRPC representative apprised forum that Powergrid NR-1 has informed that severe N-1 contingency at 765/400 ICTs at Jhatikra has been observed in last peak loading season of 2024. The matter has been taken up in 224th & 225th OCC meeting wherein detailed study report from CTU regarding N-1 contingency has been directed by forum.
- A.13.2. During CMETS meeting dt 15.01.2025, 400 kV bus sectionaliser for connecting 400 kV buses in case of contingency with implementation timeline of 18 months has been agreed.
- A.13.3. As the proposed arrangement is not expected before Oct'26, SPS arrangement at Jhatikra for load shedding is required to ensure stable transmission in case of contingency of 765/400 kV ICTs in upcoming summer loading.
- A.13.4. NRLDC asked Powergrid to provide the status of the commissioning of ICT-5 at 765/400kV Jhatikra (Dwarka-Bamnauli section).
- A.13.5. Further, DTL was also requested to confirm the list of radial feeders that can be wired for SPS logic.
- A.13.6. According to information available with NRLDC, SPS was implemented at the 400/220kV ICT at Bamnauli using:
- a) 220kV Bamnauli-Pappankalan circuit 1

b) 220kV Bamnauli-Pappankalan circuit 2

- A.13.7. NRLDC inquired if these feeders could be mapped to the Jhatikra ICT loading to provide relief. Based on their study/simulations, a 170 MW relief on the 765/400kV ICT loading was observed if these feeders could be wired for SPS.
- A.13.8. Powergrid informed that the timeline for commissioning ICT-5 at 765/400kV Jhatikra (Dwarka-Bamnauli section) is 15 months, and it is not expected to be completed before the summer of 2026.
- A.13.9. DTL informed that as SPS at Bamnauli is no longer required, therefore feeders from 220kV Bamnauli-Pappankalan circuits can be wired in the logic for SPS that is to be implemented at Jhatikra.
- A.13.10. CGM(SO), NRLDC, requested DTL to identify the feeders for implementing SPS at 765/400kV Jhatikra. In the meantime, NRLDC to conduct the study and provide information before the next OCC meeting on the amount of load shedding required to offer relief on the 765/400kV ICT at Jhatikra.
- A.13.11. NRLDC asked Delhi SLDC/DTL to submit the base-case for conducting the study/simulations.

Decision of OCC Forum:

Forum asked DTL to identify the feeders for implementing SPS at 765/400kV Jhatikra. Meanwhile, NRLDC was asked to conduct the study and inform, before the next OCC meeting, the amount of load shedding required to provide relief on the 765/400kV ICT at Jhatikra.

A.14. 220kV AGRA(PG)-Bharatpur (RVVNL) Line Shutdown required for Line Impedance Measurement (Agenda by Powergrid NR-3)

- A.14.1. Powergrid NR-3 mentioned that 220 kV Agra-Bharatpur total line length is 84 Km & POWERGRID Agra Jurisdiction is looking after 55.812 KM (from Agra (PG) up to LILO point).
- A.14.2. Powergrid NR-3 stated that in past line trippings, it has been observed that line fault was at the boundary of Agra & Rajasthan Jurisdiction. However, during patrolling nothing abnormal is found in Agra jurisdiction & these boundary faults are found in Rajasthan jurisdiction.
- A.14.3. Further, it has mentioned that for fine-tuning the settings of Distance Protection Relays at Agra, the impedance measurement of 220kV Agra (PG)-Bharatpur (Raj.) line is to be carried from Agra (PG) end in upcoming S/D.
- A.14.4. Powergrid has submitted that S/D of the said line is already proposed in OCC-227 on 6th February by Agra TLM & 20th February by Bharatpur end. PG-AGRA team is following up for S/D of the line, but RVVNL is denying the same.
- A.14.5. The details of faults in this line in 2025 is as below:

S. No.	Date of Tripping due to Line Fault	Time of Fault	Distance Protection Relays Details from Agra End	Restoration Time	Fault Under
01.	01.01.2025	01:48	Zone-1, Y-N, FC=3.537 kA, FL= 55.74 Km Zone-1, Y-N, FC= 3.466 kA, FL=55.7 Km	02:43	Agra Jurisdiction
02.	21.01.2025	05:15	MAIN 1 (P444) - Zone-1, R-N, FC=3.292 kA, FL= 52.29 Km & MAIN 2 (REL670) - Zone-1, R-N, FC=3.203 kA, FL= 59.2 Km	06:43	Agra Jurisdiction (Main-1) Rajasthan (RRVNL) (Main-2)
03.	22.01.2025	04:55	MAIN 1 (P444) : Zone-1, Y-Nph, FC=3.414 kA,FL=58.07Km MAIN2 (REL670) : Zone-1, Y-Nph, FC=3.3 kA, FL= 57.7 Km	06:34	Rajasthan (RRVNL)
04.	23.01.2025	04:43	MAIN 1 (P444) - Zone-1, B-Nph, FC=2.915 kA, FL= 61.94 Km & MAIN2 (REL670) - Zone-1, B-Nph, FC= 3.1 kA, FL=62.2 Km	05:35	Rajasthan (RRVNL)
05.	01.02.2025	05:45	MAIN 1 (P444) - Zone-1, Y-Nph, FC=3.288 kA, FL=56.75Km MAIN2 (REL670) - Zone-1, Y-Nph, FC=3.352 kA, FL= 56.6 Km	06:36	Rajasthan (RRVNL)

- A.14.6. Powergrid requested forum to kindly allow shutdown of 220KV Agra-Bharatpur Line for minimum two to three hours to carry out the impedance measurement at PG-AGRA end and subsequent to impedance measurement, relay settings may be modified at both ends of above line by POWERGRID (at Agra) and Bharatpur (by RVPNL).
- A.14.7. Rajasthan SLDC mentioned that the load condition at the Bharatpur end is currently high, with the entire area being supplied from two sources: one from Agra and the other from Dholpur. Additionally, two other shutdowns are currently running in that corridor: s/d of Bassi-Kukas and Bassi-Khekri line of RRVPNL.
- A.14.8. Rajasthan SLDC asked Powergrid if the work could be carried out during the evening or non-peak hours then s/d may be considered after 19th February.
- A.14.9. Powergrid agreed that during the evening hours, when the load conditions in Rajasthan are low, then in consultation with Rajasthan SLDC/RRVPNL they can carry out shutdown for 2-3 hours to perform the impedance measurement at the PG-AGRA end. Following the impedance measurement, relay settings may be modified at both ends of the line, with Powergrid handling the adjustments at Agra and RVPNL making the changes at Bharatpur.
- A.14.10. CGM(SO) NRLDC asked Powergrid to co-ordinate with RRVPNL/Rajasthan SLDC for s/d of 220kV AGRA(PG)-Bharatpur (RVVNL) Line after revival of Bassi-Kukas and Bassi-Khekri line of RRVPNL.

Decision of OCC Forum:

Forum asked Powergrid to co-ordinate with RRVPNL/Rajasthan SLDC for s/d of 220kV AGRA(PG)-Bharatpur (RVVNL) Line after revival of Bassi-Kukas and Bassi-Khekri line of RRVPNL.

A.15. First Time Charging (FTC) of Future Bays at 765/400/220kV GIS, Rampur and 400/220/132kV GIS, Sambhal under PRSTL (Agenda by Powergrid NR-3)

- A.15.1. Powergrid NR-3 mentioned that POWERGRID Rampur Sambhal Transmission Limited (PRSTL) has been entrusted with the work of Transmission Services for transmission of Electricity through Tariff based Competitive bidding for Construction of 765/400/220kV GIS Substation Rampur with associated lines and 400/220/132 kV GIS Substation, Sambhal Transmission Service agreement (TSA) dt. 07.08.2019.
- A.15.2. Powergrid intimated that PRSTL has completed its scope of work as per TSA for 400/220/132 kV GIS Substation, Sambhal and system is commissioned successfully in March'22 except future bays as 05(Five) Nos. 400 kV Bays, 04(Four) Nos. 220 kV Bays and 01(One) Nos. 132 kV Bay.
- A.15.3. Further, Powergrid informed that PRSTL has completed its scope of work as per TSA for 765/400/220kV GIS Substation Rampur with associated lines and

system is commissioned successfully in March'23 except future bays as 04(Four) Nos. 765 kV Bays, 07(Seven) No. 400 kV Bays and 07(Seven) No. 220 kV Bays.

- A.15.4. Powergrid stated that a request for permission to conduct FTC for the above-mentioned bays was submitted to SLDC, Lucknow via email on 14th September 2024. However, the request was denied for the 765kV and 400kV bays due to the lack of CEA standing committee approval for these elements.
- A.15.5. Further, Powergrid requested forum to review the issue and agree for allowing charging of such future bays, which is technically desirable to increase reliability and availability of the system. However, no financial implication / O&M charges etc will be payable to concerned utilities for such future/ spare bays.
- A.15.6. DGM, NRLDC informed that Powergrid had approached NRLDC in November 2024 for FTC for the above-mentioned bays, but the request was returned due to the absence of CEA standing committee approval for these elements. In the past, there have been instances where Powergrid constructed future bays for system reliability without prior CEA standing committee approval, and FTC for these elements was granted only after obtaining post-facto approval from CEA.
- A.15.7. UPSLDC mentioned that all elements approved by the CEA standing committee have been charged, and only the future bays remain to be charged due to the lack of CEA standing committee approval.
- A.15.8. MS, NRPC asked Powergrid to take up the matter with planning wing of M/s UPPTCL, which may in turn approach PSPA Division, CEA for resolution of the issue.

Decision of OCC Forum:

Forum asked Powergrid to take up the matter with planning wing of M/s UPPTCL, which may in turn approach PSPA Division, CEA for resolution of the issue.

खण्ड-ख: उ.क्षे.भा.प्रे.के.

Part-B: NRLDC

B.1 NR Grid Highlights for January 2025 and demand forecasting related

NRLDC representative presented the major grid highlights of January 2025 in the meeting:

Demand met details of NR

S.No.	Constituents	Max Demand met (in MW)	Date & Time of Max Demand met	Max Consumption (in MUs)	Date of Max Consumption	Average Demand met (in Mus)
1	Chandigarh	312	01.01.25	5.2	01.01.25	4.4

			at 10:00			
2	Delhi	5655	01.01.25 at 11:44	91.3	17.01.25	83.4
3	Haryana	9157	30.01.25 at 10:00	167.2	29.01.25	152.5
4	H.P.	2273	17.01.25 at 09:00	40.4	16.01.25	38.0
5	J&K	3200	07.01.25 at 10:00	69.3	10.01.25	67.0
6	Punjab	10142	29.01.25 at 10:30	175.1	29.01.25	153.5
7	Rajasthan	18572	28.01.25 at 09:00	352.8	30.01.25	326.3
8	U.P	22034	03.01.25 at 19:11	387.6	07.01.25	364.5
9	Uttarakhand	2568	10.01.25 at 09:00	47.5	10.01.25	44.4
10	Northern Region	69109	10.01.25 at 10:00	1294.4	10.01.25	1233.9

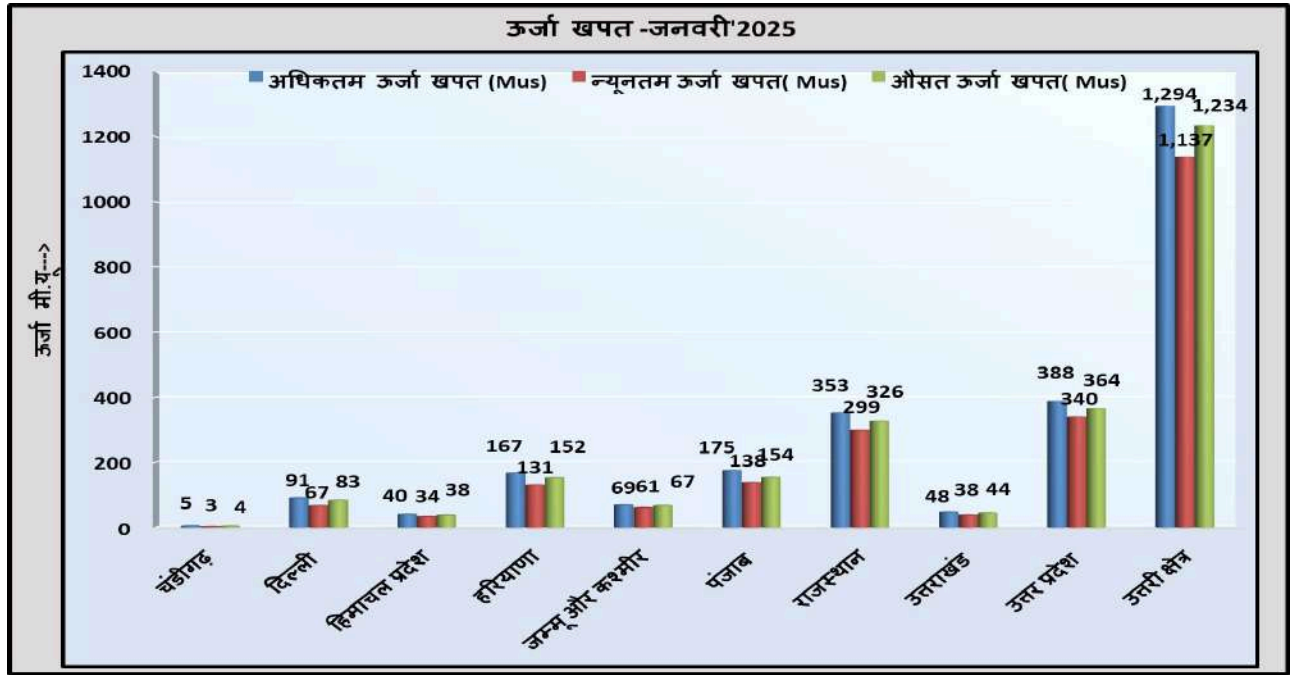
*As per SCADA

- In Jan'25, the Maximum energy consumption of Northern Region was **1294 MUs** on 10th Jan'25 and it was 1.8 % lower than Jan'24 (1318 MU 19th Jan'24)
- In Jan'25, the Average energy consumption per day of Northern Region was **1234 MUs** and it was 1.9 % Lower than Jan'24 (1257 MUs/day)
- In Jan'25, the Maximum Demand met of Northern Region was **69109 MW** on 10th Jan'25 @10:00 hours (as per SCADA data) as compared to **69327 MW** on 22nd Jan'24 @12:00hours.
- **Comparison of Average Energy Consumption (MUs/Day) of NR States for the Jan'24 vs Jan'25**

क्षेत्र/राज्य	जनवरी- 2024	जनवरी- 2025	% अंतर
चंडीगढ़	5.1	4.4	-12.9%
दिल्ली	88.1	83.4	-5.4%
हिमाचल प्रदेश	36.8	38.0	3.1%

हरियाणा	158.5	152.5	-3.8%
जम्मू और कश्मीर	64.4	67.0	4.0%
पंजाब	159.4	153.5	-3.7%
राजस्थान	324.7	326.3	0.5%
उत्तराखण्ड	45.7	44.4	-3.0%
उत्तर प्रदेश	373.9	364.5	-2.5%
उत्तरी क्षेत्र	1256.7	1233.9	-1.8%

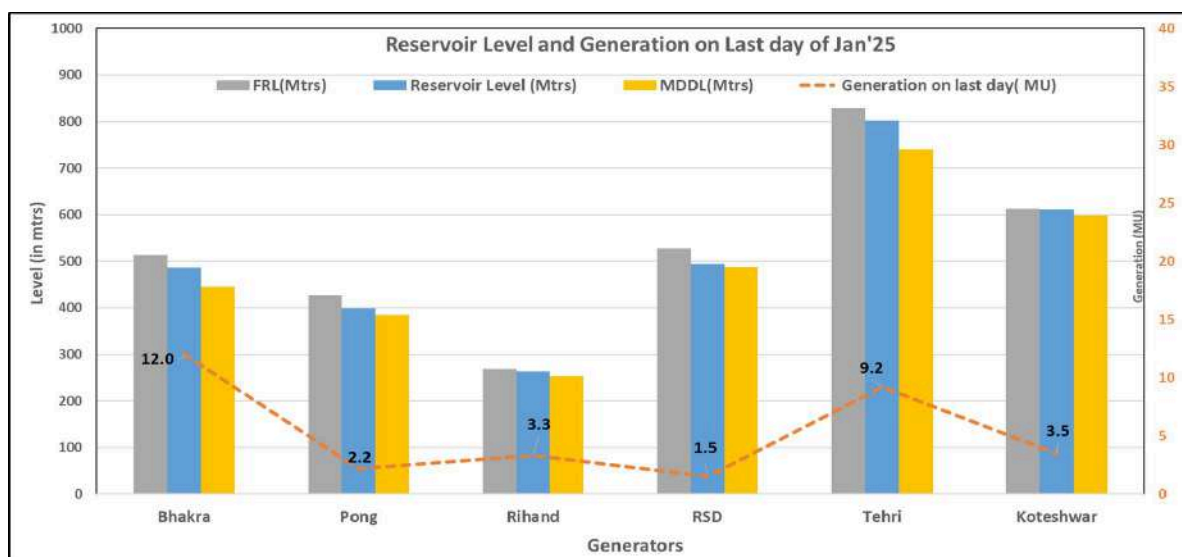
Energy Consumptions



Frequency profile

Month	Avg. Freq. (Hz)	Max. Freq. (Hz)	Min. Freq. (Hz)	<49.90 (% time)	49.90 – 50.05 (% time)	>50.05 (% time)
Jan'25	50.001	50.309 (26.01.25 at 14:01:10 hrs)	49.600 (11.01.25 at 09:07:30 hrs)	5.23	76.05	18.72
Jan'24	49.99	50.33 (21.01.24 at 06:03:30 hrs)	49.52 (17.01.24 at 09:09:00 hrs)	6.80	75.83	17.37

Reservoir Level and Generation on Last Day of Month



Reservoir Level on last day of Dec month				(Low: -ve)	(High: +ve)	
Year	Bhakra	Pong	Rihand	RSD	Tehri	Koteshwar
2025	487	399	263	494	802	611
2024	491	411	263	500	794	609
Diff (in m)	-4	-12	0	-6	8	2

Detailed presentation on grid highlights of Jan'2025 as shared by NRLDC in OCC meeting is attached as **Annexure-B.I**.

B.2 Demand forecasting and resource adequacy related

NRLDC representative stated that Hon'ble CERC In the matter of Planning for safe, secure, and reliable integrated operation of the power system during critical periods arising on account of seasonal variations wherein the electricity demand increases rapidly by undertaking specific measures to mitigate the risks on the power system, under clause (h) of sub-section (1) of Section 79 of the Electricity Act, 2003 and the Regulation 31 of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 has issued suo-motto order 9/SM/2024 dated 07.10.2024.

Commission has issued the following directions to NLDC, RLDCs, and SLDCs in connection with the implementation of Regulations 31 and 33 of the Grid Code to address the anticipated surge in demand of electricity during October 2024 on account of seasonal variations:

- All the State Load Despatch Centres and RLDCs shall furnish the details of operational planning undertaken by them in terms of Regulation 31(4) (a) of the Grid Code especially for October 2024. RLDC shall validate the adequacy of resources in terms of Regulation 31(4)(b) of the Grid Code.
- All State Load Despatch Centres and Regional Load Despatch Centres shall prepare the worst-case scenario due to possible surge in demand during the period 1.10.2024 to 31.10.2024 in their respective control area and submit

within seven days to the Commission with a copy to National Load Despatch Centre.

- c) The State Load Despatch Centres or Regional Load Despatch Centres, as the case may be, should assess their demand-generation scenario in the upcoming months, ensure the optimum generation, avoid undesirable planned outages, and advise the generating company to offer their availability. The State Load Despatch Centre or Regional Load Despatch Centre shall ensure the optimum scheduling during the shortage period and surplus power to get despatched during the deficit period.
- d) The Distribution Companies, in case of a shortage scenario, can procure the power from surplus or requisitioned capacity of other states so that optimum despatch can be ensured for safe and reliable power system operations. The State Load Despatch Centre shall monitor the generation-demand deficit of the respective distribution companies.
- e) The generating companies operating their plant with capacity less than its installed capacity due to technical issues, i.e., capacity under partial outage or forced outage, are advised to fix the issues to ensure the maximum generation capacity on-bar.
- f) The draw schedule of the respective control area needs to adhere to prevent the reduction of system frequency. The State Load Despatch Centre or Regional Load Despatch Centre, as the case may be, shall monitor the deviation of the key system parameters.
- g) The State Load Despatch Centres or Regional Load Despatch Centres, as the case may be, shall issue the system alerts to their respective grid-connected entities for the possible deficit during the likely surge in demand

The Regional Load Despatch Centres and State Load Despatch Centres shall submit the report on the implementation of the above measures, a load-generation scenario in their respective control areas, and any other measures taken to address the deficit of power supply during the period 1.10.2024 to 31.10.2024.

NLDC, RLDCs, and SLDCs were directed to submit their responses to the measures contained in para 9 of this order by 16.10.2024.

As per the information available with NRLDC, only J&K, Punjab, Rajasthan, HP & Uttarakhand have submitted their formal reply to CERC as per latest information available with NRLDC.

Whereas other states have neither submitted their response to CERC nor NRLDC with regard to order 9/SM/2024 dated 07.10.2024.

In 225 OCC meeting, NRLDC representative mentioned that:

- *As per the information available with NRLDC, only HP & Uttarakhand have submitted their formal reply to CERC.*
- *Punjab and J&K have shared some information with NRLDC, but formal communication to CERC from their side is yet to be done.*

- Whereas other states have neither submitted their response to CERC nor NRLDC with regard to order 9/SM/2024 dated 07.10.2024.

Delhi SLDC representative had mentioned that reply is with their legal team and would be submitted shortly to Hon'ble Commission. Punjab SLDC mentioned that nodewise data has been requested from PSPCL, after receipt of the same, official reply would be submitted to CERC. No other update could be received from SLDCs in the meeting.

In 226 OCC meeting,

- UP and Haryana SLDC representative stated that they have only submitted data to NRLDC and no reply has been submitted to CERC.
- Delhi SLDC representative stated that they have filed reply in first fortnight of Dec 2024.

In 227 OCC meeting,

NRLDC representative requested UP, Haryana and Chandigarh may provide update.

SLDC Haryana representative informed that they have submitted their reply to CERC dated 30.12.2024.

No response could be received from UP SLDC and Chandigarh.

Subsequently, UP SLDC had informed that they have submitted their reply dated 31.01.2025.

During 228 OCC meeting, it was noted that that all SLDCs except Chandigarh have submitted their formal reply to CERC.

However, due to the absence of a representative from SLDC Chandigarh, an update on their submission could not be obtained.

With reference to the Clause 31(2) of Central Electricity Regulatory Commission-IEGC Regulations, 2023 and the Operating Procedure of NRLDC prepared in accordance with the same, each SLDC has to furnish the demand estimation for day ahead, week ahead, month ahead (with time block wise granularity) and demand estimation for year ahead (with hour granularity). The sub-clause 31(2) (h) of IEGC-2023 states the following timeline for the submission of demand estimate data to RLDC.

Type of Demand Estimation	Timeline
Daily	10:00 hours of previous day
Weekly	First working day of previous week
Monthly	Fifth day of previous month
Yearly	30th September of previous year

Status of Day Ahead Forecasting, week ahead, month-ahead and year-ahead submission status for January-2025 as per Clause 31(4) (a) & (b) of IEGC-2023 is shown below:

Region	State	Day ahead	Weekly	Monthly	Yearly	Generation Adequacy	ST-NRAP Data Submission
		Data submission	Data submission	Data submission	Data submission	Data submission	Data submission
		(Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
NR	Punjab	Y	Y	Y	N	N	N
	Haryana	Y	N	N	N	N	N
	Rajasthan	Y	N	N	N	N	N
	Delhi	Y	Y	Y	Y	N	N
	UP	Y	Y	Y	Y	N	N
	Uttarakhand	Y	Y	Y	N	N	N
	HP	Y	Y	Y	Y	N	N
	J&K	Y	N	Y	N	N	N
	Chandigarh	Y	Y	N	N	N	N

In accordance with above, all SLDCs are requested to timely furnish the demand estimation data along with generation adequacy data as per the formats available at https://drive.google.com/drive/folders/1KWY4G9gTBLV5wTJkhGEleRptKP-QbhjL?usp=drive_link to NRLDC through mail (nrldcmis@grid-india.in) and FTP as per above timeline.

The relevant clauses from IEGC 2023 related to demand forecasting exercise and resource adequacy exercise as discussed in 228 OCC meeting are enclosed in Annexure-B.I of agenda:

NRLDC representative asked all SLDCs to take necessary actions at their end for timely submission of demand forecasting and resource adequacy data on day-ahead, week-ahead, month ahead and year ahead basis. It was also requested to share actions being taken at your end to ensure compliance of listed clauses of IEGC 2023 as Annex-B.I.

Punjab representative informed that SLDC Punjab is actively working on the modalities for ensuring timely submission of demand forecasting and resource adequacy data in the prescribed format. Discussions are ongoing with the contracted agency responsible for furnishing the relevant data. It was assured that, starting next month, all required data will be submitted as per the stipulated timelines.

Haryana representative informed that SLDC Haryana has been consistently following up with DISCOMs for the submission of week-ahead, month-ahead, and year-ahead data. However, the required data is still not being provided. CGM(SO), NRLDC, emphasized the importance of leveraging IT technology to enable direct data uploads instead of relying on email submissions. Haryana SLDC was requested to expedite the process and ensure data submission from next month onwards.

Delhi SLDC representative highlighted the challenge in submitting year-ahead data, stating that while demand estimation can be prepared by the September 30 deadline for the next financial year, assessing generation availability remains difficult as their

LGB is not finalized by that time. They inquired whether it would be appropriate to assume that all generation resources would be available for the next financial year.

In response, NRLDC representative suggested analyzing the outage patterns of intra state generating units over the past 2–3 years to estimate generation resource availability. Delhi SLDC representative agreed that this approach could be applied to intra-state generators but raised concerns about assessing the availability of inter-state generators.

CGM(SO), NRLDC advised that a similar approach could be used for inter-state generators by analyzing their historical outage patterns. Additionally, it was suggested that once the actual LGB for inter-state generators is finalized, Delhi SLDC could submit revised yearly data through quarterly revisions.

Rajasthan representative informed the forum that a proposal has been submitted to their management for hiring a forecaster, and the process is progressing at a fast pace.

CGM(SO), NRLDC, advised Rajasthan SLDC to provide their own estimates for demand and generation data until the forecaster's services become available, as they have the best understanding of their state's demand patterns, RE generation, and overall generation trends. Additionally, Rajasthan SLDC was encouraged to seek support from other Northern Region states that are already submitting data to address any challenges they may be facing.

UP SLDC assured the forum that they will be submitting the remaining generation data from next month onwards.

Uttarakhand SLDC assured the forum that they will be submitting the required data from next month onwards.

In 226 OCC meeting, it was requested that SLDCs share actions being taken at their end to ensure compliance of above listed clauses of IEGC 2023. Further, report of self-audit carried out as per compliance of IEGC 2023 may also be submitted to NRLDC/ NRPC. All SLDCs agreed to take actions as discussed in the meeting.

Self-audit report has been received from NHPC.

Resource Adequacy guidelines issued by the CEA outline the roles and responsibilities of all stakeholders and provide a framework for RA planning in India. This matter was also discussed during the 52nd NRPC TCC meeting under Agenda Item A.12 to sensitize stakeholders on the importance of RA activities as per the approved CEA guidelines and IEGC provisions to enhance grid reliability. The format for data submission for ST-NRAP is provided in Annexure-II of the NLDC operating procedure (Link: https://posoco.in/wp-content/uploads/2024/08/NLDC-Operating-Procedure_2024.pdf).

In 227 OCC meeting, NRLDC representative expressed concern on the non-submission of data by NR states. It was highlighted that most SLDCs in other region are providing required data within the timelines as per IEGC and requested that NR

SLDCs also submit data as per regulatory requirement. Further, it was mentioned that a workshop was organized recently by FOLD subgroup.

SLDCs were asked to share actions being taken at their end to ensure compliance of above listed clauses of IEGC 2023. Further, report of self-audit carried out as per compliance of IEGC 2023 may also be submitted to NRLDC/ NRPC.

NHPC representative stated that report submitted by NHPC may also be shared with other Hydro stations for their inputs.

THDC has also submitted self-audit report of Koteswar to NRLDC/ NRPC on 21.01.2025.

OCC asked all states to take actions at their end to ensure compliance of all regulations and guidelines w.r.t. resource adequacy framework.

During the 228th OCC meeting, CGM, NRLDC, reiterated the importance of conducting the self-audit exercise within the timelines mandated by regulations. He informed that NRLDC has already submitted its self-audit report to CERC and urged all stakeholders to do the same.

As per IEGC Clause 56.2(c), 'The self-audit reports by users, QCAs, and SNAs shall be submitted to the concerned RLDC or SLDC, as the case may be.' Failure to submit the self-audit report within the stipulated timeframe would be considered a non-compliance with IEGC regulations.

OCC asked all states to take actions at their end to ensure compliance of all regulations and guidelines w.r.t. resource adequacy framework.

B.3 Compliance verification and Monitoring of intrastate renewable plants

NRLDC representative highlighted that the Government of India has set an ambitious target of integrating 500 GW of non-fossil fuel capacity by the year 2030. The solar and wind generation resources are expected to constitute a majority (~400 GW) of this non-fossil installed capacity. In line with this target, the generation capacity addition of solar and wind generation in the Indian power system is being facilitated by SLDC/STU at the intra-state and RLDC/CTUIL at the inter-state level. This rapid integration may require the processing of a large number of first-time charging applications in a short time.

Central Electricity Authority (CEA) has specified the necessary technical requirements to be complied with by the RE plants in its "Technical Standards for Connectivity to the Grid" regulations. The regulations are available at:

<https://cea.nic.in/regulations-category/connectivity-to-the-grid/?lang=en>.

Prior to the interconnection of any new RE plant to the grid, it is crucial to verify the plant's compliance against these technical requirements so as to ensure the desired performance during the operation phase. For the RE plants getting connected to the inter-state transmission system (ISTS), this compliance verification is being carried out by Central Transmission Utility of India Ltd. (CTUIL) and Grid-India (RLDCs/NLDC).

Comprehensive procedures for this purpose have already been developed and implemented by Grid-India and CTUIL, thereby ensuring systematic integration of RE into the grid while adhering to the technical and regulatory standards.

It was expected that similar procedures would be in place for grant of connectivity and approval of first-time energization of new VRE plants at the intra-state level. The procedure developed by Grid-India in consultation with all stakeholders for inter-state RE integration can be accessed through the following link:

<https://posoco.in/wp-content/uploads/2023/09/Final-draft-NLDC-FTEI-Procedure-submitted-to-CERC-for-kind-approval.pdf>

The broad checklist is presented below:

S. No.	Description	Remarks
1	General Details	General details such as connectivity quantum (MW), connectivity agreement, IBR make/model, registration details etc.
2	Technical Details	Technical details such as capability curve, SLD, equipment (IBR/PPC, IDT etc.) technical datasheet etc.
3	Certification Details	Details such as: a) Type certificate of IBR/SVG/other equipment etc. b) Evaluation report of IBR/SVG/other equipment etc. c) Statement of Compliance of IBR/SVG/other equipment etc. d) Other reports/certificates as per requirement
4	IBR Single Unit - Benchmarked Simulation Model and Report	a) Benchmarked RMS and EMT model of single IBR unit b) Benchmarked simulation report of single IBR unit covering all the technical requirements specified in CEA Connectivity Standards. Specific tests are specified in Grid-India's FTE&I procedure.
5	Renewable Plant Mathematical Models along with compliance report	a) Aggregated and detailed RMS model of RE plant b) Aggregated EMT model of RE plant c) Power quality model of RE plant d) Simulation report of the RE plant covering all the technical requirements specified in CEA Connectivity Standards. Specific tests are specified in Grid-India's FTE&I procedure.
6	Others (Required at the time of First Time Charging Only)	Other details such as installation of PMU, DR/EL, protection and control settings etc.

It is suggested that the procedure may be referred to and suitably considered while revising and updating the prevailing procedure at STU/SLDC to align it with CEA Technical Standards for Connectivity to the Grid and CERC Indian Electricity Grid Code 2023. NLDC/GRID-INDIA procedure is available at <https://posoco.in/wp-content/uploads/2023/09/Final-draft-NLDC-FTEI-Procedure-submitted-to-CERC-for-kind-approval.pdf>

Post interconnection with the grid, the performance of the plant vis-à-vis the technical standards and grid code needs to be monitored particularly with respect to fault ride-through, reactive power support, power quality, protection coordination, and controller settings. Any grid event involving VRE plants needs to be carefully studied by STU/SLDC, and operational feedback shall be provided to the plant owners to align the plant performance as per grid requirements.

Adopting a proactive and uniform approach for compliance verification and performance monitoring of Variable Renewable Energy resources at the intrastate as well as interstate level will significantly enhance the reliability and sustainability of the Indian power system. Cooperation of all stakeholders is therefore sought in this regard.

Letter from Director (System Operation), GRID-INDIA to all SLDCs is attached as Annexure B.II of agenda.

During the meeting, CGM(SO), NRLDC, specifically sought a response from Rajasthan, given that they have commissioned a major share of RE plants in the Northern Region. He inquired whether all the required tests, as outlined in the compliance framework, were being conducted.

Rajasthan representative informed that they are performing PSSE studies to assess Low Voltage Ride Through (LVRT), High Voltage Ride Through (HVRT), and Reactive Power Capability for all upcoming RE plants in their control area.

CGM(SO), NRLDC, advised Rajasthan to extend compliance checks to all the key parameters mentioned in the guidelines. He also assured that NRLDC would provide assistance if required.

UP representative inquired whether a standard testing format was available. In response, the NRLDC representative confirmed that the required formats can be accessed at:

<https://posoco.in/wp-content/uploads/2023/09/Final-draft-NLDC-FTEI-Procedure-submitted-to-CERC-for-kind-approval.pdf>

OCC Forum urged all utilities to conduct the necessary testing for RE plants to facilitate their smooth integration into the grid while ensuring safety and reliability in accordance with technical standards.

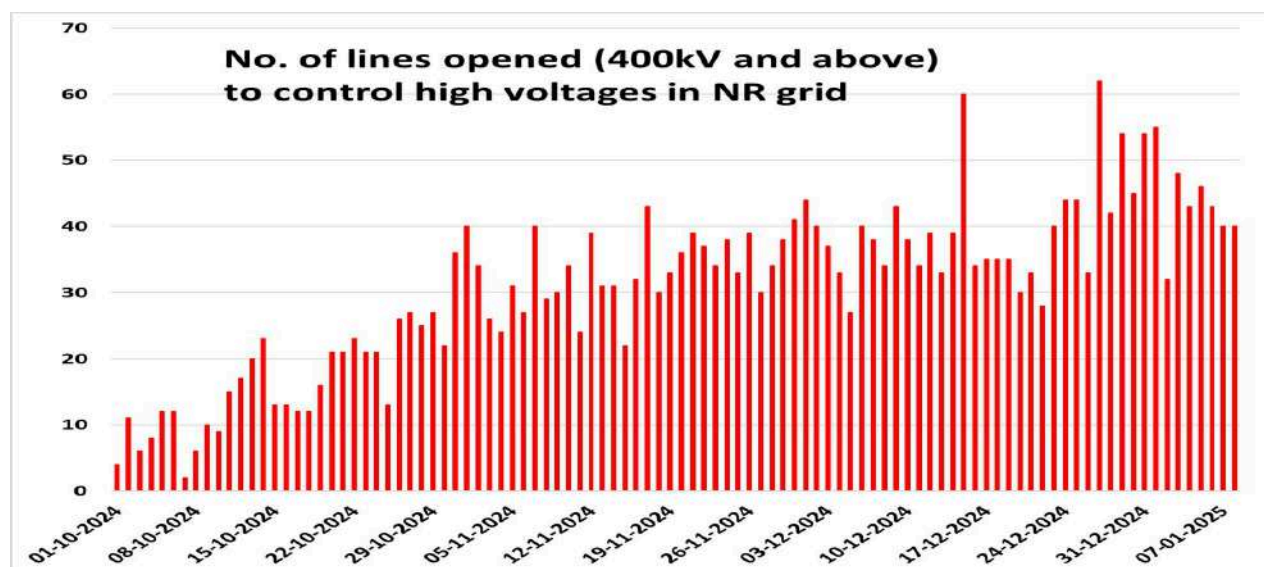
B.4 Reactive power injection from LV side to HV side by state transmission network

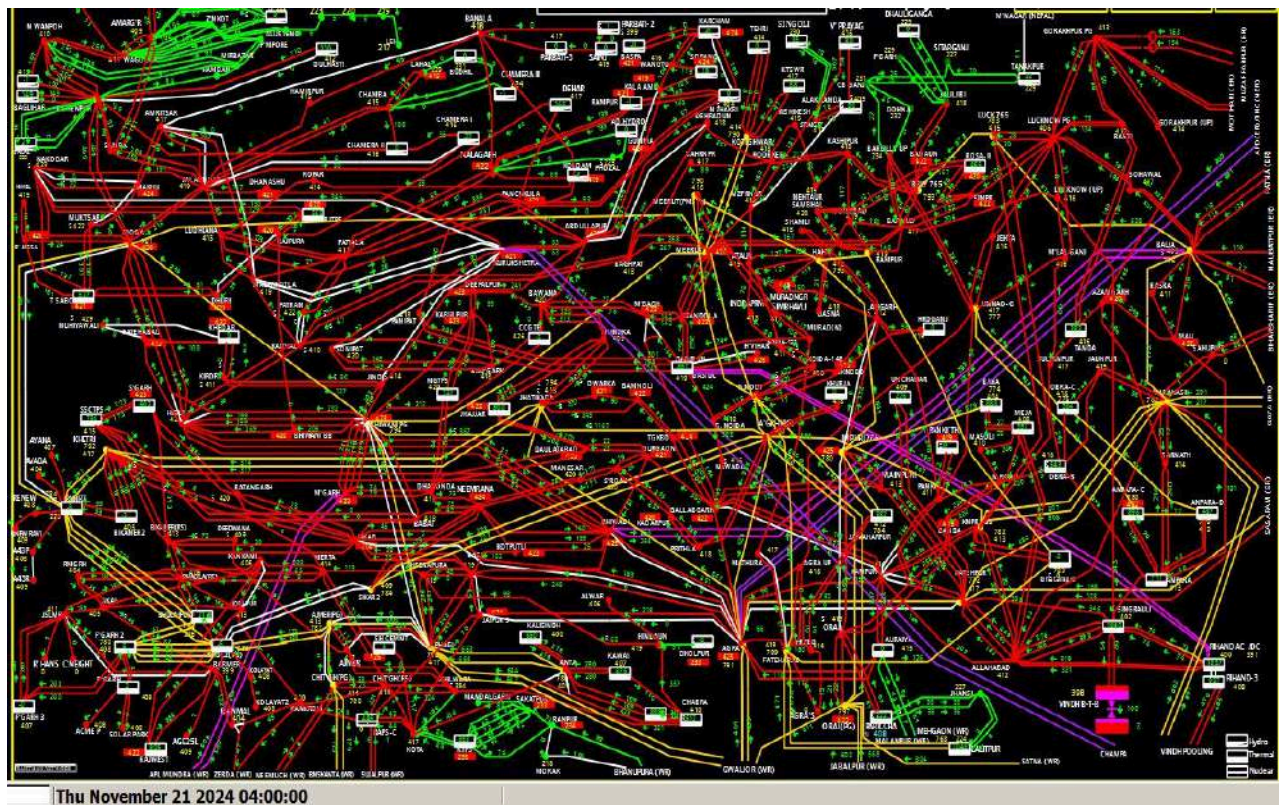
NRLDC representative informed the forum that the Northern Region experiences severe high voltage issues during the winter months, primarily due to lower demand, which results in a lightly loaded transmission system. A number of measures are already being taken to control high voltages in the grid such as:

- Ensuring to switch off capacitors & switch on reactors.
- Ensuring healthiness of all commissioned reactors in the system
- Monitoring of reactive power through SCADA displays.
- Reactive power support (absorption) by generating stations as per the capability curve.
- Synchronous condenser operation especially of hydro units during night hours for dynamic voltage support.
- ICT Tap Optimization at 400kV & above is carried out by NRLDC.
- Utilisation of line reactors as bus reactor in case of opening of EHVAC transmission lines.
- Opening of EHV lines based on expected voltage reduction and also considering security & reliability of system

Switching of bus reactors, line reactors are done as frequently as twice in a day at same location. For instance, during peak hours, voltages being on lower side, reactors are switched off while during off peak hours, reactors are brought into relieve high voltages. Capacitors switching is done primarily at lower voltage levels. The dynamic reactive power resources like generators, SVC, STATCOM keep on changing the VAR value as per system requirement or system operator's instructions. Tap optimization is being done mainly on seasonal basis. Manual opening of high voltage line is also carried out as a last resort to alleviate alarming high voltages in the system.

Even after taking all measures it is being seen that large number of EHVAC transmission lines have to be opened to control high voltages in the grid. Number of transmission lines (400kV & above) opened to control high voltage in last 90 days as well as snapshot of high voltages in grid is shown below:





Such opening of transmission lines always increases risk of system insecurity as transmission system gets weak due to opening of transmission lines and also susceptibility of tripping of lines especially during foggy weather. As such there seems to be requirement for planning of additional reactive compensation in the grid to control high voltages at both interstate as well as intrastate level.

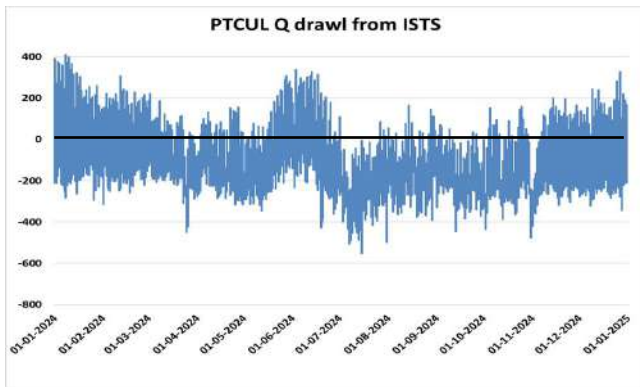
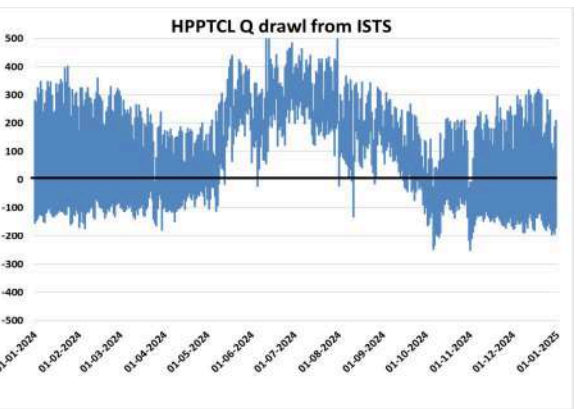
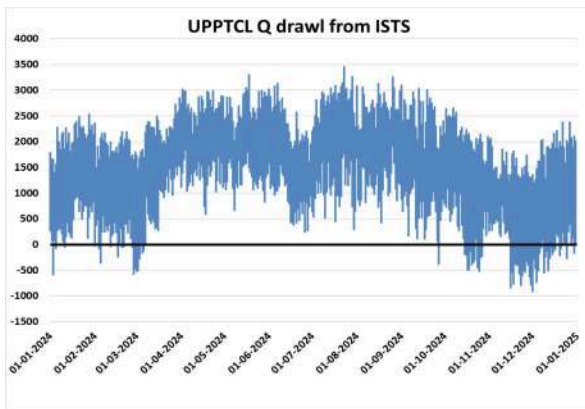
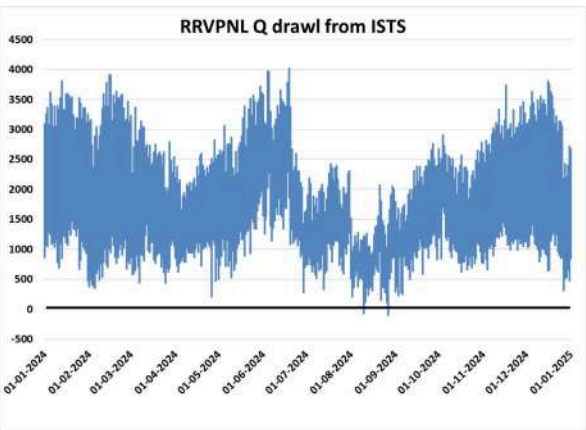
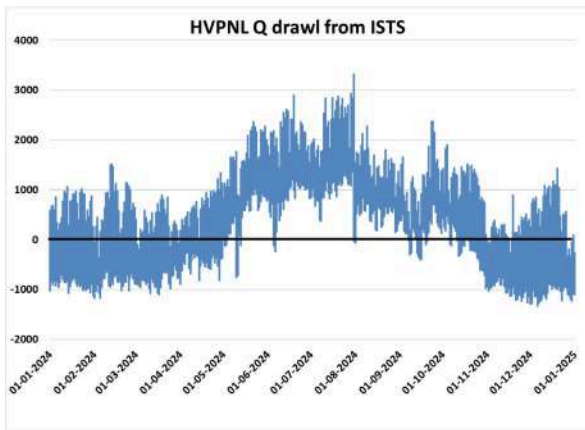
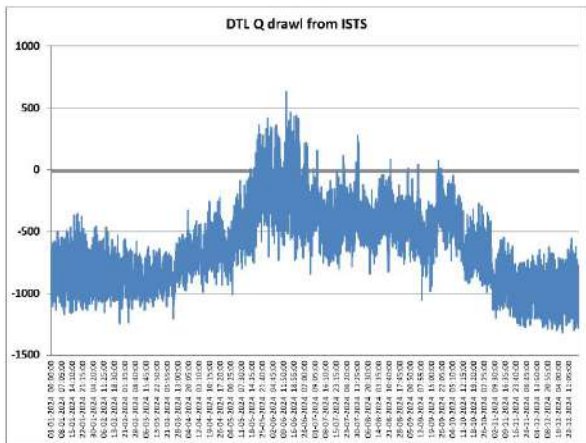
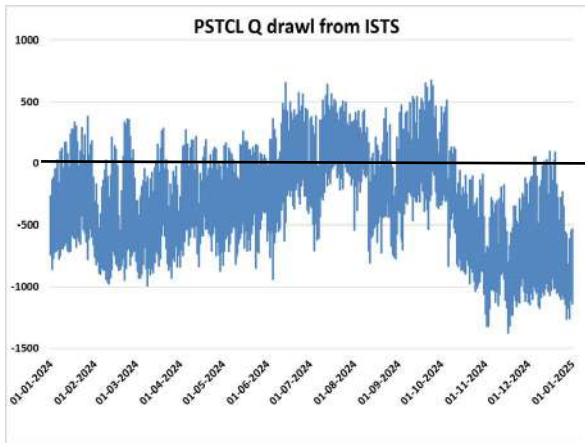
This point was also highlighted from NRLDC side in 226 OCC meeting, wherein following was discussed:

CTUIL representative stated that in NR, around 60-80% reactive compensation has been provided at ISTS level. Reactive compensation planning and implementation at intrastate level needs to be expedited to cater low/high voltage scenarios.

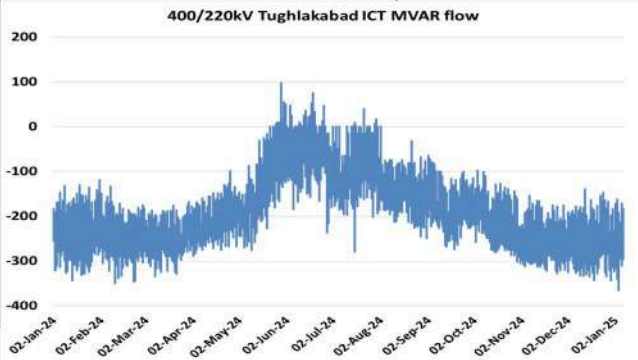
OCC asked all SLDCS to analyse reactive power change with ISTS grid and accordingly plan reactive power devices at intrastate level. This would also help to minimize opening/closing of EHVAC lines in winter months.

NRLDC representative shared the analysis of reactive power flow of all states of NR for last year i.e. 2024. The points which are used to calculate MW drawl of state from ISTS have been used to calculate the MVar drawl by state from ISTS.

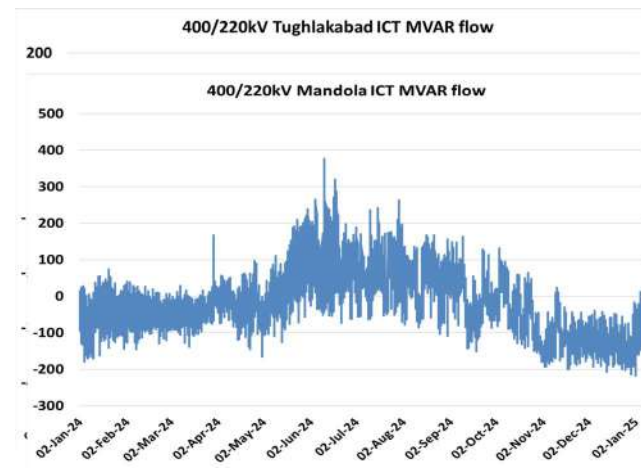
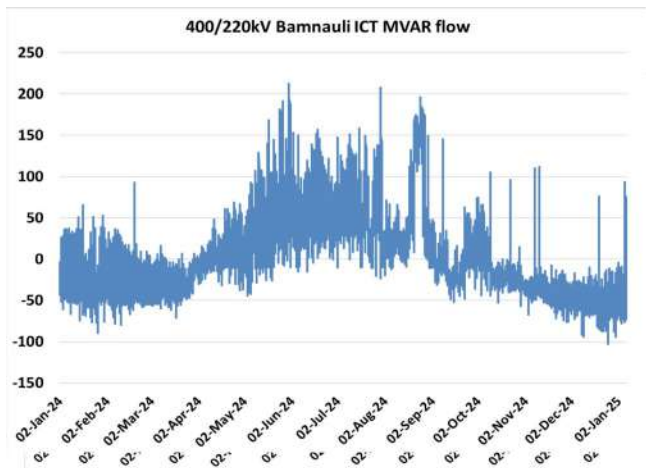
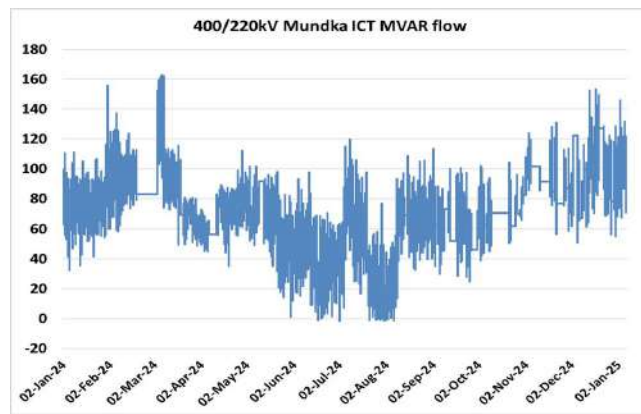
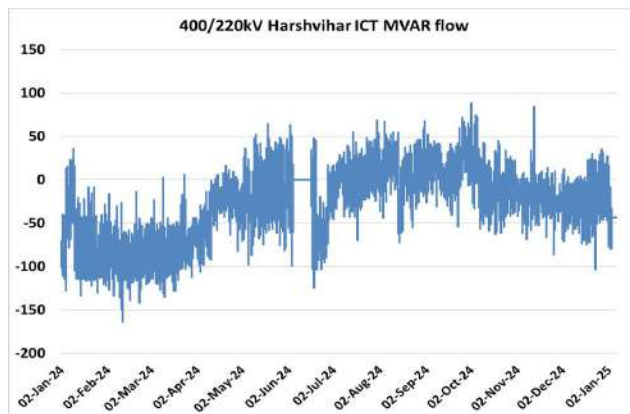
Following is the result of such analysis:

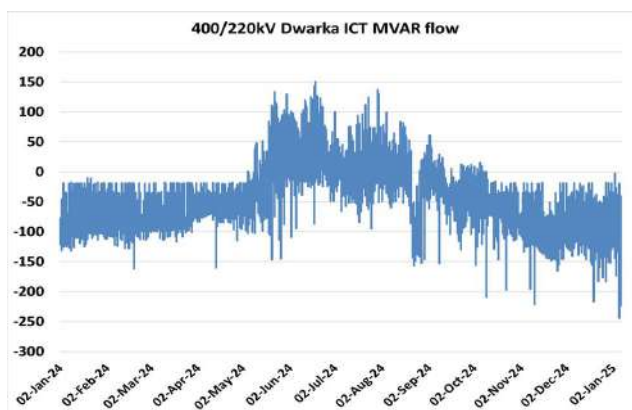


State	MVAR Variations	Proposed solutions in intrastate
Punjab	-1300 to 600	Bus reactors required
Delhi	-1200 to 500	Bus reactors & STATCOM required
Haryana	-1000 to 3000	STATCOM & capacitors required (URGENT)
		Capacitor requirement (URGENT)
		Capacitor requirement
		STATCOM required
		Capacitor requirement (URGENT)



Further, station-wise MVAR flow has been assessed for 400/220kV substations in Delhi state control area. Delhi state control area having high network of cables, generates high reactive power and suggests that there is huge MVAR flow from Low voltage side to High voltage side. Station-wise MVAR flow pattern for year 2024 for DTL as well as POWERGRID substations in Delhi is shown below:





There clearly seems to be planning for more reactive power support (reactive power absorption devices) at 400/220kV Tughlakabad, Dwarka and Maharanibagh.

During 227 OCC meetings,

NRLDC expressed severe concern on reactive power drawl by HVPNL, RRVPNL, HPPPTCL and suggested to take up for capacitor installation on war footing basis.

OCC forum appreciated the inputs shared by NRLDC and asked all SLDCs/STUs to analyse node wise reactive power injection/absorption from ISTS and accordingly, take necessary measures. It was also highlighted that report was provided by CPRI based on work awarded by NRPC forum to assess capacitor requirement. Studies were done in the report based on 2019-2020 data and still it is being seen that capacitor commissioning has not progressed as was required.

Rajasthan representative informed the forum that, as of now, 4,693 MVAR capacitor banks have been installed in the Rajasthan control area. Additionally, they have revised their plan to increase the number of new capacitor banks from 101 to 151 units (each of 5.43 MVAR), adding a total of over 819 MVAR to the system. The delivery of these capacitor banks is scheduled to begin in April 2025 and continue through September-October 2025, which is expected to help reduce MVAR drawl from the grid.

CGM(SO), NRLDC, requested Rajasthan to prioritize capacitor bank installation in the Alwar and Hindaun areas, where 400kV voltage levels are dropping as low as 330kV. The Rajasthan representative agreed to the request.

UP representative informed the forum that approximately 13,000 MVAR of capacitor banks have been installed in the UP control area. As a result, they are not experiencing any severe low voltage issues in their network.

DTL representative also agreed to take necessary measures like installation of Bus reactors on urgent basis to reduce their MVAR injection into the grid.

OCC forum asked all SLDCs/STUs to analysis node wise reactive power injection/absorption from ISTS and accordingly take necessary measures.

B.5 Mock testing of islanding scheme and simulation studies

NRLDC representative shared that following 5 islanding schemes are operational in the Northern Region: NAPP Islanding Scheme (Uttar Pradesh), RAPP Islanding Scheme (Rajasthan), Bawana Islanding Scheme (Delhi), Pathankot-RSD Islanding Scheme (Punjab), Unchahar Islanding Scheme (Uttar Pradesh). As per the SOP for mock islanding schemes approved in the recently concluded OCC 223, SLDCs are requested to prepare and share their plans for conducting mock testing of islanding schemes in their control areas.

None of the four utilities have yet created a SCADA network map for their island areas. However, Uttar Pradesh and Rajasthan have developed SCADA displays with partial island summaries, although telemetry issues still need resolution.

RAPP A & B ISLANDING SCHEME (RAJASTHAN)				RAJWEST (JSW) ISLANDING SCHEME (RAJASTHAN)			
13.9.24 11:3:17				13.9.24 11:8:49			
INSTANTANEOUS FREQ. 50.06 HZ		ISLANDING FREQ. 50.06 HZ		INSTANTANEOUS FREQ. 50.04 HZ		ISLANDING FREQ. 50.04 HZ	
NAME OF FEEDER	LOAD	STATUS	STATUS	NAME OF FEEDER	LOAD	STATUS	STATUS
RAPP A End				TOTAL GENERATION			
230 KV NAPP A	170	OPERATIVE	OPERATIVE	632			
230 KV NAPP A BUS	183	OPERATIVE	OPERATIVE	EX BUS GENERATION			
230 KV NAPP A BUS 2	353	OPERATIVE	OPERATIVE	567			
230 KV NAPP A BUS 3	374	OPERATIVE	OPERATIVE	TOTAL BLOCKED/ISLANDED LOAD			
230 KV NAPP A BUS 4	0	OPERATIVE	OPERATIVE	0			
RAPP B End				TOTAL OPERATIVE LOAD			
230 KV NAPP B	0	OPERATIVE	OPERATIVE	196			
230 KV NAPP B BUS	0	OPERATIVE	OPERATIVE				
230 KV NAPP B BUS 2	0	OPERATIVE	OPERATIVE				
230 KV NAPP B BUS 3	0	OPERATIVE	OPERATIVE				
230 KV NAPP B BUS 4	0	OPERATIVE	OPERATIVE				
TOTAL BLOCKED/ISLANDED LOAD							
TOTAL OPERATIVE LOAD							
0							
0							

STPS ISLANDING SCHEME (RAJASTHAN)			
13.9.24 11:9:29			
NEOUS FREQ. 50.04 HZ		ISLANDING FREQ. 50.04 HZ	
NAME	LOAD	STATUS	STATUS
TOTAL GENERATION			
1543			
EX BUS GENERATION			
1398			
TOTAL BLOCKED/ISLANDED LOAD			
0			
TOTAL OPERATIVE LOAD			
499			

Rajasthan SLDC was asked to include G/L ratio of island in their displays and also check for missing load values so that correct total island load data is available.

NAPS ISLANDING LOAD DISPLAY			
FREQUENCY (HZ) 50.06 HZ 13.9.24 11:1:17			
NAME OF SUBSTATION	ELEMENT NAME	LOADING	
230KV NAPP	SUT-I	11.23	11.23
	SUT-II	9.43	9.43
	6.3 MVA ICF-1	0.02	0.02
230KV SIMBHOLI	6.3 MVA ICF-2		
	40 MVA ICF-3	3.17	3.17
	13.2KV GARHMAJTESHWAR	-0.00	-0.00
230KV KHURJA	13.2KV SUGAR MILL	1.48	1.48
	13.2 KV ANOOPSHAHAR	N / APP	6.66
	13.2 KV KHURJA-II	N / APP	0.00
	6.3 MVA ICF-1	N / APP	9.85
	40 MVA ICF-2	N / APP	9.23
40 MVA ICF-3	N / APP	10.12	
TOTAL LOAD		37.99	104.6
RANGE OF REQUIRED LOAD 70-98 MW 150-280 MW			
230KV NAPP-GENERATION			
UNIT I	GENERATION(MW)	G/L RATIO%	
UNIT II	199.1	5.26	
TOTAL	407.5	3.82	

Erroneous values

During 224 OCC meeting, NRLDC representative mentioned that only the NAPS Islanding Scheme of UP has incorporated the G/L ratio in its SCADA display according to the shared format. UP representative added that due to a recent fire

incident at Khurja S/S, the telemetry from the 220kV Khurja S/S is currently unavailable, and they promised to share an update on the restoration of telemetry from Khurja as soon as possible.

NRLDC representative also requested that all concerned utilities provide updated islanding base cases for different load-generation balance scenarios (Summer: Peak/Off-peak and Winter: Peak/Off-peak) along with dynamic data of the generators in the island for conducting dynamic simulation studies. He reiterated that the Islanding SCADA display should be made available at NRLDC as per the format shared in previous OCC meetings.

During 225 OCC meeting, UP, Rajasthan, Punjab and Delhi SLDC were requested to provide update.

UP SLDC representative informed that NAPS has been asked to carry out mock testing of ufr which are part of islanding scheme. After receiving testing report from NAPS, same shall be shared with OCC forum.

No other update could be received from other SLDCs.

OCC asked all SLDCs to proactively take actions as discussed in the meeting.

Further, NRLDC had also conducted an online meeting on 03.12.2024 with all relevant stakeholders from UP, Rajasthan, Delhi and Punjab regarding any issues being faced in carrying out mock testing exercise of islanding scheme.

The following updates were received in the meeting:

1. Uttar Pradesh (NAPS Islanding Scheme)
 - Field testing of relays has been completed; a detailed report will be shared by 15th December 2024.
 - PSSE basecase files will be submitted within one month.
 - NRLDC demonstrated modelling the island in PSSE using the Bawana Island example (Delhi SLDC).
2. Rajasthan (RAPS Islanding Scheme)
 - Regular UFR testing is ongoing and will extend to Islanding UFR relays.
 - A detailed report as per the SOP will be submitted by the first week of January 2025.
 - PSSE basecase files will be provided within one month.
3. Delhi (Bawana Islanding Scheme)
 - DTL will conduct field mock testing as per the SOP within one month and submit a detailed report accordingly.
 - PSSE basecase files will be shared within one month.
4. Punjab (RSD Islanding Scheme)
 - Field mock testing as per SOP will be conducted within one month, and a detailed report will follow.
 - PSSE basecase files will be submitted within one month.

Recently, a meeting was also convened by NRLDC with states on 06.02.2025 to review the progress.

Following was discussed during the meeting:

Updates from States:

1. Uttar Pradesh (NAPS Islanding Scheme)
 - Dynamic testing done on basecase shared by UP-SLDC.
 - UFR testing report submitted by UP-SLDC
 - SCADA display made by UP-SLDC, however some telemetry data is not coming in display.
2. Rajasthan (RAPS Islanding Scheme)
 - UFR testing report submitted on 06.02.2025 by Rajasthan SLDC
 - PSSE basecase files will be provided by 14.02.2025
3. Delhi (Bawana Islanding Scheme)
 - Mock testing of islanding scheme UFR relays was withheld due to scheduled assembly elections in Delhi. UFR testing report will be submitted by 14.02.2025
 - PSSE basecase files will be shared by 14.02.2025
 - SCADA display is outdated and new one will be made operational by 21.02.2025
4. Punjab (RSD Islanding Scheme)
 - Punjab SLDC is awaiting dynamic data of RSD and load data from site for islanding scheme and will be shared after receiving them. No firm timeline provided.
 - UFR testing report and SCADA display update will be provided on mail to NRLDC due to non-availability of concerned person in the meeting.

NRLDC representative emphasized the urgency of receiving the PSSE files for the four scenarios to facilitate a dynamic health assessment of the islands and urged all NR states to prioritize sharing these files promptly.

Rajasthan representative informed that the islanding basecase will be submitted to NRLDC within a week.

Punjab representative stated that they are in the process of aggregating dynamic data from the site. Regarding UFR testing and SCADA display, they confirmed that both will be completed and submitted within a week.

Delhi representative informed that UFR testing was delayed due to the legislative assembly elections in Delhi during January-February 2025. Now that the elections are over, the pending UFR testing at Maharaniabagh, Bawana, and Electric Lane will be completed within a week, and a consolidated UFR testing report will be submitted to NRLDC thereafter.

OCC Forum urged all concerned SLDCs to expedite the mock testing of the islanding scheme, submission of PSSE islanding basecase, dynamic data,

preparation of SCADA display/SCADA map and complete the associated studies before the next OCC meeting.

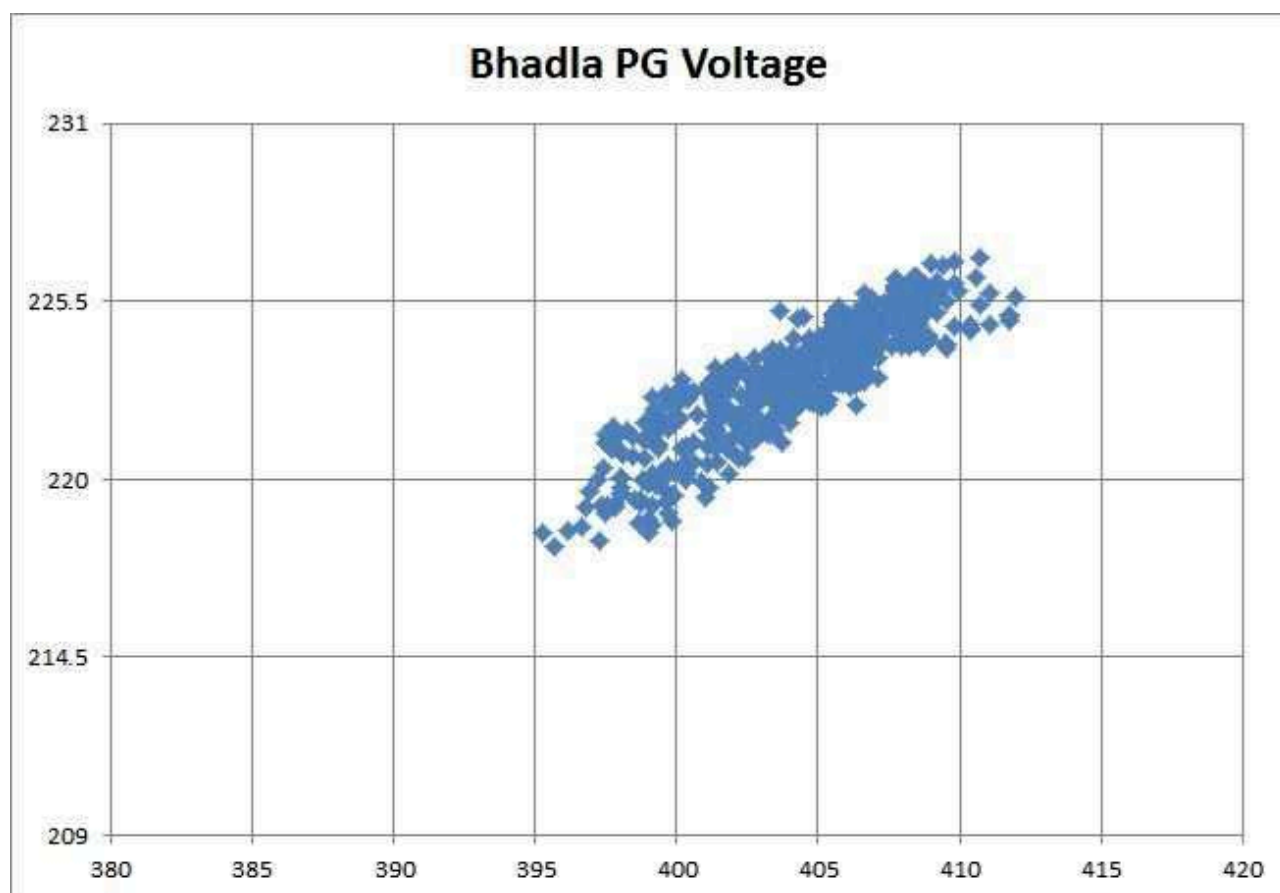
B.6 Tap Optimization of 400/220kV ICTs at Bhadla-PG

NRLDC representative stated that 765/400/220 kV Bhadla-PG is the first ISTS Solar RE pooling station commissioned in the Northern Region. It is equipped with 8*500 MVA 400/220 kV ICTs. Currently, approximately 3,200 MW of generation is being evacuated through these ICTs.

During solar peak hours, the voltage levels in the RE pockets tend to decrease. In response, NRLDC issues a code to inject reactive power from the 220 kV side to support and stabilize the voltage in the RE pockets.

It has been observed that the 220 kV voltage levels are slightly higher compared to the 400 kV side, as indicated by both the voltage trend and scatter plot.

Scatter plot for 400/220kV Bhadla(PG) substation is shown below:



During the PSSE study, an decrement of one tap in the 400/220 kV ICTs results in an increase of 1.9 kV at the 400 kV Bhadla-PG (no change is observed in 220kV voltage), along with an approximate increase of 245 MVar in reactive power

injection. Therefore, the option of changing taps to decrease the voltage on the 400 kV side may be considered.

Accordingly, it was proposed by NRLDC representative that tap position is reduced by 1 step and kept under observation, thereafter, if required 1 more tap step may be reduced.

The POWERGRID representative agreed to the proposal and stated that the tap change exercise, as suggested by NRLDC, can be conducted in offline mode.

The OCC Forum approved the proposal to reduce the tap position of 400/220kV ICTs at Bhadla (PG) by one step. The impact of this adjustment will be closely monitored, and if any adverse conditions arise due to the tap change, it will be reverted to its original position.

B.7 Reactive power performance of generators

NRLDC representative stated that during winter season, demand of Northern region is low and high voltages are a common phenomenon predominantly in Punjab, Haryana and Delhi area. Even after several actions being taken by control centers, it is seen that there is persistent high voltage in Northern region. The reactive power absorption by generators becomes an important resource that helps in managing high voltages in the grid. However, even after continuous follow up in OCC meetings, it is seen that MVAR data telemetry is poor/ inaccurate from most of the generating stations. For some of the generators it is seen that there is inadequate reactive power absorption based on their capability curve especially during night hours. The performance of generators in absorption of reactive power for last 20 days (20 Nov 2024 – 09 Dec 2024) is shown below:

S.No.	Station	Unit No.	Capacity	Geographical location	MVAR capacity as per capability curve (on LV side)	MVAR performance (-) Absorption (+) Generation (HV side data)	Voltage absorption above (in KV)
1	Dadri NTPC	1	490	Delhi-NCR	-147 to 294	-160 to 80	410
		2	490		-147 to 294	-150 to 60	410
2	Singrauli NTPC	1	200	UP	-60 to 120	-20 to 5	397
		2	200		-60 to 120	0 to 20	404
		3	200		-60 to 120	-5 to 15	402
		4	200		-60 to 120	-	-
		5	200		-60 to 120	-25 to 0	395
		6	500		-150 to	0 to 55	404

					300		
		7	500		-150 to 300	0 to 50	402
3	Rihand NTPC	1	500	UP	-150 to 300	-60 to 40	397,401
		2	500		-150 to 300	-70 to 30	397,401
		3	500		-150 to 300	-90 to 0	395
		4	500		-150 to 300	-100 to 0	394
4	Kalisindh RS	1	600	Rajasthan	-180 to 360	-130 to 160	-
		2	600		-180 to 360	-130 to -30	-
5	Anpara C UP	1	600	UP	-180 to 360	-150 to 50	770
		2	600		-180 to 360	-	-
6	Talwandi Saboo PB	1	660	Punjab	-198 to 396	-210 to 0	405
		2	660		-198 to 396	-210 to 0	408
		3	660		-198 to 396	-	-
7	Kawai RS	1	660	Rajasthan	-198 to 396	-70 to 50	405
		2	660		-198 to 396	-80 to 50	404
8	IGSTPP Jhajjar	1	500	Haryana	-150 to 300	-120 to 100	415
		2	500		-150 to 300	-130 to 100	412
		3	500		-150 to 300	-	-
9	Rajpura (NPL)	1	700	Punjab	-210 to 420	-210 to 50	405
		2	700		-210 to 420	-210 to 50	405
10	MGTPS	1	660	Haryana	-198 to 396	-130 to 40	404
		2	660		-198 to 396	-140 to 70	405
11	Bawana	1	216	Delhi-NCR	-65 to 130	-	-
		2	216		-65 to 130	-70 to 20	410
		3	216		-65 to 130	-	-
		4	216		-65 to 130	-	-
		5	253		-65 to 130	-60 to 40	415

		6	253		-65 to 130	-	-
12	Bara PPGCL	1	660	UP	-198 to 396	-40 to 60	772,778
		2	660		-198 to 396	-30 to 60	772,778
		3	660		-198 to 396	-70 to 60	768
13	Lalitpur TPS	1	660	UP	-198 to 396	-100 to 30	755
		2	660		-198 to 396	-70 to 30	765
		3	660		-198 to 396	-90 to 50	758
14	Anpara D UP	1	500	UP	-150 to 300	-	-
		2	500		-150 to 300	-150 to 50	770
15	Chhabra TPS	1	250	Rajasthan	-75 to 150	-50 to 70	410
		2	250		-75 to 150	-60 to 60	408
		3	250		-75 to 150	-60 to 50	408
		4	250		-75 to 150	-	-
		5	660		-198 to 396	-50 to 200	412
		6	660		-198 to 396	-100 to 150	410

All generating stations were requested to resolve any issues related to telemetry and make sure that MVAR absorption is as per grid requirement and capability curve of machine.

Since with IEGC 2023 implementation, reactive energy performance also has financial impact, it is desirable that all generating stations continue to support grid voltages by having reactive power performance as per their capability curve and grid requirement.

Some of the generating units such IGSTPP Jhajjar, MGTPS Jhajjar, Bara need to explore possibility of further MVAR absorption. Further, intrastate generators in Rajasthan control area may be asked to support through adequate reactive power generation during day-time when Rajasthan grid experiences low voltage.

During 226 OCC meeting, NRLDC representative presented following are few observations based on data of 20 Nov 2024 – 09 Dec 2024 analysed at NRLDC end:

- Some of the machines at NTPC Singrauli are generating MVAR whereas some are absorbing MVAR
- IGSTPP Jhajjar and MGTPS performance needs improvement, unnecessary MVAR generation could be avoided. AVR setpoint to be reduced.
- AVR setpoint may also be reduced for Dadri Stage-II, Talwandi Saboo stations. It was mentioned that Railways has also highlighted high voltage in their supply

from 220kV Dadri gas and NRLDC would be communicating with Dadri Gas for tap change.

- More reactive power support can be obtained from Chhabra 250MW generating units.
- No internal generation in Delhi state control area is leading to high voltages in the Delhi network as no dynamic reactive compensation is available from thermal machines for MVAR generation from cables.

NTPC representative stated that they will check performance of Singrauli units, AVR is planned to be replaced for one unit.

OCC expressed concern on performance of IGSTPP Jhajjar, and asked to reduce AVR set point, change tap position, so that voltage profile in the grid is improved.

During 227 OCC meeting, NRLDC representative presented IEGC clause 39.(3),

Quote

(3) All generating stations connected to the grid shall generate or absorb reactive power as per instructions of the concerned RLDC or SLDC, as the case may be, within the capability limits of the respective generating units, where capability limits shall be as specified by the OEM.

Unquote

Following are few observations based on data of 10 Dec 2024 – 09 Jan 2025 analysed at NRLDC end:

- Some of the machines at NTPC Singrauli are generating MVAR whereas some are absorbing MVAR. NTPC representative stated that AVR is to be replaced for Unit-6 of Singrauli.
- IGSTPP Jhajjar performance needs improvement, unnecessary MVAR generation could be avoided. As requested previously AVR setpoint to be reduced.
- AVR setpoint may also be reduced for Dadri Stage-II, Talwandi Saboo and Bawana stations.
- NTPC representative stated that Dadri is already absorbing upto 150MVAR.
- NRLDC representative stated that no doubt Dadri is absorbing MVAR, but AVR setpoint or GT tap may be changed such that the units are absorbing MVAR just beyond 400kV.
- IGSTPP Jhajjar representative stated that Unit-1 overhauling is planned in first week of Feb. and during this time GT tap position of Unit-1 will also be changed. It was also mentioned that during summer tap position may again need to be changed when MVAR generation is desired as AVR setpoint change is not able to change the required MVAR output.

- NRLDC representative stated that AVR set point change should be available with thermal stations so that reactive power change is possible as per grid requirement and relying on offload tap change is not at all suitable alternative. However, as last resort if required, seasonal tap change of GT may have to be carried out.
- It was also mentioned that communication with OEM regarding any issue in AVR setpoint may be shared separately with NRLDC. In case AVR setpoint change is not possible, GT tap position has to be changed so that required MVAR exchange is obtained and generating station needs to take up the issue of AVR setpoint inflexibility with their OEM.

Based on the analysis of data for 10Jan 2025-10Feb 2025, following are few of the observations:

- Some of the machines at NTPC Singrauli are generating MVAR whereas some are absorbing MVAR
- IGSTPP Jhajjar and MGTPS performance needs improvement, unnecessary MVAR generation could be avoided. AVR setpoint to be reduced.
- AVR setpoint may also be reduced for Dadri Stage-II
- Data to be checked for Kalisindh TPS
- At number of stations Rihand, Singrauli, Bara etc., even though unit size is same, there is different MVAR generation/absorption by each unit, same needs to be further deliberated.

During OCC 228, NTPC representative informed the forum that in Singrauli Unit #6, the DAVR replacement is planned during the unit's next scheduled overhaul.

For Singrauli Unit #7, NTPC is actively addressing the issue with the relevant personnel, but the rectification process is taking longer than expected.

Regarding Dadri Stage 2, the NTPC representative stated that the GT tap settings need to be changed to reduce the voltage at which MVAR absorption occurs. However, since it is an offline tap changer, this adjustment would require a shutdown of both units. They further noted that with the winter season ending and summer approaching, increasing the GT tap to lower the 400kV voltage should not be carried out at this stage.

IGSTPP Jhajjar representative also stated that the GT tap settings need to be changed to reduce the voltage at which MVAR absorption occurs. However, since it is an offline tap changer, this adjustment would require a shutdown of both units. They further noted that with the winter season ending and summer approaching, increasing the GT tap to lower the 400kV voltage should not be carried out at this stage.

Delhi SLDC agreed to look into the matter of MVAR absorption by Bawana GTs only after the voltage crosses 410/415kV and rectify the same.

NRLDC representative further stated that a procedure has been prepared in accordance with regulation 39(6) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 (hereinafter referred to as the “IEGC, 2023”). Relevant extracts are quote below.

Quote

.....(6) NLDC, RLDCs and SLDCs shall assess the dynamic reactive power reserve available at various substations or generating stations under any credible contingency on a regular basis based on technical details and data provided by the users, as per the procedure specified by NLDC

Unquote

The final procedure prepared by NLDC after deliberation with stakeholders is available @ https://posoco.in/wp-content/uploads/2023/10/NLDC_Procedure-on-Assesment-of-Dynamic-Reactive-Reserve.pdf

Displays are to be created in control rooms to monitor the available dynamic reactive reserve. The format for monitoring such reserve as part of procedure is shown below:

Format-IA- for Generating stations / Condenser / IBR

Sl No	Generating Station	Installed Capacity	On Bar Active Capability	On Bar Current Generation	On bar reactive Capability at that bus in MVAR		Actual Reactive Injection (+)/ Absorption (-) in MVAR	Dynamic reactive power reserves in MVAR	
		MW	MW	MW	Qmax (+)	Qmin (-)		Qmax (+)	Qmin (-)
		A	B	C	D	E		F	G=D-F
1									
2									

CENTRAL SECTOR GENERATION SUMMARY																								
THERMAL					HYDRO/OTHER/RENEWABLE					IPP														
220 KV ANTP (HV) CAPACITY MW ST/LS Avail. Outil UNIT-1 83.71 2 0 2 0 UNIT-2 83.71 2 0 2 0 UNIT-3 83.71 2 0 2 0 UNIT-4 156.42 2 0 2 0 TOTAL 307.55 4					220 KV BHIMAROI (HV) CAPACITY MW ST/LS Avail. Outil UNIT-1 400 472 0 207 85 UNIT-2 400 462 0 207 85 UNIT-3 1000 940 0 207 85 TOTAL 1800 1474					220 KV BHIMAROI (HV) CAPACITY MW ST/LS Avail. Outil UNIT-1 781 144 0 0 0 UNIT-2 781 144 0 0 0 UNIT-3 781 144 0 0 0 UNIT-4 781 144 0 0 0 TOTAL 3124 576					220 KV BHIMAROI (HV) CAPACITY MW ST/LS Avail. Outil UNIT-1 390 422 0 210 105 UNIT-2 390 422 0 210 105 UNIT-3 390 422 0 210 105 TOTAL 1170 1269					220 KV BHIMAROI (HV) CAPACITY MW ST/LS Avail. Outil UNIT-1 390 422 0 210 105 UNIT-2 390 422 0 210 105 UNIT-3 390 422 0 210 105 TOTAL 1170 1269				

OCC urged all generating stations to resolve any issues related to telemetry and make sure that MVAR absorption is as per grid requirement and capability curve of machine. Generators may also set their Vsch (voltage set point) such that units are absorbing MVAR as per their capability and grid requirement with intimation to RLDC/SLDC

OCC urged all the SLDCs to develop such displays at their end to effectively monitor the dynamic reactive power reserve in the system in compliance to IEGC 2023.

B.8 Sharing of ATC/TTC assessment and basecase with NRLDC

All NR states except Chandigarh UT are sharing basecase and ATC/TTC assessment with NRLDC. OCC has advised all states to timely declare TTC/ATC for prospective months and revise the figures as per requirement.

CERC vide their order dated 29.09.2023 has granted approval of “Detailed Procedure for Allocation of Transmission Corridor for Scheduling of General Network Access and Temporary General Network Access under Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations, 2022”.

Detailed roles and responsibilities for State Load Dispatch Centers in various timelines of the approved procedure are provided in the table below.

Purpose	S No	Action of Stakeholder	Responsibility	Submission to	Data/Information Submission

					Time line
1. Revision 0 TTC/ATC Declaration for Month 'M'	1(a)	<i>Submission of node wise Load and generation data along with envisaged</i>	SLDC	RLDC	10 th Day of 'M-12' month
		<i>scenarios for assessment of transfer capability</i>			
	<i>Assessment of TTC/ATC of the import/export capability of the state and intra-state system and sharing of updated network simulation models</i>				
1(b)	<i>Declaration of TTC/ATC of the intra- state system by SLDC in consultation with RLDC</i>			26 th Day of 'M-12' month	
2. Interconnection Studies for elements to be integrated in the month 'M'	2(a)	<i>Submission of node-wise load and generation data & sharing of network simulation models for intra-state elements coming in the next six months</i>	SLDC	RLDC	8 th Day of 'M- 6' month
	2(b)	<i>Sharing of inter-connection study results</i>			21 st Day of 'M-6' month
3. Month Ahead TTC/ATC Declaration & Base case for Operational Studies for Month 'M'	3(a)	<i>Submission of node wise Load and generation data along with envisaged scenarios for assessment of transfer capability</i>	SLDC	RLDC	8 th Day of 'M- 1' month
		<i>Assessment of TTC/ATC of the intra- state system and sharing of updated network simulation models</i>			
	3(b)	<i>Declaration of TTC/ATC of the intra- state system in consultation with RLDC</i>	SLDC	RLDC	22 nd Day of 'M-1' month

To encourage participation from SLDCs regarding basecase preparation and ATC/TTC assessment, two workshops have been conducted from Grid-India/NRLDC side. One workshop was conducted 31.08.2023 before the finalization of the procedure and another on 10.01.2024 recently to involve further participation from SLDCs. Subsequently, workshop was organized on 9-11 December 2024 & **3-4 February 2025** at NRLDC for all SLDCs under initiative by FOLD.

Although all SLDCs are now involved in preparation of basecase & ATC/TTC assessment, it is seen that the timelines as per CERC approved procedure are not being followed and number of times basecases are not received from SLDC side.

B.8.1 ATC/TTC assessment sharing 11 months in advance

The procedure mentions that:

“SLDCs in consultation with RLDCs shall declare the import and export TTC, ATC, and TRM of the individual control/bid areas within the region in accordance with Regulation 44 (3) of the Grid Code 2023. RLDCs shall assess the import and export TTC, TRM and ATC for the group of control/bid areas within the region (if required). The computed TTC, TRM and ATC figures shall be published on the website of respective SLDCs and RLDCs, along with the details of the basis of calculations, including assumptions, if any, **at least eleven (11) months in advance**. The specific constraints indicated in the system study shall also be published on the website.”

Accordingly, SLDCs are requested to send the PSSE cases for four scenarios i.e. Afternoon Peak, Solar Peak, Evening Peak & Off-Peak hours as communicated from NRLDC side. It is requested that the basecases as well as ATC/TTC assessments may be shared with NRLDC as per CERC approved procedure. Further, the above exercise needs to be carried out regularly monthly.

It was discussed in last several OCC meetings & all states were requested to share basecase as well as ATC/TTC assessments for M-12 scenarios on monthly basis with NRLDC as per CERC approved procedure. Accordingly, it is requested to submit the basecase as well as ATC/TTC assessments.

B.8.2 Sharing of Data and study results for interconnection studies

As per **Regulation 33 of IEGC 2023**,

(9) Each SLDC shall undertake a study on the impact of new elements to be commissioned in the intra-state system in the next six (6) months on the TTC and ATC for the State and share the results of the studies with RLDC.

(10) Each RLDC shall undertake a study on the impact of new elements to be commissioned in the next six (6) months in (a) the ISTS of the region and (b) the intra-state system on the inter-state system and share the results of the studies with NLDC.

(11) NLDC shall undertake study on the impact of new elements to be commissioned in the next six (6) months in (a) inter-regional system, (b) cross-border link and (c) intra-regional system on the inter-regional system.

In line with above, utilities are requested to share the list of elements/LGB data/interconnection study results etc. as per the approved procedure which are expected to be commissioned within next six months. This needs to be practised as monthly exercise on regular basis.

The agenda was discussed in last several OCC meetings & all utilities were requested to share list of elements/LGB data/interconnection study results etc as per the approved procedure on monthly basis.

B.8.3 TTC/ATC of state control areas for Mar 2025 (M-1)

As discussed in previous OCC meetings, most of the NR states except Ladakh and Chandigarh U/Ts are sharing basecase and ATC/TTC assessment with NRLDC.

Based on simulation studies and discussions between SLDCs and NRLDC, ATC/TTC limits for NR states for the month of Mar'2025 are attached as Annexure-B.III. of agenda

OCC has advised all states to timely declare TTC/ATC for prospective months and revise the figures as per requirement.

The agenda was also discussed in last several OCC meetings wherein all states agreed to send the data as well as PSSE basecases on time for all three (M-1, M-6, M-11) scenarios.

In 227 OCC meeting,

- NRLDC representative stated that the agenda was also discussed in last several OCC meeting wherein all states agreed to send the data as well as PSSE basecases on time for all three (M-1, M-6, M-11) scenarios. CGM NRLDC asked states to get help from NRLDC in case of any difficulty and emphasized on the need for regularity in sharing the data.
- NRLDC representative presented the status of basecase and data sharing by NR states for the last six months.
- It was mentioned that UP, Punjab, Rajasthan and J&K are regularly sharing basecase as well ATC/TTC assessment with NRLDC. Haryana, Delhi, Uttarakhand and HP are sharing data, but on some occasions it is getting missed. It was requested that all SLDCs may timely share the same.
- All SLDCs agreed to share basecase as well as ATC/TTC assessment as per CERC approved procedure.

Still, it is being observed that response from some SLDCs is not as per desired levels. Latest status for Feb 2025 is shown below:

September 2024 Mails							October 2024 Mails							November 2024 Mails						
ATC/TTC Declaration			Interconnection Studies			ATC/TTC Declaration			Interconnection Studies			ATC/TTC Declaration			Interconnection Studies					
M-1 (October-24)		M-12 (September-25)		M-6 (Mar-25)		M-1 (November-24)		M-12 (October-25)		M-6 (Apr-25)		M-1 (December-24)		M-12 (November-25)		M-6 (May-25)				
Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases			
Chandigarh	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			
Delhi	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			
Haryana	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			
Himachal	Shared only for 1 cardinal point	Shared only for 1 cardinal point	Shared only for 1 cardinal point	Shared only for 1 cardinal point	No	No	No	No	No	No	No	No	No	No	No	No	No			
J&K	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Ladakh	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			
Punjab	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Rajasthan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Uttarakhand	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			
December 2024 Mails							January 2025 Mails							February 2025 Mails						
ATC/TTC Declaration			Interconnection Studies			ATC/TTC Declaration			Interconnection Studies			ATC/TTC Declaration			Interconnection Studies					
M-1 (January-25)		M-12 (December-25)		M-6 (June-25)		M-1 (February-25)		M-12 (January-26)		M-6 (July-25)		M-1 (March-25)		M-12 (February-26)		M-6 (August-25)				
Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases			
Chandigarh	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			
Delhi	No	No	Yes	No	No	No	No	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes			
Haryana	No	Yes	No	No	No	No	No	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes			
Himachal	Yes	No	Yes	No	No	No	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes			
J&K	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Ladakh	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			
Punjab	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Rajasthan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Uttarakhand	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No			

In 228 OCC meeting,

- NRLDC representative stated that the agenda was also discussed in last several OCC meeting wherein all states agreed to send the data as well as PSSE basecases on time for all three (M-1, M-6, M-11) scenarios. CGM NRLDC asked states to get help from NRLDC in case of any difficulty and emphasized on the need for regularity in sharing the data.
- NRLDC representative presented the status of basecase and data sharing by NR states for the last six months.
- It was mentioned that UP, Punjab, Rajasthan and J&K are regularly sharing basecase as well ATC/TTC assessment with NRLDC. Haryana, Delhi, Uttarakhand and HP are sharing data, but on some occasions it is getting missed. It was requested that all SLDCs may timely share the same.
- Uttarakhand is sharing basecase for ATC, but not for 4 timepoints as being requested by NRLDC as per the new approved procedure.
All SLDCs agreed to share basecase as well as ATC/TTC assessment as per CERC approved procedure.

B.9 Workforce Adequacy Guidelines for Load Despatch Centres and Guidelines for Deputation of Workforce from SLDCs to Grid India for Fixed terms

The Ministry of Power has published a report on Workforce Adequacy Guidelines for Load Despatch Centres and Guidelines for Deputation of Workforce from SLDCs to Grid India for Fixed terms on 30th October 2024.

In the above report, under the section "*Creating a Skilled and Motivated Workforce at LDCs*," Point 3 outlines "A Short term Exposure Programme" has been envisaged to provide opportunity the system operators to learn from each other and to propagate best practices.

Modalities:

The programme will include 2-10 days duration rotational assignments to other LDCs. The officials will be rotated from System operation, Market operation and Logistics and REMC functions.

No. of persons to be rotated will endeavoured to be kept as 1:1, however, in certain cases especially for emerging LDCs this can be relaxed.

Eligibility:

All LDC officials working in System operation, Market operation and Logistics and REMC functions and have minimum 1 year or regular service in LDC are eligible.

Execution:

LDCs can submit their annual rotational plan to the FOLD secretariat, which will create a region-wise round-robin plan to ensure HR adequacy across all LDCs.

TA/DA including accommodation expenses will be borne by the parent organisation as per their rules. Host Organisation will not be obligated to provide any facility to visiting officer

Schedule will be proposed based on discussions:

S.no	SLDC	Tentative month
1	Punjab	
2	Delhi	
3	Rajasthan	
4	Uttar Pradesh	
5	Uttarakhand	
6	Haryana	
7	Himachal Pradesh	
8	JK & Ladakh	
9	Chandigarh	

NRLDC representative requested all SLDCs to furnish tentative timeline for Deputation of Workforce from SLDCs to Grid India for Fixed terms

B.10 Multiple element tripping events in Northern region in the month of January 2025:

A total of 11 grid events occurred in the month of January 2025 of which 06 are of GD-1 category, 04 are of GI-2 Category and 01 is of GI-1 Category. The tripping report of all the events have been issued from NRLDC. A list of all these events is attached at Annexure-B.IV of agenda.

Maximum delayed clearance of fault observed in event of multiple elements tripping at 400/220kV Akal(RS) on 12th January, 2025 (As per PMU at Bhadla(PG), B-N

phase to earth fault converted into Y-B-N double phase to earth fault with delayed fault clearing time of 2120ms is observed).

Delayed clearance of fault (more than 100ms for 400kV and 160ms for 220kV system) observed in total 05 events out of 11 grid events occurred in the month. In 01 (no.) of grid event, there was no fault in the grid.

NRLDC representative presented the reporting status of DR/EL & tripping reports w.r.t. grid events occurred in January 2025. It was highlighted that detailed report of majority of the tripping events have not received.

Rajasthan representative stated that all the relays at Heerapura(RS) was of electromechanical type due to which there was no DR files recorded. Overcurrent relays have been replaced with numerical relay and differential relays will be replaced by the end of February 2025. Further, necessary follow up are being done for improvement of reporting status.

NRLDC requested utilities to start preparing the detailed report of the tripping events as per timeline mentioned in IEGC 2023 and share the report with NRLDC, NRPC and PSC forum. Remedial actions taken by constituents to avoid such multiple elements tripping may also be included in the detail report.

As per IEGC clause 37.2 (c), Disturbance Recorder (DR), station Event Logger (EL), Data Acquisition System (DAS) shall be submitted within 24 hrs of the event and as per IEGC clause 37.2 (e), the user shall submit a detailed report in the case of grid disturbance or grid incidence within one (1) week of the occurrence of event to RLDC and RPC.

OCC forum requested members to take necessary preventive measures to avoid such grid incidents / disturbances in future and report actions taken by respective utilities in OCC & PSC forum. Moreover, utilities may impress upon all concerned for providing the Preliminary Report, DR/EL & detailed report of the events to RLDC in line with the regulations.

B.11 Status of submission of DR/EL and tripping report of utilities for the month of January 2025:

The status of receipt of DR/EL and tripping report of utilities for the month of **January 2025** is attached at Annexure-B.V of agenda. It is to be noted that as per the IEGC provision under clause 37.2 (c), tripping report along with DR/EL has to be furnished within 24 hrs of the occurrence of the event. However, it is evident from the submitted data that reporting status is not satisfactory and needs improvement.

NRLDC representative stated that on the basis of status of January month it is evident that reporting status of some of the constituents i.e., POWERGRID(NR-3), SLDC-HP, SLDC-J&K, SLDC-PS, SLDC-RS, SLDC-HR and RE stations are not satisfactory and needs improvement. Further, persistent unsatisfactory reporting status of Punjab was also highlighted.

Members may please note and advise the concerned for timely submission of the information. It is requested that DR/EL of all the tripping shall be **uploaded on Web Based Tripping Monitoring System (TMS)** “<https://postda.nrlc.in/Default.aspx>” within 24 hours of the events as per IEGC clause 37.2(c) and clause 15.3 of CEA grid standard.

NRLDC representative requested POWERGRID(NR-3), SLDC-HP, SLDC-J&K, SLDC-PS, SLDC-RS, SLDC-HR and RE stations to improve the status of submission of DR/EL & tripping reports. Further, it was also suggested to organize training programs for site engineers regarding DR/EL extraction and their uploading on TMS.

OCC forum emphasized the importance of DR/EL & tripping report data for analysis of the tripping. In addition, these data are also the base for the availability verification. The unavailability of these details delays the availability verification process also. Hence, timely submission of DR/EL & tripping report is very much necessary. Members were requested to comply with IEGC 37.2(c) and submit the details in time. Members agreed to take necessary follow-up actions to improve the reporting status.

Members may please note and advise the concerned for timely submission of the information. It is requested that DR/EL of all the tripping shall be uploaded on Web Based Tripping Monitoring System “<http://103.7.128.184/Account/Login.aspx>” within 24 hours of the events as per IEGC clause 37.2.c and clause 15.3 of CEA grid standard.

B.12 Frequency response performance for the reportable events of month of January 2025:

In the month of January 2025, only 1 no. of reportable event on 04th January 2025 was notified by NLDC for which FRC/ FRP need to be calculated and the same along with high resolution data need to be submitted to RLDC. Description of the event is as given in the Table below:

S. No.	Event Date	Time (In hrs.)	Event Description	Starting Frequency (in Hz)	Nadir Frequency (in Hz)	End Frequency (in Hz)	Δf	NR FRP during the event
1	04-Jan-25	19:23 hrs	As reported, at 19:23 hrs on 04th January, 2025, generation loss event of 1790 MW occurred at Barh generating station,	49.931	49.785	49.893	-0.038	4.07

			ER. Hence net generation loss of 1790 MW is considered for FRC/FRP Calculation.				
--	--	--	---	--	--	--	--

As per IEGC 2023 Clause 30.8, "The primary response of the generating units shall be verified by the Load Despatch Centres (LDCs) during grid events. The concerned generating station shall furnish the requisite data to the LDCs within two days of notification of reportable event by the NLDC."

As per IEGC 2023 Clause 30.10.(n), "Each control area shall assess its frequency response characteristics and share the assessment with the concerned RLDC along with high resolution data of at least 1 (one) second for regional entity generating stations and energy storage systems and 10 (ten) seconds for the state control area."

As per sub-clause (a(v)) of clause (9) of IEGC 2023 Annexure-2, "All the SLDCs shall work out FRC for all the intra-state entities (for events indicated by the Regional Load Despatch Centres) based on the HDR available at their respective SLDCs and submit the same to respective RLDC within six (6) working days after the event. (Format as per Table-B)."

As per sub-clause (a(vi)) of clause (9) of IEGC 2023 Annexure-2, "All regional entity generating stations shall also assess the FRC for their respective stations and submit the same to respective RLDC within six (6) working days. (Format as per Table-B). The high-resolution data (1 second or better resolution) of active power generation and frequency shall also be shared with RLDC."

Status of details received from constituents as on 09th February 2025 is:

S. No	Control Area	Event Date
		04-01-2025
1	Punjab	Not Received
2	Haryana	Received
3	Rajasthan	Received
4	Delhi	Received
5	Uttar Pradesh	Received
6	Uttarakhand	Received
7	Chandigarh*	NA
8	Himachal Pradesh	Received
9	J&K(UT) and Ladakh(UT)	Not Received
10	Dadri -1 (TH)	Received
11	Dadri -2 (TH)	Received
12	Jhajjar (TH)	Received
13	Rihand-1 (TH)	Received
14	Rihand-2 (TH)	Received
15	Rihand-3 (TH)	Received

16	Shree Cement (TH)	Not Received
17	Singrauli (TH)	Received
18	Tanda-2 (TH)	Received
19	Unchahar-I (TH)	Received
20	Unchahar-II (TH)	Received
21	Unchahar-III (TH)	Received
22	Unchahar-IV (TH)	Received
23	Anta (G)	No Gen
24	Auraiya (G)	No Gen
25	Dadri (G)	No Gen
26	AD Hydro (H)	No Gen
27	Bairasiul (H)	No Gen
28	Bhakra (H)	Not Received
29	Budhil (H)	Not Received
30	Chamera-1 (H)	Received
31	Chamera-2 (H)	Not Received
32	Chamera-3 (H)	Not Received
33	Dehar (H)	Not Received
34	Dhauliganga (H)	Received
35	Dulhasti (H)	Received
36	Karcham (H)	Received
37	Kishanganga	No Gen
38	Koldam (H)	Received
39	Koteshwar (H)	Received
40	Malana-2 (H)	NA
41	Nathpa Jhakri (H)	Received
42	Parbati-2 (H)	Not Received
43	Parbati-3 (H)	Not Received
44	Pong (H)	Not Received
45	Rampur (H)	Not Received
46	Sainj (H)	No Gen
47	Salal (H)	Received
48	Sewa-II (H)	No Gen
49	Singoli Bhatwari (H)	Not Received
50	Sorang (H)	Not Received
51	Tanakpur (H)	Not Received
52	Tehri (H)	Received
53	Uri-1 (H)	Not Received
54	Uri-2 (H)	Not Received

NRLDC representative highlighted that list of generating stations and control area who haven't shared the FRC/FRP computation details. Details are pending from mainly NHPC & BBMB generating stations. Members were requested to share the FRC/FRP computation as per timeline.

NHPC and BBMB representative assured that timely submission of details shall be ensured.

Frequency Response Performance (FRP) of generating stations for each reportable event are calculated based on the submitted high resolution data from generating stations. However, the generating stations for which data is not received till 09th February 2025, FRC/FRP as per NRLDC HDR data is used for computation of Average Monthly Frequency Response Performance, Beta ' β ' for Generating Stations.

FRP values as considered (as per NRLDC HDR data/ generator high resolution data) for the event of January 2025 is as follows:

S. No	Control Area	Event Date
		04-01-2025
1	Punjab	0.40
2	Haryana	1.34
3	Rajasthan	0.63
4	Delhi	5.06
5	Uttar Pradesh	2.15
6	Uttarakhand	-0.27
7	Chandigarh*	NA
8	Himachal Pradesh	1.71
9	J&K(UT) and Ladakh(UT)	0.00
10	Dadri -1 (TH)	20.16
11	Dadri -2 (TH)	11.29
12	Jhajjar (TH)	6.66
13	Rihand-1 (TH)	16.91
14	Rihand-2 (TH)	7.66
15	Rihand-3 (TH)	12.96
16	Shree Cement (TH)	6.26
17	Singrauli (TH)	8.00
18	Tanda-2 (TH)	6.42
19	Unchahar-I (TH)	22.23
20	Unchahar-II (TH)	0.37
21	Unchahar-III (TH)	-3.25
22	Unchahar-IV (TH)	-3.95
23	Anta (G)	No Gen
24	Auraiya (G)	No Gen
25	Dadri (G)	No Gen
26	AD Hydro (H)	No Gen
27	Bairasiul (H)	No Gen
28	Bhakra (H)	0.65
29	Budhil (H)	1.16
30	Chamera-1 (H)	19.73
31	Chamera-2 (H)	12.05

32	Chamera-3 (H)	-0.29
33	Dehar (H)	1.61
34	Dhauliganga (H)	7.10
35	Dulhasti (H)	3.95
36	Karcham (H)	13.79
37	Kishenganga	No Gen
38	Koldam (H)	6.18
39	Koteshwar (H)	7.34
40	Malana-2 (H)	NA
41	Nathpa Jhakri (H)	5.14
42	Parbati-2 (H)	0.00
43	Parbati-3 (H)	-21.01
44	Pong (H)	-0.65
45	Rampur (H)	37.58
46	Sainj (H)	No Gen
47	Salal (H)	46.20
48	Sewa-II (H)	No Gen
49	Singoli Bhatwari (H)	-0.81
50	Sorang (H)	-0.10
51	Tanakpur (H)	-1.66
52	Tehri (H)	0.00
53	Uri-1 (H)	-6.82
54	Uri-2 (H)	0.00

Members were requested to analyse the frequency response of their respective control area and share the FRC/FRP analysis of generating stations along with unit wise 01 sec data as per timeline for ensuring IEGC compliance.

ISGS were requested to confirm whether FGMO as per IEGC 2023 has been implemented at their respective stations or not. Updated sheet on the basis of details received is as follows:

Sl. No.	Entity	Capacity(MW)	Governor Mode (FGMO as per IEGC 2023) Yes or No	Droop setting (%)	Remarks (if any)
1	Dadri-1 (TH)	4*200			
2	Dadri -2 (TH)	2*490			
3	Jhajjar (TH)	3*500			
4	Rihand-1 (TH)	2*500	Yes	5.0	Under Implementation
5	Rihand-2 (TH)	2*500	Yes	5.0	Under Implementation

					on Under Implementati on
6	Rihand-3 (TH)	2*500	Yes	5.0	
7	Shree Cement (TH)	(2 * 150)			
8	Singrauli (TH)	2*500+5*200			
9	Tanda-2 (TH)	2*660			
10	Unchahar stg-4 (TH)	1*500			
11	Unchahar (TH)	2*210			
12	Anta (G)	(1 * 153.2 + 3 * 88.71)			
13	Auraiya (G)	(2 * 109.3 + 4 * 111.19)			
14	Dadri (G)	(2 * 154.51 + 4 * 130.19)			
15	AD Hydro (H)	(2 * 96)	YES	4.0	-
16	Bairasiul (H)	(3 * 60)	Yes	4.0	
17	Bhakra (H)	(5 * 126 + 5 * 157)			
18	Budhil (H)	(2 * 35)			
19	Chamera-1 (H)	(3 * 180)	Yes	5.0	
20	Chamera-2 (H)	(3 * 100)	Yes	5.0	
21	Chamera-3 (H)	(3 * 77)	Yes	4.0	
22	Dehar (H)	(6 * 165)			
23	Dhauliganga (H)	(4 * 70)	Yes	5.0	
24	Dulhasti (H)	(3 * 130)	Yes	5.0	
25	Karcham (H)	(4 * 261.25)	Yes	5.0	
26	Kishenganga	(3 * 110)	Yes	4.0	
27	Koldam (H)	(4 * 200)	Yes	4.0	
28	Koteswar (H)	(4 * 100)	Yes	4.0	
29	Malana-2 (H)	(2 * 50)			
30	Nathpa Jhakri (H)	(6 * 250)	Yes	5.5	
31	Parbati-2 (H)	(4 * 200)			
32	Parbati-3 (H)	(4 * 130)	Yes	4.0	
33	Pong (H)	(6 * 66)			
34	Rampur (H)	(6 * 68.67)			
35	Sainj (H)	(2 * 50)			
36	Salal (H)	(6 * 115)	Yes	3.0	
37	Sewa-II (H)	(3 * 40)	Yes	4.0	
38	Singoli Bhatwari (H)	(3 * 33)			
39	Sorang (H)	(2 * 50)			
40	Tanakpur (H)	(1 * 31.42 + 2 *	Yes	4.0	

		31.4)			
41	Tehri (H)	(4 * 250)	Yes	4.0	
42	Uri-1 (H)	(4 * 120)	Yes	6.0	
43	Uri-2 (H)	(4 * 60)	Yes	5.0	

Members were requested to ensure implementation of FGMO as per IEGC 2023 at generating stations in their respective control area and share the present status of droop setting.

NRLDC representative highlighted unsatisfactory response of some of the generating stations during the event and requested to take necessary remedial actions to improve the governor response.

Members were requested to share the data and analysis of FRC of their control area. ISGS stations were requested to share the FRC/FRP calculations of each reportable event and also share the 01 sec data of respective generating stations. It was further requested to take remedial actions to improve the governor response if necessary. States were also requested to follow-up with the generating stations of their respective control area and share the unit wise 01 sec data of respective generating stations along with the analysis of FRC response for the aforementioned event.

OCC forum requested members to share the FRC/FRP computation data as per timeline and also analyse the FRC response of their respective control area. Necessary action for improvement in governor response need be taken to ensure the proper frequency response in compliance w.r.t. IEGC 2023.

B.13 Mock trial run and testing of black start facilities at generating stations in Northern Region

As per Indian Electricity Grid Code (IEGC) clause 34.3

“ Detailed procedures for restoration post partial and total blackout of each user system within a region shall be prepared by the concerned user in coordination with the concerned SLDC, RLDC or NLDC, as the case may be. The concerned user shall review the procedure every year and update the same. The user shall carry out a mock trial run of the procedure for different sub-systems including black-start of generating units along with grid forming capability of inverter based generating station and VSC based HVDC black-start support at least once a year under intimation to the concerned SLDC and RLDC. Diesel generator sets and other standalone auxiliary supply source to be used for black start shall be tested on a weekly basis and the user shall send the test reports to the concerned SLDC, RLDC and NLDC on a quarterly basis”.

Hydro and gas-based plants are capable of self-black-start. Conducting periodic mock black start exercises are extremely important to ensure the healthiness of black start

facilities and also to build awareness as well as confidence among the system operators.

In view of above, regional entity generating stations shall conduct the dead bus charging of their units on rotation basis as per availability of schedule under intimation to the NRLDC. Testing of Diesel generator sets and other standalone auxiliary supply source to be used for black start shall also be done on a weekly basis. SLDC shall also ensure the same in their respective control area. This will ensure the healthiness of blackstart facility at generating stations. Further, NRLDC shall coordinate with the ISGS and states to conduct the mock black start exercise of subsystems.

Therefore, regional entity generating stations and SLDCs were requested to share the annual schedule plan for conducting dead bus charging / mock black start exercise of generating stations / sub-systems during 2024-25 in the format attached as Annexure-B.VI of agenda. Constituents were also requested to share the test report of diesel generators / auxiliary supply on a quarterly basis. In this regard, communication has already been sent to constituents through NRLDC letter dated 24.04.2024.

NRLDC representative informed that details received from AD Hydro HEP, Tehri HEP, Karcham Wangtoo HEP, Koteshwar HEP, SJVN, NHPC, Budhil, Auraiya GPS, Singoli Bhatwari HEP, Koldam HEP, Dadri GPS, Delhi, Punjab and Uttarakhand.

Mock black start exercises conducted during 2024-25 till date area are as follows:

- a) GTPS (IPGCL) on 10.04.2024 (black start, Island operation and synchronisation)*
- b) Ranjit Sagar Dam(RSD) HEP on 07.05.2024 (black start, Island operation and synchronisation)*
- c) Kishenganga HEP on 09.11.2024 (black start & dead bus charging)*
- d) Tehri HEP on 13.11.2024 (black start, dead bus charging and synchronisation)*
- e) Koteshwar HEP on 27.11.2024 (black start, dead bus charging and synchronisation)*
- f) N.Jhakri & Rampur HEP on 08.12.2024 (black start, Island operation and synchronisation)*
- g) Chamera-I HEP on 12.12.2024 (black start & dead bus charging)*
- h) Dhauliganga HEP on 13.12.2024 (black start & dead bus charging)*
- i) Bairasiul HEP on 14.12.2024 (black start & dead bus charging)*
- j) Tanakpur HEP on 19.12.2024 (black start & dead bus charging)*

NRLDC representative requested ISGS and SLDCs to take following actions were:

- To share the report of testing of DG sets.*
- To share the tentative schedule of mock black start exercise of generating stations in their respective control area.*
- SLDCs are requested to share the tentative schedule plan of mock black start exercise of generating stations in their respective control area.*

- To conduct dead bus charging after self-starting the generating station if schedule with load is not available.
- To share the test report of mock black start exercise conducted along with weekly DG testing on monthly/quarterly basis.

UP representative informed that the attempt of mock black start exercise of Obra & Rihand Hydro was done on 13.02.2024. Unit was successfully black started and dead bus was charged however, island formation was not successful. Report of the same is yet to be received. Accordingly, after addressing the issues, another attempt for mock black start exercise shall be planned.

NRLDC representative requested UP to share the report of mock black start exercise within a week. UP agreed for the same.

NRLDC representative requested Rajasthan to follow-up for the mock black start exercise of hydro/gas stations in Rajasthan control area i.e. Ramgarh GPS, RPS HEP, JS HEP & Mahi Sagar HEP and share the schedule plan.

BBMB representative informed that mock black start exercise of Bhakhra and Pong HEP were conducted during November 2024. NRLDC representative requested BBMB to share the report to NRLDC.

OCC forum requested all the concerned generating stations and state to conduct the mock black start exercise of black start facilities in your respective control area. Members were also requested to share the report of testing of DG sets on quarterly basis.

B.14 Mock testing of System Protection Schemes (SPS) in Northern Region

As per IEGC clause 16.2

“For the operational SPS, RLDC or NLDC, as the case may be, in consultation with the concerned RPC(s) shall perform regular load flow and dynamic studies and mock testing for reviewing SPS parameters & functions, at least once in a year. RLDC or NLDC shall share the report of such studies and mock testing including any short comings to respective RPC(s). The data for such studies shall be provided by CTU to the concerned RPC, RLDC and NLDC.”

As per IEGC clause 16.3

“The users and SLDCs shall report about the operation of SPS immediately and detailed report shall be submitted within three days of operation to the concerned RPC and RLDC in the format specified by the respective RPCs.”

There are 56 numbers of System Protection Scheme (SPS) approved in Northern Region. These SPS are implemented at major generation complexes, important evacuating transmission lines and ICTs which are N-1 non-complaint. System Protection Scheme Document of Northern Region has been revised/updated on 31st January, 2025. Revised version of the document is available on the NRLDC website in Document section and can be accessed at below link: <https://newnr.nrlc.in/documents/Documents>.

SPS is designed to detect abnormal system conditions and take predetermined, corrective action to preserve system integrity and provide acceptable system performance. Therefore, correct operation of SPS as per designed logic is important to serve its purpose. To ensure this, mock testing of SPS needs to be conducted at a regular period. Clause 16.2 of IEGC 2023 also mandates the mock testing of SPS for reviewing SPS parameters & functions, at least once a year.

In view of the above, concerned constituents / utility were requested to share the tentative schedule plan for conducting mock testing of SPS in their respective control area during 2024-25 in format attached as Annexure-B.VII of agenda. In this regard, communication has already been sent to constituents through NRLDC letter dated 01.05.2024. Update in this regard received only from UP and Uttarakhand.

Details only received from Uttarakhand, Rajasthan & UP.

NRLDC representative informed that UP & Rajasthan has conducted ~70-80% of SPS schemes in their control area. POWERGRID, Punjab and other members are also requested to plan and conduct the SPS testing in their control area.

POWERGRID representative stated that they are following up on this subject and will share the tentative schedule plan soon.

DTL representative informed that mock testing of SPS of Mundka S/s has been conducted. Mock testing of SPS at Bawana is yet to be done and same will be done at the earliest. Further, SPS at Bamnuali(DTL) is not needed now on account of shifting of feeders to Jhatikara.

NRLDC representative also presented the list of stations where network augmentation has been occurred in recent past and further review on the SPS need to be done whether SPS at these stations is still required or not.

In view of the same, NRLDC representative asked UPPTCL to confirm whether same setting has been kept after incorporation of new ICT at Gorakhpur(UP), Unnao(UP) and Muzaffarnagar(UP). UPPTCL representative confirmed that same SPS setting has been kept with the new ICT.

NRLDC representative also stated that SPS at NTPC Dadri has also been reviewed and with the changes in network configuration (bus split between stage-I&II), line loading are well within safe limit during N-1-1 contingency also. In view of this, forum may decide on disabling the SPS at NTPC Dadri.

MS NRPC and CGM SO, NRLDC requested members to review highlighted SPS and further discussion on the SPS may be taken during the next OCC meeting.

OCC forum requested members to conduct the mock testing of SPS in their respective control area, share the report of the mock testing conducted. Members were also requested to review the SPS scheme in their respective control area if there is any change in network configuration and load profile.

B.15 Revision of document for System Restoration Procedure Document of Northern Region:

NRLDC has been issuing '**System Restoration Procedure Document of Northern Region**' on annual basis. The document has been revised on 31st January 2025 and same has been shared with all the constituents.

NRLDC representative stated that the Document is also available on NRLDC website in document section. Weblink of document section is <https://newnr.nrldc.in/documents/Documents>

The document is password protected and password was already informed to all the NR constituents through NRLDC letter dated 31st January 2025.

NRLDC representative requested all the SLDCs to prepare system restoration procedure document for their respective state control area also.

OCC forum emphasized the importance of restoration procedure and requested members to prepare system restoration for their respective control area.

Status of action taken on decision of 227th OCC meeting of NRPC

S.N.	Agenda	Decision of 227 th OCC meeting of NRPC	Status of action taken
1	A.10. Implementation of AUFLS scheme in accordance with the report of Task Force on Automatic under Frequency Load Shedding (AUFLS) (Agenda by NRPC Sectt.)	Forum asked SLDC to identify and communicate feeder-wise, Stage-wise load relief to RPC/RLDC.	There is separate agenda A.10 on the said matter.
2	A.14. SPS arrangement for load shedding at 400/220 kV Mandola & Maharani Bagh Substation in view of N-1 criteria violation (Agenda by POWERGRID NR-1)	Forum directed to DTL, POWERGRID and NRLDC for separate discussion and SPS logic may be finalised and implemented by POWERGRID as soon as possible.	OCC forum asked DTL to submit the identify before next OCC meeting the feeders for implementing SPS at 765/400kV Maharani Bagh Substation. In the meantime, NRLDC to conduct the study and provide information before the next OCC meeting on the amount of load shedding required to offer relief on the 765/400kV ICT at Maharani Bagh.
3	A.16. Requirement of complete 400 kV Bus-1 &2 shutdown at Mandola & Ballabgarh SS for replacement of damaged sections 400 kV jack buses (Agenda by POWERGRID NR-1)	Forum asked Powergrid NR-1, HVPNL, and BBMB to conduct a joint site visit of Ballabgarh S/s within one week and submit their observations to NRPC/NRLDC. Following this, a physical meeting will	Powergrid intimated that a joint site visit was conducted on 20.01.2025 by BBMB & HVPNL, but the signing of the MOM is yet to be completed (copy enclosed).

Status of action taken on decision of 227th OCC meeting of NRPC

		be arranged at the NRPC Secretariat to discuss the possibility of shutting down the 400 kV bus at Ballabgarh Substation for the replacement of the damaged sections of the 400 kV jack buses.	OCC forum asked SLDC Haryana to arrange a meeting next week with HVPNL, POWERGRID & BBMB to resolve the shutdown related challenges and explore Jack Bus shutdown at Ballabhgarh(PG) within and outcome of the meeting to be submitted to NRPC for taking further action in this regard.
--	--	---	--

Follow up issues from previous OCC meetings

Annexure-A. I

1	Down Stream network by State utilities from ISTS Station	Augmentation of transformation capacity in various existing substations, addition of new substations along with line bays as well as requirement of line bays by STUs for downstream network are under implementation at various locations in Northern Region. Further, 220kV bays have already been commissioned at various substations in NR. For its utilization, downstream 220kV system needs to be commissioned.	List of downstream networks is enclosed in Annexure-A. I. I.																																
2	Progress of installing new capacitors and repair of defective capacitors	Information regarding installation of new capacitors and repair of defective capacitors is to be submitted to NRPC Secretariat.	<p>Data upto following months, received from various states / UTs:</p> <table border="1" data-bbox="966 821 1559 1100"> <tr><td>⊙ CHANDIGARH</td><td>Sep-2019</td></tr> <tr><td>⊙ DELHI</td><td>Nov-2024</td></tr> <tr><td>⊙ HARYANA</td><td>Dec-2024</td></tr> <tr><td>⊙ HP</td><td>Sep-2024</td></tr> <tr><td>⊙ J&K and LADAKH</td><td>Not Available</td></tr> <tr><td>⊙ PUNJAB</td><td>Jan-2025</td></tr> <tr><td>⊙ RAJASTHAN</td><td>Jan-2025</td></tr> <tr><td>⊙ UP</td><td>Dec-2024</td></tr> <tr><td>⊙ UTTARAKHAND</td><td>Jan-2025</td></tr> </table> <p>All States/UTs are requested to update status on monthly basis.</p>	⊙ CHANDIGARH	Sep-2019	⊙ DELHI	Nov-2024	⊙ HARYANA	Dec-2024	⊙ HP	Sep-2024	⊙ J&K and LADAKH	Not Available	⊙ PUNJAB	Jan-2025	⊙ RAJASTHAN	Jan-2025	⊙ UP	Dec-2024	⊙ UTTARAKHAND	Jan-2025														
⊙ CHANDIGARH	Sep-2019																																		
⊙ DELHI	Nov-2024																																		
⊙ HARYANA	Dec-2024																																		
⊙ HP	Sep-2024																																		
⊙ J&K and LADAKH	Not Available																																		
⊙ PUNJAB	Jan-2025																																		
⊙ RAJASTHAN	Jan-2025																																		
⊙ UP	Dec-2024																																		
⊙ UTTARAKHAND	Jan-2025																																		
3	Healthiness of defence mechanism: Self-certification	<p>Report of mock exercise for healthiness of UFRs carried out by utilities themselves on quarterly basis is to be submitted to NRPC Secretariat and NRLDC. All utilities were advised to certify specifically, in the report that “All the UFRs are checked and found functional” .</p> <p>In compliance of NPC decision, NR states/constituents agreed to raise the AUFRR settings by 0.2 Hz in 47th TCC/49th NRPC meetings.</p>	<p>Data upto following months, received from various states / UTs:</p> <table border="1" data-bbox="966 1255 1559 1566"> <tr><td>⊙ CHANDIGARH</td><td>Not Available</td></tr> <tr><td>⊙ DELHI</td><td>Dec-2024</td></tr> <tr><td>⊙ HARYANA</td><td>Dec-2024</td></tr> <tr><td>⊙ HP</td><td>Oct-2024</td></tr> <tr><td>⊙ J&K and LADAKH</td><td>Not Available</td></tr> <tr><td>⊙ PUNJAB</td><td>Dec-2024</td></tr> <tr><td>⊙ RAJASTHAN</td><td>Dec-2024</td></tr> <tr><td>⊙ UP</td><td>Dec-2024</td></tr> <tr><td>⊙ UTTARAKHAND</td><td>Dec-2024</td></tr> <tr><td>⊙ BBMB</td><td>Jun-2024</td></tr> </table> <p>All States/UTs are requested to update status for healthiness of UFRs on monthly basis for islanding schemes and on quarterly basis for the rest.</p> <p>Status:</p> <table border="1" data-bbox="966 1738 1559 1921"> <tr><td>⊙ CHANDIGARH</td><td>Not Available</td></tr> <tr><td>⊙ DELHI</td><td>Increased</td></tr> <tr><td>⊙ HARYANA</td><td>Increased</td></tr> <tr><td>⊙ HP</td><td>Increased</td></tr> <tr><td>⊙ J&K and LADAKH</td><td>Increased</td></tr> <tr><td>⊙ PUNJAB</td><td>Increased</td></tr> </table>	⊙ CHANDIGARH	Not Available	⊙ DELHI	Dec-2024	⊙ HARYANA	Dec-2024	⊙ HP	Oct-2024	⊙ J&K and LADAKH	Not Available	⊙ PUNJAB	Dec-2024	⊙ RAJASTHAN	Dec-2024	⊙ UP	Dec-2024	⊙ UTTARAKHAND	Dec-2024	⊙ BBMB	Jun-2024	⊙ CHANDIGARH	Not Available	⊙ DELHI	Increased	⊙ HARYANA	Increased	⊙ HP	Increased	⊙ J&K and LADAKH	Increased	⊙ PUNJAB	Increased
⊙ CHANDIGARH	Not Available																																		
⊙ DELHI	Dec-2024																																		
⊙ HARYANA	Dec-2024																																		
⊙ HP	Oct-2024																																		
⊙ J&K and LADAKH	Not Available																																		
⊙ PUNJAB	Dec-2024																																		
⊙ RAJASTHAN	Dec-2024																																		
⊙ UP	Dec-2024																																		
⊙ UTTARAKHAND	Dec-2024																																		
⊙ BBMB	Jun-2024																																		
⊙ CHANDIGARH	Not Available																																		
⊙ DELHI	Increased																																		
⊙ HARYANA	Increased																																		
⊙ HP	Increased																																		
⊙ J&K and LADAKH	Increased																																		
⊙ PUNJAB	Increased																																		

			<input type="radio"/> RAJASTHAN <input type="radio"/> UP <input type="radio"/> UTTARAKHAND <input type="radio"/> BBMB	Increased Increased Increased Increased																																	
4	Status of Automatic Demand Management System in NR states/UT's	The status of ADMS implementation in NR, which is mandated in clause 5.4.2 (d) of IEGC by SLDC/SEB/DISCOMs is presented in the following table:	The status of ADMS implementation in NR is enclosed in Annexure-A.I.II.																																		
			<input type="radio"/> DELHI <input type="radio"/> HARYANA <input type="radio"/> HP <input type="radio"/> PUNJAB <input type="radio"/> RAJASTHAN <input type="radio"/> UP <input type="radio"/> UTTARAKHAND	Scheme Implemented but operated in manual mode. Scheme not implemented Scheme not implemented Scheme not implemented Under implementation. Scheme implemented by NPCIL only Scheme not implemented																																	
5	Status of availability of ERS towers in NR	As per the decision of 68th NRPC and 211th OCC meeting, ERS availability monitoring is being taken as rolling/follow-up agenda in OCC meetings for regular monitoring of ERS under different utilities in Northern region.	As per the information received from different utilities in Northern region, updated status of availability of ERS towers in Northern Region attached as Annexure-A.I.III.																																		
6	Submission of breakup of Energy Consumption by the states	All states/UTs are requested to submit the requisite data as per the billed data information in the format given as under:	Status of the information submission (month) from states / utilities is as under:																																		
		<table border="1"> <thead> <tr> <th>Category--></th> <th>Consumption by Domestic Loads</th> <th>Consumption by Commercial Loads</th> <th>Consumption by Agricultural Loads</th> <th>Consumption by Industrial Loads</th> <th>Traction supply load</th> <th>Miscellaneous / Others</th> </tr> </thead> <tbody> <tr> <td><Month></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Category-->	Consumption by Domestic Loads	Consumption by Commercial Loads	Consumption by Agricultural Loads	Consumption by Industrial Loads	Traction supply load	Miscellaneous / Others	<Month>							<table border="1"> <thead> <tr> <th>State / UT</th> <th>Upto</th> </tr> </thead> <tbody> <tr> <td><input type="radio"/> CHANDIGARH</td> <td>Not Submitted</td> </tr> <tr> <td><input type="radio"/> DELHI</td> <td>Nov-24</td> </tr> <tr> <td><input type="radio"/> HARYANA</td> <td>Dec-24</td> </tr> <tr> <td><input type="radio"/> HP</td> <td>Dec-24</td> </tr> <tr> <td><input type="radio"/> J&K and LADAKH</td> <td>JPDCI- Mar' 24 KPDCL- Not Submitted</td> </tr> <tr> <td><input type="radio"/> PUNJAB</td> <td>Dec-24</td> </tr> <tr> <td><input type="radio"/> RAJASTHAN</td> <td>Oct-24</td> </tr> <tr> <td><input type="radio"/> UP</td> <td>Sep-24</td> </tr> <tr> <td><input type="radio"/> UTTARAKHAND</td> <td>Aug-24</td> </tr> </tbody> </table>	State / UT	Upto	<input type="radio"/> CHANDIGARH	Not Submitted	<input type="radio"/> DELHI	Nov-24	<input type="radio"/> HARYANA	Dec-24	<input type="radio"/> HP	Dec-24	<input type="radio"/> J&K and LADAKH	JPDCI- Mar' 24 KPDCL- Not Submitted	<input type="radio"/> PUNJAB	Dec-24	<input type="radio"/> RAJASTHAN	Oct-24	<input type="radio"/> UP	Sep-24	<input type="radio"/> UTTARAKHAND	Aug-24
Category-->	Consumption by Domestic Loads	Consumption by Commercial Loads	Consumption by Agricultural Loads	Consumption by Industrial Loads	Traction supply load	Miscellaneous / Others																															
<Month>																																					
State / UT	Upto																																				
<input type="radio"/> CHANDIGARH	Not Submitted																																				
<input type="radio"/> DELHI	Nov-24																																				
<input type="radio"/> HARYANA	Dec-24																																				
<input type="radio"/> HP	Dec-24																																				
<input type="radio"/> J&K and LADAKH	JPDCI- Mar' 24 KPDCL- Not Submitted																																				
<input type="radio"/> PUNJAB	Dec-24																																				
<input type="radio"/> RAJASTHAN	Oct-24																																				
<input type="radio"/> UP	Sep-24																																				
<input type="radio"/> UTTARAKHAND	Aug-24																																				
			Chandigarh is requested to submit the requisite data w.e.f. April 2018 as per the billed data information in the given format																																		
7	Status of FGD installation vis-à-vis installation plan at identified TPS	List of FGDs to be installed in NR was finalized in the 36th TCC (special) meeting dt. 14.09.2017. All SLDCs were regularly requested since 144th OCC meeting to take up with the concerned generators where FGD was required to be installed. Further, progress of FGD installation work on monthly basis is monitored in OCC	Status of the information submission (month) from states / utilities is as under:																																		
			<input type="radio"/> HARYANA <input type="radio"/> PUNJAB <input type="radio"/> RAJASTHAN <input type="radio"/> UP <input type="radio"/> NTPC	Jun-2024 Jun-2024 Nov-2024 Jan-2024 Feb-2023																																	
			FGD status details are enclosed as Annexure-A. I. IV.																																		

		meetings.	All States/utilities are requested to update status of FGD installation progress on monthly basis.
8	Information about variable charges of all generating units in the Region	The variable charges detail for different generating units are available on the MERIT Order Portal.	All states/UTs are requested to submit daily data on MERIT Order Portal timely.

9	Reactive compensation at 220 kV/ 400 kV level at 7 substations			
	State / Utility	Substation	Reactor	Status
i	DTL	Peeragarhi	1x50 MVar at 220 kV	1x50 MVar Reactor at Peeragarhi has been commissioned on dated 18.09.2023
ii	DTL	Harsh Vihar	2x50 MVar at 220 kV	2x50 MVAR Reactor at Harsh Vihar has been commissioned on dated 31th March 2023.
iii	DTL	Mundka	1x125 MVar at 400 kV & 1x25 MVar at 220 kV	Bay work completed on 25.03.2023. Reactor part tender is dropped and at present same is under revision.
iv	DTL	Bamnauli	2x25 MVar at 220 kV	Bay work completed on 25.03.2023. Reactor part tender is dropped and at present same is under revision.
v	DTL	Indraprastha	2x25 MVar at 220 kV	Bay work completed on 07.11.2023. Reactor part tender is dropped and at present same is under revision.
vi	DTL	Electric Lane	1x50 MVar at 220 kV	Under Re-tendering due to Single Bid
vii	PTCUL	Kashipur	1x125 MVAR at 400 kV	Tender for Procurement of 125 MVAR Reactor has been floated on 04.11.2024 and tender opening date is 30.12.2024.

1. Down Stream network by State utilities from ISTS Station:

Sl. No.	Substation	Downstream network bays	Status of bays	Planned 220 kV system and Implementation status	Revised Target	Remarks
1	400/220kV, 3x315 MVA Samba	Commissioned: 8 Total: 8	Utilized: 6 Unutilized: 2	• Network to be planned for 2 bays.	Mar'25	02 No. of bays shall be utilized for LILO-II of 220kV Jatwal-Bishnah Transmission Line, the work of which is delayed due to persisting RoW issues. expected date of completion is Mar 2025 subject to availability of funds and resolving of RoW issues), Updated in 220th OCC by JKPTCL.
2	400/220kV, 2x315 MVA New Wanpoh	Commissioned: 6 Total: 6	Utilized: 2 Unutilized: 4	• 220 kV New Wanpoh - Alusteng D/c Line	Mar'25	02 No. of bays are to be utilized for connecting 220kV New Wanpoh-Alusteng D/c Line. RoW issues persisting; At present new-wanpoh-mirbazar 5km and harwan-alsung 16km have been completed, expected date of completion is Mar 2025 subject to availability of funds and resolving of RoW issues), Updated in 214th OCC by JKPTCL.
				• 220 kV New Wanpoh - Mattan D/c Line	End of 2024	02 No. of bays are to be utilized for connecting 220kV New Wanpoh-Mattan D/c Line. The funding source for the project is being identified and the project is expected to be completed by ending 2024. Updated in 204th OCC by JKPTCL.
3	400/220kV, 2x315 MVA Amargarh	Commissioned: 6 Total: 6	Utilized: 4 Unutilized: 2	• 220kV D/C line from 400/220kV Kunzar - 220/33kV Sheeri	End of 2024	02 No. of bays are proposed to be utilized for connecting 220/132 kV GSS Loolipora. The funding source for the project is being identified and the project is expected to be completed by ending 2024. Updated in 204th OCC by JKPTCL.
4	400/220kV, 2x500 MVA Kurukshetra (GIS)	Commissioned: 8 Total: 8	Utilized: 6 Unutilized: 2	• 220kV Bhadson (Kurukshetra) – Ramana Ramani D/c line	Mar'25	Under construction.Updated in 222nd OCC by HVPNL
5	400/220 kV, 2x315 MVA Dehradun	Commissioned: 6 Total: 6	Utilized: 2 Unutilized: 4	• Network to be planned for 4 bays	-	PTCUL to update the status.
6	Shahjahanpur, 2x315 MVA 400/220 kV	Commissioned: 6 Approved/Under Implementation:1	Utilized: 7	• 220 kV D/C Shahjahanpur (PG) - Gola line	Commissioned	Energization date: 26.10.2023 updated by UPPTCL in 215th OCC
				• LILO of Sitapur – Shahjahanpur 220 kV SC line at Shahjahanpur (PG)	Commissioned	Energization date: 25.02.2022 updated by UPPTCL in 196th OCC
7	Hamirpur 400/220 kV Sub-station	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4	• 220 kV Hamirpur-Dehan D/c line	Commissioned	HPPTCL has commissioned the Planned 220kV Dehan-Hamirpur TL utilizing 2 No. 220kV Bays.Commissioned date: 09.06.2022. Updated in 198th OCC by HPPTCL
				• Network to be planned for 4 bays	-	HPPTCL to update the status.
8	Sikar 400/220kV, 1x 315 MVA S/s	Commissioned: 8 Total: 8	Utilized: 6 Unutilized: 2	• LILO of 220 kV Sikar (220 kV GSS)-Dhod S/c line at Sikar (PG)	Commissioned	LILO of 220 kV S/C Sikar-Dhod line at 400 kV GSS PGCIL. Sikar has been charged on dt. 31.03.2022
				• Network to be planned for 2 bays.	-	Against the 3rd ICT at 400 kV GSS Sikar, only 2 bays were constructed and same has been utilized by RVPN by constructing LILO of 220 kV S/C Sikar – Dhod line as updated by RVPNL in 195th OCC
9	Bhiwani 400/220kV S/s	Commissioned: 6 Total: 6	Utilized: 2 Unutilized: 4	• 220 kV D/C line Bhiwani (PG) – Bhiwani (HVPNL) line	Commissioned	Updated in 202nd OCC by HVPNL
				• 220 kV Bhiwani (PG) - Isherwal (HVPNL) D/c line.	Mar'25	Issue related to ROW as intimated in 228th OCC by HVPNL. Status: Work was stalled since 29.07.2021 due to ROW issues and farmers agitation and further restarted on 9.10.2023 with the help of district administration. Now, work was again stalled since30.11.2023 due to severe ROW issues. Expected to be completed by 31.12.2024. Foundation 209/212. Erection 193/212. Stinging 37.8/50.3 km
				• 220 kV Bhiwani (PG) - Dadhibana (HVPNL) D/c line.	Oct'25	Line work awarded to M/s R S Infra Projects Pvt. Ltd. Noida, Uttar Pradesh on dated 09.03.2024. Work of route plan and route alignment has been started by the firm as intimated in 218th OCC by HVPNL.
10	Jind 400/220kV S/s	Commissioned: 4 Approved:4 Total: 8	Utilized: 4 Unutilized: 0	• LILO of both circuits of 220 kV Jind HVPNL to PTPS D/C line at 400 kV substation PGCIL Khatkar (Jind) with 0.5 sq inch ACSR conductor	Mar'25	Erection and stringing work will be completed by 18.12.2024. However, the signing of Connection agreement amongst the Utilities is pending. Updated in 228th OCC by HVPNL.
11	400/220kV Tughlakabad GIS	Commissioned: 6 Under Implementation: 4	Utilized: 6 Unutilized: 0	• RK Puram – Tughlakabad (UG Cable) 220kV D/c line – March 2023.	Commissioned	Updated in 216th OCC by DTL
				• Masjid Mor – Tughlakabad 220kV D/c line.	Commissioned	Updated in 216th OCC by DTL
12	400/220kV Kala Amb GIS (TBCB)	Commissioned: 6 Total: 6	Utilized: 2 Unutilized: 2 Under Implementation:2	• HPPTCL has planned one no. of 220kV D/c line from Kala Amb 400/220kV S/s to 220/132kV Kala Amb S/s	Commissioned	Energization date: 31.05.2024 updated by HPPTCL in 220th OCC
				• HPPTCL has planned one no. of 220kV D/c line from Kala Amb 400/220kV S/s to 220/132kV Giri S/s	-	Tendering process is yet to be started.Updated in 219th OCC by HPPTCL
				• Network to be planned for 2 bays	-	HPPTCL to update the status.
13	400/220kV Kadarpur Sub-station	Commissioned: 8 Total: 8	Utilized: 0 Unutilized: 8	• D/C line Kadarpur - Pali D/C line Kadarpur - Sec-65	Dec'24	Updated in 228th OCC by HVPNL Status:- According to these, 220 kV Palli - 220 kV Sec. 65 Gurgaon line will be LILOed at 400 kV Substn. Kadarpur presently. The progress of work has been informed as under: Foundation : 45/45 Erection- 45/45. Stringing 6.00/6.536km Pending Material:OPGW accessories. Reason For Delay: Forest approval. Likely date of completion :31.12.2024.

Sl. No.	Substation	Downstream network bays	Status of bays	Planned 220 kV system and Implementation status	Revised Target	Remarks
14	400/220kV Sohna Road Sub-station	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4	• LILO of both circuits of 220kV D/c Sohna-Rangla Rajpur at Roj Ka Meo line at 400kV Sohna Road	Mar'25	Roj Ka Meo station is yet to be commissioned. However, this arrangement will not lead to usage of additional bays i.e. no of utilised bays at Sohna road will remain same.Updated in 228th OCC by HVPNL
				• LILO of both circuits of 220kV D/c Badshahpur-Sec77 line at 400kV Sohna Road	-	The matter is subjudice in Hon'ble Punjab & Haryana High court, Chandigarh Updated in 228th OCC by HVPNL. Status:- Earlier 02 nos 220 kV line bays were to be utilized for the 220 kV GIS S/Stn. Sec-77, Gurugram but due to denotification of land of the 220 kV GIS S/Stn. Sec-77 the said substation is now going to be dismantled and a new substation is proposed at Sec-75A, Gurugram. Now, these 02 no. 220 kV line bays may be utilized at 220 kV GIS S/Stn Sec-75A, Gurugram.
15	400/220kV Prithla Sub-station	Commissioned: 8 Approved: 2 Total: 10	Utilized: 4 Unutilized: 4 Under Implementation:2	• 220kV D/C line from Prithla to Harfali with LILO of one circuit at 220kV Meerpur Kurali	Mar'25	Contract awarded on 08.08.23 to M/s Skipper with completion in March 25.Updated in 218th OCC by HVPNL
				• LILO of both ckt of 220kV D/c Ranga Rajpur – Palwal line	Commissioned	Energization date: 31.12.2021. Updated in 198th OCC by HVPNL
				• 220kV D/C for Sector78, Faridabad	31.03.2025	Issue related to ROW and Pending crossing approval from Northern Railways and DFCCIL. as intimated in 228th OCC by HVPNL.
				• Prithla - Sector 89 Faridabad 220kV D/c line	Jul'25	Work awarded to M/s Man Structural Pvt Ltd. JV M/s Aquarian Enterprises on 09.01.2024. Contractual date: 06.05.2025 and Tentative date of completion :06.05.2025 Route has been approved and further work is in progress.Updated in 218th OCC by HVPNL
16	400/220kV Sonepat Sub-station	Commissioned: 6 Under Implementation:2 Total: 8	Utilized: 2 Unutilized: 4 Under Implementation:2	• LILO of both circuits of 220kV Samalkha - Mohana line at Sonepat	Mar'25	Updated in 228th OCC by HVPNL. Status: The stringing work between TL No. 19 & 20, TL No. 22 & 23 and TL No. 22 & 24 is pending for want of necessary consent from the forest department. Forest approval is pending. Presently, forest case is pending in the O/o Technical officer IRO, Chandigarh.
				• Sonepat - HSIISC Rai 220kV D/c line	Commissioned	Energization date: 31.05.2024 updated by HVPNL in 220th OCC
				• Sonepat - Kharkhoda Pocket A 220kV D/c line	08.03.2025	Updated in 228th OCC by HVPNL. Status: Work order has been issued to M/s R.S Infra on dated 09.08.2023 by O/o CE/PD&C, Panchkula for construction of line. Both bays are under construction and erection of electrical equipment is under progress.
17	400/220kV Neemrana Sub-station	Commissioned: 6 Total: 6	Utilized: 4 Unutilized: 2	• LILO of Bhiwadi - Neemrana 220kV S/c line at Neemrana (PG)	-	Work is under progres. Stub Setting: 14/2017. Permission for Highway is awaited from concerned department as updated in 218th OCC by RVPNL.
18	400/220kV Kotputli Sub-station	Commissioned: 6 Total: 6	Utilized: 4 Unutilized: 2	• Kotputli - Pathreda 220kV D/c line	-	Date of bid opening has been extended up to 30.04.2024 as updated in 218th OCC by RVPNL.
19	400/220kV Jalandhar Sub-station	Commissioned: 10 Total: 10	Utilized: 8 Unutilized: 2	• Network to be planned for 2 bays	-	LILO of 220 kV BBMB Jalandhar - Butari line at 400 kV PGCIL Jalandhar being planned. Route plan and estimate of work sanctioned, DNIT has been sent to float tender as updated by PSTCL in 227th OCC
20	400/220kV Roorkee Sub-station	Commissioned: 6 Total: 6	Utilized: 4 Unutilized: 2	• Roorkee (PG)-Pirankaliyar 220kV D/c line	Commissioned	Roorkee (PG)-Pirankaliyar 220kV D/c line commissioned in 2020 as intimated by PTCUL in 197th OCC
21	400/220kV Lucknow Sub-station	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4	• Network to be planned for 2 bays	Commissioned	• Lucknow -Kanduni, 220 kV D/C line work energized on 05.10.2023. Updated in 212th OCC by UPPTCL. • No planning for 2 no. of bays updated by UPPTCL in 196th OCC. The same has been communicated to Powergrid.
22	400/220kV Gorakhpur Sub-station	Commissioned: 6 Total: 6	Utilized: 4 Unutilized: 2	• Network to be planned for 2 bays	Commissioned	• Gorakhpur(PG)- Maharajganj, 220 kV D/C line energized on 27.09.2023 updated by UPPTCL in 212th OCC
23	400/220kV Fatehpur Sub-station	Commissioned: 8 Under Implementation:2 Total: 10	Utilized: 6 Unutilized: 2 Under Implementation:2	• Network to be planned for 2 bays	-	• UPPTCL intimated that 02 no. of bays under finalization stage. In 201st OCC, UPPTCL intimated that it is finalized that Khaga s/s will be connected (tentative time 1.5 years). • No planning for 2 no. of bays updated by UPPTCL in 196th OCC. The same has been communicated to Powergrid.

Sl. No.	Substation	Downstream network bays	Status of bays	Planned 220 kV system and Implementation status	Revised Target	Remarks
24	400/220kV Abdullapur Sub-station	Commissioned: 10 Under Implementation:2 Total: 12	Utilized: 10 Unutilized: 0 Under Implementation:2	• Abdullapur – Rajokheri 220kV D/c line	Commissioned	Ckt-1 commissioned at 16:13hrs on dated 06.08.24 & Ckt-2 commissioned at 20:10 hrs on dated 05.08.24. Updated in 223rd OCC by HVPNL
25	400/220kV Panchkula Sub-station	Commissioned: 8 Under tender:2 Total: 10 Out of these 10 nos. 220kV	Utilized: 2 Unutilized: 4 Under Implementation:2	• Panchkula – Pinjore 220kV D/c line	Commissioned	Updated in 218th OCC by HVPNL
				• Panchkula – Sector-32 220kV D/c line	Commissioned	Energization date: 24.05.2024 updated by HVPNL in 220th OCC
				• Panchkula – Raiwali 220kV D/c line	Commissioned	Updated in 194th OCC by HVPNL
				• Panchkula – Sadhaura 220kV D/c line: Sep'23	Mar'25	Revised target date as confirmed by concerned SDO Construction, Panchkula.Updated in 228th OCC by HVPNL
26	400/220kV Amritsar S/s	Commissioned:7 Approved in 50th NRPC- 1 no. Total: 8	Utilized: 6 Under Implementation:2	• Amritsar – Patti 220kV S/c line	31.08.2024	Issue in connectivity agreement with CTU. CTU asked PSTCL to approach CEA and thereafter CEA may plan a meeting with PSTCL and CTU to resolve the issue. Updated in 225th OCC by PSTCL.
				• Amritsar – Rashiana 220kV S/c line (2 bays shall be required for above lines. However, 1 unutilized bay shall be used for Patti and requirement of one additional bay approved for Rashiana by NRPC)	31.08.2024	Issue in connectivity agreement with CTU. CTU asked PSTCL to approach CEA and thereafter CEA may plan a meeting with PSTCL and CTU to resolve the issue. Updated in 225th OCC by PSTCL.
27	400/220kV Bagpat S/s	Commissioned: 8 Total: 8	Utilized:6 Unutilized: 2	• Bagpat - Modipuram 220kV D/c line	Commissioned	Updated in 201st OCC by UPPTCL
28	400/220kV Bahadurgarh S/s	Commissioned: 4 Approved: 4 Total: 8	Utilized:2 Unutilized: 2	• LILO of 220 kV Nunamajra- Daultabad S/c line at 400 kV Bahadurgarh PGCIL	Mar'25	Proposal turned down by CEA.Updated in 228th OCC by HVPNL.
				• Bahadurgarh - METL 220kV D/c line (Deposit work of M/s METL)	Dec'25	Updated in 228th OCC by HVPNL. Status: Tender awarded, but work is yet to be started
				• Bahadurgarh - Kharkhoda Pocket B 220kV D/c line	08.03.2025	Updated in 228th OCC by HVPNL. Status: Contract awarded on 09.08.23 to M/s R S Infra Noida. Work has been started.
29	400/220kV Jaipur (South) S/s	Commissioned: 4 Total: 4	Utilized:2 Unutilized: 2	• LILO of 220 kV S/C Dausa – Sawai Madhopur line at 400 kV GSS Jaipur South (PG)	06.10.2025	Work order has been issued on 06.10.2023, work under progress as updated by RVPNL in 215th OCC
30	400/220kV Sohawal S/s	Commissioned: 8 Total: 8	Utilized: 8	• Sohawal - Barabanki 220kV D/c line	Commissioned	Energization date: 14.04.2018 updated by UPPTCL in 196th OCC
				• Sohawal - New Tanda 220kV D/c line	Commissioned	Energization date: 28.05.2019 updated by UPPTCL in 196th OCC
				• Network to be planned for 2 bays	Commissioned	• Sohawal - Gonda 220kV S/c line (Energization date: 27.04.2020) updated by UPPTCL in 196th OCC • Sohawal - Bahraich 220kV S/c line (Energization date: 15.02.2021) updated by UPPTCL in 196th OCC
31	400/220kV, Kankroli	Commissioned: 6 Total: 6	Utilized: 4 Unutilized: 2	• 220 kV D/C Kankroli(PG) - Nathdwara line	-	Standard bid document has been finalized on 13.08.2024 and bid is under preparation as updated by RVPNL in 222nd OCC.
32	400/220kV, Manesar	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4	• Network to be planned for 2 bays	-	Status:- 2nos bays are being utilised for 220 kV D/C Panchgaon (PGCIL)-Panchgaon Ckt-I & 220 kV D/C Panchgaon (PGCIL)-Panchgaon Ckt-II, charged on dated 05.09.2022 & 20.10.2022 respectively. The 2nos bays may be utilised by HVPNL in future.
33	400/220kV, Saharanpur	Commissioned: 6 Under Implementation:2 Total: 8	Utilized: 6 Unutilized: 0 Under Implementation:2	• Network to be planned for 2 bays	Commissioned	Saharanpur(PG)-Devband D/c line (Energization date: 20.04.2023) updated by UPPTCL in 207th OCC
34	400/220kV, Wagoora	Commissioned: 10 Total: 10	Utilized: 6 Unutilized: 4	• Network to be planned for 4 bays	-	PDD, J&K to update the status.
35	400/220kV, Ludhiana	Commissioned: 9 Total: 9	Utilized: 8 Unutilized: 1	• Network to be planned for 1 bay	Commissioned	Direct circuit from 220 kV Lalton Kalan to Dhandari Kalan to be diverted to 400 kV PGCIL Ludhiana. Work completed , final agrrement is expected to be signed by May'24. Updated in 218th OCC by PSTCL.
36	400/220kV, Chamba (Chamera Pool)	Commissioned: 3 Under tender:1 Total: 4	Utilized:3 Unutilized: 0 Under tender:1	• Stringing of 2nd ckt of Chamera Pool – Karian 220kV D/c line	Commissioned	Stringing of 2nd Circuit of Chamera Pool-Karian Transmission line has been completed & terminal bay at 400/220 kV chamera pooling substation (PGCIL) is commissioned on 20.01.2024. Updated in 217th OCC by HPPTCL.
37	400/220kV, Mainpuri	Commissioned: 6 Under Implementation:2 Total: 8	Utilized: 6 Unutilized: 0 Under Implementation:2	• Network to be planned for 2 bays	-	• 02 no. of bays under finalization stage updated by UPPTCL in 196th OCC. Mainpuri S/s planned. Land is not finalized, therefore timeline not available as intimated by UPPTCL in 201st OCC.
38	400/220kV, Patiala	Commissioned: 8 Total: 8	Utilized: 6 Unutilized: 2	• Network to be planned for 2 bays	May'25	2 Nos. bays for 400 kV PGCIL Patiala - 220 kV Bhadson (D/C) line being planned. The civil work not started , the civil tender is in process as updated by PSTCL in 220th OCC meeting

Status of ADMS implementation in NR:

Sl. No.	State / UT	Status	Remarks
1	DELHI	Scheme Implemented but operated in manual mode.	<p>In 225th OCC meeting NRPC representative apprised forum that revised Standard Operating Procedure (SOP) of Automatic Demand Management Scheme (ADMS) by the DISCOMs in NCT of Delhi has been approved in 51st TCC and 76th NRPC meeting. In 52nd TCC and 77th NRPC DTL intimated that tentative timeline for implementation is 28th February 2025. DTL intimated that TPPDL has informed that they have engaged SCADA OEM for the implementation of ADMS. However, OEM has confirmed that incorporation of ADMS logic into the current SCADA system is not feasible and it would require an upgrade or refresh of the system, necessitating additional expenditure for which DERC has been approached. The complete implementation cycle is expected to be within 2 years. However, in the meantime considering the criticality, their in-house team is working to develop a trigger notification/ alarm system for manual operation of breaker triggering from the control room and thereafter exploring the possibility of automatically triggering the breaker using the trigger notification. TPPDL has stated that they expect to complete it by August 2025, if materialized.</p> <p>BRPL and BYPL have informed that their existing SCADA system is obsolete and it is in the up-gradation phase by OEM. After the up-gradation of SCADA system, the ADMS is expected to be implemented in BRPL & BYPL by Oct 25.</p>
2	HARYANA	Scheme not implemented	<p>Haryana SLDC intimated that as per Joint Roadmap of implementation of ADMS in Haryana supplied to NRPC vide memo dated 17.10.2023 (Annexure-II), the implementation plan was proposed to be carried out in two parts, as mentioned below:</p> <p>PART-I: Control with Transmission Utility</p> <p>PART-II: Control with Distribution Utility</p> <p>It is pertinent to mention that as part of upcoming SCADA-EMS system i.e. upgradation of SCADA-EMS system, a feature in the name of LSS (Load Shedding Software)/ ADMS is part of the Technical Specification of project to be delivered. Therefore, the functionalities of ADMS application will be covered under 'Part-I: Control with Transmission Utility' will already be covered using the RTUs available at select substations along with the ADMS software being delivered by M/s GE under SCADA upgradation project.</p> <p>Hence, there is no need to acquire a separate ADMS application & associated hardware for data centre for implementation of PART-I.</p> <p>Further for Part -II a committee has been constituted for further finalization of the ADMS module with control with Discoms is under discussions for preparation of DPR.</p>
3	HP	Scheme not implemented	<p>HP SLDC intimated that HPSEB had intimated that initially 142 Nos. of feeders were identified for operation under ADMS functionality but most of these feeders were from same sub-station. Therefore, now they have increased the no. of sub-station and identified the non-critical feeders. Load relief to be given through these feeders is under finalization. The revised feeder list to be shared by HPSEBL with the SLDC within one month.</p>

4	PUNJAB	Scheme not implemented	<p>i. A committee comprising of following officers of PSPCL & PSTCL has been constituted to finalize the logic regarding implementation of Automatic Demand Management System in Punjab Control Area. A meeting in this regard was held on dated 26-02-2024 at PSLDC Complex, Patiala. The committee deliberated various loading scenarios and proposed the following logic for the management of demand:</p> <ol style="list-style-type: none"> 1. If the frequency sustains below 49.90 Hz for duration of 3 minutes, the Automatic Demand Management System will initiate a 50% reduction in the Over Drawl. 2. In case the frequency falls further below 49.85 Hz, the Over Drawl will be reduced to zero. 3. The software at the SLDC end for ADMS shall be available with ULDC phase –III SCADA system which is under implementation. <p>ii. In 222nd OCC, MS NRPC asked Punjab to co-ordinate with Powergrid for integration of their proposed logic with the ULDC phase-III SCADA system for timely implementation.</p>
5	RAJASTHAN	Under implementation	<p>In 227th OCC meeting, RVPN informed that 208 nos. of circuit breakers have been mapped to ADMS, all 208 circuit breakers tested upto yard individually. Total 650CBs are to be mapped in phased manner.</p>
6	UP	Scheme implemented by NPCIL only	<ol style="list-style-type: none"> i. A meeting regarding ADMS was held on 15.01.2023 with the UPPCL under the chairmanship of MD UPPTCL ii. A committee formed for identification of load at 33 kV level under the chairmanship of Director (Distribution), UPPCL. iii. Another committee under the chairmanship of Director UPSLDC shall identify the technical and operational requirement for ADMS implementation iv. The software at the SLDC end for ADMS shall be available with ULDC phase –III SCADA system which is under implementation and likely to be commissioned by March 2025. v. In order to operate identified 33 kV feeders under ADMS scheme, integration of 132 kV substations with SCADA system is under implementation in the Reliable Communication Scheme and expected date of completion of the scheme is October 2024. vi. MS, NRPC apprised forum that a letter has been written to Director, SLDC for co-ordinating with Director (Distribution), UPPCL for expediting the finalization of feeder list at 33kV for ADMS implementation.
7	UTTARAKHAND	Scheme not implemented	<ol style="list-style-type: none"> i. UPCL has prepared a system architecture in which all the non-monitored sub-stations have been selected and 11kV feeders have been considered for ADMS operation. For the scheme, discom has also done group-wise selection of feeders and quantum of MW relief to be given for automatic demand response at 11kV level has also been decided. UPCL has awarded the tender for implementation of the aforementioned scheme to M/s Metergy Pvt.Ltd. ii. As per the status report submitted by M/s Metergy Pvt.Ltd, the survey work of 30 nos. incomer sites have been completed and order has been placed by UPCL for hardware equipments. iii. Uttarakhand SLDC informed that feeder list at 11kV level has been finalized and logic of ADMS implementation is under finalization. iv. Uttarakhand has intimated that It is bring to your notice that installation MFT(Multi Function Transducers) at various interstate points at PTCUL Substations under ADRS Project of UPCL is in progress.

Status of availability of ERS towers in NR

Sl. No.	Transmission Utility	Voltage Level (220kV/400kV/765kV/ 500 kV HVDC etc.)	Length of the transmission lines owned by the Utility (Ckt. Kms.)	Number of ERS Sets (towers) available (Nos.)	ERS Set (towers) required as per the Govt. norms.	Location	Remarks
1	PTCUL	400kV	418.394	NIL	1		Tender has been scraped due to single tender.
		220kV	1045.135	NIL	1		
2	Powergrid NR-1	220 KV	1842.88	NIL	1		
		400 KV	11074.26	12 Towers	3	All 400kV ERS at Ballabgarh	make-Lindsey
		765 KV	4721.85	15 Towers	1	All 765kV ERS at Meerut	Make-SBB
		500 KV HVDC	653.88	NIL	1		
3	Powergrid NR-2	800 KV HVDC	416.58	NIL	1		
		66 KV	37.56	Nil	1		ERS tower available for 400KV rating can be used in place of lower as well as higher voltage Towers. In case used for 765KV Line, No of towers can be erected will reduce due to increase in Tower Hight.
		132 KV	262.7	Nil	1		
		220 KV	2152	Nil	1		
		400 KV	8097.3	02 Set (32 Towers)	2	Kishenpur & Jalandhar	
765 KV	337.5	Nil	1				
4	Powergrid NR-3	800KV HVDC	2205	NIL	1		400KV ERS will be also be used in other voltage level lines
		500KV HVDC	2566	NIL	1		
		765KV	4396	NIL	1		
		400KV	12254	26 Towers	3	Kanpur	
		220KV	1541	NIL	1		
		132KV	207	NIL	1		
5	PARBATI KOLDAM TRANSMISSION COMPANY LIMITED	400kV	457	NIL	1		Procurement under process.
6	PATRAN TRANSMISSION COMPANY LTD	400kV	0.4	NIL	1	It is kept in Bhopal and on need basis is moved across region	Not available, will tie up based on the requirements in future. However the parent company IndiGrid owns one set of ERS for all five regions.
7	NRSS-XXIX TRANSMISSION LTD	400kV	853	NIL	1		
8	GURGAON PALWAL TRANSMISSION LTD	400kV	272	NIL	1		
9	RAPP Transmission Company Limited.	400kV	402	NIL	1		
10	NRSS XXXVI Transmission Limited	400kV	301.924	NIL	1		Element I - Operational comprising of 3 kms. Element II - Work Under Progress comprising of 221.924 kms. Element II - Work Under Progress comprising of 77 kms.
11	HPPTCL	220 kV	659	NIL	1		
		400 kV	75.7	NIL	1		
12	RVPN	132 kV	18969.958	1	4	01 No. ERS available at 220 kV GSS Heerapura, Jaipur	ERS proposed : 01 Set at 400 kV GSS, Jodhpur. 01 set at 400 kV GSS Bikaner
		220 kV	16227.979		3		
		400 kV	6899.386		2		
		765 kV	425.498		1		
13	DTL	220kV	915.498	NIL	1	400kV Bamnauli Sub station	ERS tower available for 400KV rating can also be used for lower voltage lines as well
		400kV	249.19	02 Sets (32 towers)	1		
14	JKPTCL						JKPTCL, Jammu: being procured JKPTCL, Kashmir:10 tower procured (out of which 3 on loan to JKPTCL, Jammu)

Sl. No.	Transmission Utility	Voltage Level (220kV/400kV/765kV/ 500 kV HVDC etc.)	Length of the transmission lines owned by the Utility (Ckt. Kms.)	Number of ERS Sets (towers) available (Nos.)	ERS Set (towers) required as per the Govt. norms.	Location	Remarks
15	HVPN						HVPN has apprised that purchase order for procurement of 2 sets of Emergency Restoration System (ERS) in HVPNL has been issued to M/s Jost's Engineering Company Ltd., Mumbai
16	PSTCL	400 kV 220 kV	1666.43 7921.991	2	2		
17	UPPTCL 1- Meerut	132KV	27508.321	24 Nos(15 Running+9 Angle)		400 kv S/s Gr. Noida	ERS will be also be used in other voltage level lines.
		220KV	14973.453				
		400KV	6922.828				
	UPPTCL 2-Prayagraj	765KV	839.37	24 Towers		220 kv S/s phulpur	ERS will also be used in other voltage lines.
		400KV	1804.257				
		220KV	2578.932				
		132KV	4714.768				
18	POWERLINK						
19	POWERGRID HIMACHAL TRANSMISSION LTD						
20	Powergrid Ajmer Phagi Transmission Limited						
21	Powergrid Fatehgarh Transmission Limited						
22	POWERGRID KALA AMB TRANSMISSION LTD						
23	Powergrid Unchahar Transmission Ltd						
24	Powergrid Khetri Transmission Limited						
25	POWERGRID VARANASI TRANSMISSION SYSTEM LTD						
26	ADANI TRANSMISSION INDIA LIMITED		2090	1 Set (12 towers)	1 set (12 towers)	Sami (Gujarat)	Make-Lindsey ERS set available for 400KV & 500KV rating can be used for lower as well as higher voltage Towers. In case used for 765KV Line, No of towers can reduce due to increase in Tower Height & nos of conductors.
27	BIKANER KHETRI TRANSMISSION LIMITED		482				
28	FATEHGARH BHADLA TRANSMISSION LIMITED	500 kV HVDC 400 kV HVAC	291				
29	NRSS-XXXI(B) TRANSMISSION LTD	400 kV	577.74	Not Available	Not Available		In the advance stage of process of finalising arrangement for providing ERS on need basis with other transmission utility (M/s INDIGRID).
30	ARAVALI POWER COMPANY PVT LTD	765 kv HVAC					

*The transmission Utility with line length less than 500 ckt kms (of 400 KV lines) may be given option either to procure ERS or have agreement with other transmission utilities for providing ERS on mutually agreed terms, when need arises. (As per MoP directions)

FGD Status

Updated status of FGD related data submission

NTPC (27.02.2023)

MEJA Stage-I

RIHAND STPS

SINGRAULI STPS

TANDA Stage-I

TANDA Stage-II

UNCHAHAR TPS

UPRVUNL (10.01.2024)

ANPARA TPS

HARDUAGANJ TPS

OBRA TPS

PARICHHA TPS

PSPCL (13.02.2025)

GGSSTP, Ropar

GH TPS (LEH.MOH.)

RRVUNL (12.02.2025)

CHHABRA SCPP

CHHABRA TPP

KALISINDH TPS

KOTA TPS

SURATGARH SCTPS

SURATGARH TPS

Updated status of FGD related data submission

**Lalitpur Power Gen. Co. Ltd.
(10.01.2024)**

Lalitpur TPS

**Lanco Anpara Power Ltd.
(01.01.2024)**

ANPARA-C TPS

HGPCL (12.12.2024)

PANIPAT TPS

RAJIV GANDHI TPS

YAMUNA NAGAR TPS

Adani Power Ltd. (18.02.2022)

KAWAI TPS

**Rosa Power Supply Company
(01.01.2024)**

Rosa TPP Phase-I

**Prayagraj Power Generation
Company Ltd. (05.01.2024)**

Prayagraj TPP

APCPL (01.05.2024)

INDIRA GANDHI STPP

Pending submissions

GVK Power Ltd.

GOINDWAL SAHIB

NTPC

DADRI (NCTPP)

Talwandi Sabo Power Ltd.

TALWANDI SABO TPP

L&T Power Development Ltd.

Nabha TPP (Rajpura TPP)

Target Dates for FGD Commissioning (Utility-wise)

Adani Power Ltd.	KAWAI TPS U#1 (Target: 31-12-2024), KAWAI TPS U#2 (Target: 31-12-2024)
APCPL	INDIRA GANDHI STPP U#2 (Target: 30-09-2023), INDIRA GANDHI STPP U#3 (Target: 30-06-2023)
GVK Power Ltd.	GOINDWAL SAHIB U#1 (Target: 30-04-2020), GOINDWAL SAHIB U#2 (Target: 29-02-2020)
HGPCL	PANIPAT TPS U#6 (Target: 31-12-2025), PANIPAT TPS U#7 (Target: 31-12-2025), PANIPAT TPS U#8 (Target: 31-12-2025), RAJIV GANDHI TPS U#1 (Target: 31-08-2027), RAJIV GANDHI TPS U#2 (Target: 31-08-2027), YAMUNA NAGAR TPS U#1 (Target: 31-08-2027), YAMUNA NAGAR TPS U#2 (Target: 31-08-2027)

NTPC

DADRI (NCTPP) U#1 (Target: 31-12-2020), DADRI (NCTPP) U#2 (Target: 31-10-2020), DADRI (NCTPP) U#3 (Target: 31-08-2020), DADRI (NCTPP) U#4 (Target: 30-06-2020), DADRI (NCTPP) U#5 (Target: 30-06-2022), DADRI (NCTPP) U#6 (Target: 31-03-2023), RIHAND STPS U#1 (Target: 31-10-2025), RIHAND STPS U#2 (Target: 30-06-2026), RIHAND STPS U#3 (Target: 31-12-2024), RIHAND STPS U#4 (Target: 31-03-2025), RIHAND STPS U#5 (Target: 30-06-2025), RIHAND STPS U#6 (Target: 31-10-2025), SINGRAULI STPS U#1 (Target: 31-12-2024), SINGRAULI STPS U#2 (Target: 31-12-2024), SINGRAULI STPS U#3 (Target: 31-12-2024), SINGRAULI STPS U#4 (Target: 31-12-2024), SINGRAULI STPS U#5 (Target: 31-03-2025), SINGRAULI STPS U#6 (Target: 31-06-2024), SINGRAULI STPS U#7 (Target: 31-03-2024), UNCHAHAR TPS U#1 (Target: 31-12-2023), UNCHAHAR TPS U#2 (Target: 31-12-2023), UNCHAHAR TPS U#3 (Target: 30-09-2023), UNCHAHAR TPS U#4 (Target: 30-09-2023), UNCHAHAR TPS U#5 (Target: 30-09-2023), UNCHAHAR TPS U#6 (Target: 31-08-2022), MEJA Stage-I U#1 (Target: 31-10-2023), MEJA Stage-I U#2 (Target: 30-06-2023), TANDA Stage-I U#3 (Target:), TANDA Stage-I U#4 (Target:), TANDA Stage-II U#3 (Target: 31-03-2023), TANDA Stage-II U#4 (Target: 30-09-2023)

L&T Power Development Ltd (Nabha)	Nabha TPP (Rajpura TPP) U#1 (Target: 30-04-2021), Nabha TPP (Rajpura TPP) U#2 (Target: 28-02-2021)
Lalitpur Power Gen. Company Ltd.	LALITPUR TPS U#1 (Target: 31-12-2026), LALITPUR TPS U#2 (Target: 30-09-2026), LALITPUR TPS U#3 (Target: 30-06-2026)
Lanco Anpara Power Ltd.	ANPARA C TPS U#1 (Target: 31-12-2025), ANPARA C TPS U#2 (Target: 31-12-2025)
Prayagraj Power Generation Company Ltd.	PRAYAGRAJ TPP U#1 (Target: 31-12-2026), PRAYAGRAJ TPP U#2 (Target: 31-12-2026), PRAYAGRAJ TPP U#3 (Target: 31-12-2026)
PSPCL	GH TPS (LEH.MOH.) U#1 (Target: 31-12-2026), GH TPS (LEH.MOH.) U#2 (Target: 31-12-2026), GH TPS (LEH.MOH.) U#3 (Target: 31-12-2026), GH TPS (LEH.MOH.) U#4 (Target: 31-12-2026), GGSSTP, Ropar U#3 (Target: 31-12-2026), GGSSTP, Ropar U#4 (Target: 31-12-2026), GGSSTP, Ropar U#5 (Target: 31-12-2026), GGSSTP, Ropar U#6 (Target: 30-12-2026)

Rosa Power Supply Company	ROSA TPP Ph-I U#1 (Target: 31-12-2026), ROSA TPP Ph-I U#2 (Target: 31-12-2026), ROSA TPP Ph-I U#3 (Target: 31-12-2026), ROSA TPP Ph-I U#4 (Target: 31-12-2026)
RRVUNL	KOTA TPS U#5 (Target: 30-11-2025), KOTA TPS U#6 (Target: 30-11-2025), KOTA TPS U#7 (Target: 30-11-2025), SURATGARH TPS U#1 (Target: 31-12-2029), SURATGARH TPS U#2 (Target: 31-12-2029), SURATGARH TPS U#3 (Target: 31-12-2029), SURATGARH TPS U#4 (Target: 31-12-2029), SURATGARH TPS U#5 (Target: 31-12-2029), SURATGARH TPS U#6 (Target: 31-12-2029), SURATGARH SCTPS U#7 (Target: 28-02-2026), SURATGARH SCTPS U#8 (Target: 28-02-2026), CHHABRA TPP U#1 (Target: 31-12-2029), CHHABRA TPP U#2 (Target: 31-12-2029), CHHABRA TPP U#3 (Target: 31-12-2029), CHHABRA TPP U#4 (Target: 31-12-2029), CHHABRA SCPP U#5 (Target: 28-02-2026), CHHABRA SCPP U#6 (Target: 28-02-2026), KALISINDH TPS U#1 (Target: 28-02-2026), KALISINDH TPS U#2 (Target: 28-02-2026)
Talwandi Sabo Power Ltd.	TALWANDI SABO TPP U#1 (Target: 28-02-2021), TALWANDI SABO TPP U#2 (Target: 31-12-2020), TALWANDI SABO TPP U#3 (Target: 31-10-2020)
UPRVUNL	ANPARA TPS U#1 (Target: 31-12-2025), ANPARA TPS U#2 (Target: 31-12-2025), ANPARA TPS U#3 (Target: 31-12-2025), ANPARA TPS U#4 (Target: 31-12-2025), ANPARA TPS U#5 (Target: 31-12-2025), ANPARA TPS U#6 (Target: 31-12-2025), ANPARA TPS U#7 (Target: 31-12-2025), HARDUAGANJ TPS U#8 (Target: 31-12-2026), HARDUAGANJ TPS U#9 (Target: 31-12-2026), OBRA TPS U#9 (Target: 31-12-2026), OBRA TPS U#10 (Target: 31-12-2026), OBRA TPS U#11 (Target: 31-12-2026), OBRA TPS U#12 (Target: 31-12-2026), OBRA TPS U#13 (Target: 31-12-2026), PARICHHA TPS U#3 (Target: 31-12-2026), PARICHHA TPS U#4 (Target: 31-12-2026), PARICHHA TPS U#5 (Target: 31-12-2026), PARICHHA TPS U#6 (Target: 31-12-2026)



HIMACHAL PRADESH STATE LOAD DESPATCH CENTRE

(an Apex body)

GOVERNMENT OF HIMACHAL PRADESH



No. HPSLDC/SLDC-75 (Vol.-III)/2024-25- 8925-33
To

Dated: 05-01-2025

The Superintending Engineer (Operation),
Northern Regional Power Committee,
18-A, Shaheed Jeet Singh Marg,
Katwaria Sarai, New Delhi-110016.
Email: seo-nrpc@nic.in

Subject: Implementation of Islanding Scheme in the HP Control Area.

Reference: 1 MoM held through VC mode on 18.09.2024 to discuss the implementation of Shimla -Solan Islanding Scheme in HP.
2 This office letter of even file No. 7004-13, dated: 29.10.2024

Sir,

In compliance to the point No. 7 of the above referred MoM, this office, vide letter mentioned at Sr. No. 2 of the reference, requested all concerned generators (excluding the generators under HPSEBL) involved in the islanding schemes to decrease the under frequency relay (UFR) settings of their generating units to 47.5 Hz and compliance of the same be intimated to this office at the earliest.

Subsequently, the concerned generators, except Sandhya HEP which is under forced outage, have carried out necessary action and intimation of the same has submitted to this office. The details of the under frequency relay (UFR) settings which have been received from the concerned generators (excluding the Generators under HPSEBL) are as under: -

Name of the Generators	Under Frequency Relay Setting (Hz)	Remarks
A. Shimla Solan Islanding Scheme		
Nanti HEP (Upper Nanti)	47.5	Plant's office email attached as Annexure -A
Kurmi HEP	47.5	Plant's office letter attached as Annexure - B
Kut HEP (Goodwill Energy)	47.5	Plant's office email attached as Annexure -C
A. Kullu Mandi Manali Islanding Scheme		
Sandhya HEP	-	Presently, the plant is under shutdown condition; however, they will take the necessary action once the plant operation resume. Plant's office email attached as Annexure-D
Malana - I HEP	47.5	Plant's office email attached as Annexure -E
Chaski HEP	47.5	Plant's office email attached as Annexure -F
Toss HEP	47.5	Plant's office email attached as Annexure -G
Jirah HEP	47.5	Plant's office email attached as Annexure -H

This is for your kind information and necessary action please.

Yours sincerely,


Superintending Engineer,
O/o Managing Director,
HPSLDC, GoHP, Totu, Shimla-11.

DA: As above

SLDC Complex, Totu, Shimla-171011

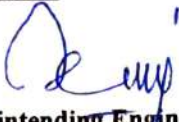
Phone: 0177-2838666, Telefax: 0177-2837649 GST No. 02AAAAH7757E1ZX

Email: sehpslhc@gmail.com, cehpslhc@gmail.com, mdhpslhc@gmail.com, Web: www.hpslhc.com

Page 1 of 2

Copy of the above is forwarded to the following for kind information please: -

1. M/s Sandhya Hydro Power Project (Balargha-3x3 MW SHEP), Reg. Office- H. No. 24, Behind HPSEB Bhuntar Substation, Bhuntar, Kullu (HP)- 175125. Email: kumar.abhinav@continuumenergy.in
2. M/s Nanti Hydro Power Pvt. Ltd. (Uper Nanti – 2x6.5 MW HEP), Gympa House, New Shimla – 9. Email: nanti.nhpl@gmail.com
3. M/s Malana Power Company Ltd. (2x43 MW HEP), MDR 30, Village Chauki, P.O. Jari Distt. Kullu – 175105. Email: malanageneration@injbhilwara.com
4. M/s Kurmi Energy Pvt. Ltd., V.P.O Phancha, Tehsil Rampur BSR, Distt. Shimla (HP) – 172101. Email: avtarsingh13021983@gmail.com
5. M/s Puri Oil Mills Ltd. Chaski 2 MW SHEP, V.P.O. Barshani, Distt. Kullu (HP) – 175105. Email: ajmer@purioilmills.com
6. M/s Toss Mini Hydel Power Project, Vill. Toss P.O. Barsheni Distt. Kullu (HP). Email: tossmhep@gmail.com
7. M/s Jirah Hydro Electric Project (4 MW SHEP), Village Tosh, P.O. Barshaini, Tehsil Bhunter, Distt. Kullu (H.P.) Email: binny195@gmail.com
8. M/s Kundan Green Energy Private Limited, Village Suru, PO Kut, Tehsil Rampur Bushahr, District Shimla (H.P.) Email: kut@kundangreenenergy.com


**Superintending Engineer,
O/o Managing Director,
HPSLDC, GoHP, Totu, Shimla-11.**

D.K.



Se Sldc <sehpsldc@gmail.com>

Request to decrease the Under-Frequency Relay (UFR) settings of generators.

Nanti Hydro <uppnantihydro11102017@gmail.com>

13 November 2024 at 13:09

To: Se Sldc <sehpsldc@gmail.com>

Cc: sanjay thakur <sanjay.thakur@greenkogroup.com>, pratul.g@greenkogroup.com, "dev.r" <dev.r@greenkoassetmanagement.com>

Dear sir,

Upper Nanti plant is concerned, team has already told that relay setting is below 47.50Hz (point No.3 of MOM on dated 11-01-2023).

Thanks & Rewards
Nanti Team
[Quoted text hidden]

KURMI ENERGY (P) LTD.

CORRESPONDENCE ADDRESS : S.C.O. 140-141, SECTOR 34-A, CHANDIGARH
TELEPHONE No. : +91-172-505999 FAX No. : +91-172-2602863

KEPL/HPSLDC/2024-25/102

DATE: 07.11.2024

To,

The Superintending Engineer,
O/o Managing Director,
HPSLDC, GoHP, Totu, Shimla - 11

Subject: Regarding decrease the Under Frequency Relay (UFR) settings of generators of Kurmi energy
Pvt. Ltd (8 MW).

Reference: Your office Letter No. HPSLDC/SLDC – 75 (VOL – III) / 2024 -25 – 7004 – 13, Dated: -
29.10.2024

Respected Sir,

This has reference to the subject cited above, In this regard, we would like to inform to your good office is that Under Frequency Relay setting of our generating units are 47.5 Hz and Over Frequency relay setting of our generating units are 52.5 Hz. Further, Generator protection Relay Over & Under frequency relay setting Photographs is attached herewith for your reference.

This is for your kind information and further necessary action please.

Thanking You

Your Truly

For Kurmi Energy (P) Ltd.
For KURMI ENERGY (P) LTD.


(Authorized Signatory)
AUTHORIZED SIGNATORY

CC to:

1. The General Manager (SO – 1), Northern Regional Load Dispatch Centre for kind information please.
2. The Superintending Engineer (Operation), Northern Regional Power Committee for kind information please.

Actual settings
Operation mode
= f</f> - 2 timers
Voltage limit
= 0.3 x Un
Start frequency
= 47.50 Hz
Operate time 1
= 001.00 s
Start df/dt
= 01.0 Hz/s
Operate time 2
= 003.00 s

↑, ↓ Move cursor
← Prev. E set



Order No-REM543CG214AAAA Uaux = 110-240 Vac Un = 100-1
Serial No-368049 Uaux = 110-220 Vdc In = 1/5 A
In = 50/60 Hz

REM-GENERATOR
PROTECTION RELAY



NI

ABB

MACHINE TERMINAL REM543

```
Actual settings
=f</f> 2 timers
Voltage limit
=0.3 x Un
Start frequency
=52.50 Hz
Operate time 1
=001.00 s
Start df/dt
=01.0 Hz/s
Operate time 2
=003.00 s

↑, ↓ Move cursor
← Prev.      E set
```

-
-
-
-
-
-
-
-
-
-



R ●



Order No REM543CG214AAAA Uaux = 110-240 Vac Un = 100-120 V (U)
Serial No 368049 Uaux = 110-220 Vdc In = 50/60 Hz In = 1/5 A (Iib)

REM-GENERATOR PROTECTION RELAY



(Annexure - C)



Se Sldc <sehpsldc@gmail.com>

Under frequency relay settings

1 message

Kut Energy <kutgoodwill@kundangroup.com>

14 November 2024 at 14:54

To: Power Controller HP-SLDC <pchpsldcshimla@gmail.com>, Se Sldc <sehpsldc@gmail.com>

Cc: Gaurav Agarwal <gaurav.agarwal@kundangroup.com>, Kundan Kut <kut@kundangreenenergy.com>

Respected Sir,

Please find herewith the attached copy of under/over frequency relay setting of Kut HEP generating units.


Thanks and Regards,

Ajay Kumar

Kundan Green Energy Pvt Ltd

Kut HEP

Disclaimer: This e-mail and any documents, files, or previous e-mail messages appended or attached to it may contain confidential and/or privileged information. If you are not the intended recipient (or have received this e-mail in error) please notify the sender immediately and delete this e-mail. Any unauthorized copying, disclosure or distribution of the material in this e-mail is strictly forbidden.

 **DOC-20241114-WA0016..pdf**
351K

Kundan Green Energy Pvt Ltd
Kut HEP

A. For Under Frequency Relay (UFR) Setting

Sr.No	Name of the Generator	Existing Under Frequency Relay(UFR) setting of your Generating Units	Whether the Generator decrease its UFR Setting to 47.5Hz(Note: Ony for those Generators having UFR settings above 47.5Hz) (Yes/No)	If No then please give the reasons	Remarks if any
1	8000KW, 11000V, 8 Pole, 50HZ Horizontal Brushless Generator	47.50HZ	No	UFR realy setting is 47.5HZ in the P343 Realy installed at Generator Panel	

B. For Over Frequency Relay (OFR) Setting

Sr.No	Name of the Generator	Existing Under Frequency Relay(OFR) setting of your Generating Units	Whether the Generator decrease its UFR Setting to 52.5Hz(Note: Ony for those Generators having UFR settings above 52.5Hz) (Yes/No)	If No then please give the reasons	Remarks if any
1	8000KW, 11000V, 8 Pole, 50HZ Horizontal Brushless Generator	52.50Hz	No	OFR Realy setting is 52.5HZ in the P343 Realy installed at Generator Panel	

Request to decrease the Under-Frequency Relay (UFR) settings of generators.

Kumar Abhinav <kumar.abhinav@continuumenergy.in>

13 November 2024 at 16:16

To: Se Sldc <sehpsldc@gmail.com>

Cc: NRLDC Power Grid <nrldcso2@posoco.in>, NRPC <seo-nrpc@nic.in>, Mohan Thakur <mohan.thakur@continuumenergy.in>

Dear Ma'am/ Sir,

I would like to submit that the project is currently in a shutdown condition. The necessary actions will be taken once operations resume.

Regards,**Kumar Abhinav****+919910317105****From:** Se Sldc <sehpsldc@gmail.com>**Sent:** Tuesday, October 29, 2024 4:03 PM**To:** Kumar Abhinav <kumar.abhinav@continuumenergy.in>; nanti.nhppl <nanti.nhppl@gmail.com>; Malana Generation <malanageneration@Injbhilwara.com>; avtarsingh13021983@gmail.com; ajmer@purioilmills.com; tossmhep@gmail.com; Vinay Parmar <binny195@gmail.com>; Kundan Kut <kut@kundangreenenergy.com>**Cc:** NRLDC Power Grid <nrldcso2@posoco.in>; NRPC <seo-nrpc@nic.in>**Subject:** Request to decrease the Under-Frequency Relay (UFR) settings of generators.

Dear Sir,

[Quoted text hidden]



Request to decrease the Under-Frequency Relay (UFR) settings of generators.

Malana Generation <malanageneration@lnjbhilwara.com>

16 November 2024 at 11:34

To: Se Sldc <sehpsldc@gmail.com>

Cc: Mohmad Rafiq <ma.rafiq@lnjbhilwara.com>

Respected Sir,

Please find the enclosed Unit #1 and Unit#2 Relay Test report(Under-Frequency Relay (UFR)) .

Thanks & Regards,

(Shift In-charge)

Power House Control Room,
Malana Hydro Electric Plant (Stage - I)
Phone: 09816099653
Fax: 01902276078
Mail id:- malanageneration@lnjbhilwara.com

From: "Se Sldc" <sehpsldc@gmail.com>

To: "Kumar Abhinav" <kumar.abhinav@continuumenergy.in>, "nanti.nhppi" <nanti.nhppi@gmail.com>, "Malana Generation" <malanageneration@lnjbhilwara.com>, avtarsingh13021983@gmail.com, ajmer@purioilmills.com, tossmhpep@gmail.com, "Vinay Parmar" <binny195@gmail.com>, "Kundan Kut" <kut@kundangreenenergy.com>,

Cc: "NRLDC Power Grid" <nrldcso2@posoco.in>, "NRPC" <seo-nrpc@nic.in>

Date: 29-10-2024 16:04

Subject: Request to decrease the Under-Frequency Relay (UFR) settings of generators.

EXTERNAL EMAIL : Open any attachment or URL only if sender is reliable.

[Quoted text hidden]

[attachment "REQUEST TO DECREASE THE 125.pdf" deleted by Malana Generation/Gen/Mpclsite/LNJB] [attachment "Annexure - I..pdf" deleted by Malana Generation/Gen/Mpclsite/LNJB]

"This e-mail message is only to be used by intended recipients and all others may kindly delete it and notify the sender. Unless expressly authorized by LNJB, the views expressed and the message itself is that of the individual sender and recipients are cautioned to check messages/attachments for any viruses before use. Users acknowledge that messages may contain confidential, proprietary or privileged information and that LNJB neither assures nor guarantees integrity or content of messages."

2 attachments

FIELD INSPECTION AND TEST REPORT



UNIT PROTECTION RELAY

CUSTOMER	MALANA POWER COMPANY LTD.	LOCATION	UNIT-1
ERECTION SITE	MALANA H.E.P	PANEL No.	
FEEDER	UNIT-1 GENERATOR	DEVICE No.	F111 (MAIN I)

TECHNICAL DATA

Manufacture	ANDRITZ	Rated Current In	5	A
Type	HIPASE	Rated Voltage In	110	Vac
Software Ref.1	V1.47.01	Rated Frequency	50	Hz
Serial No.	GGP004-03225B004	Auxiliary Voltage Vx	110 - 250	Vdc
IP Address	172.16.215.63			

VISUAL CHECK

- 1.1 Relay undamaged and clean.
- 1.2 Wiring check, cable and terminal fastened properly.
- 1.3 Check relay case earthed
- 1.4 Test block connect check
- 1.5 Verify relay rated information correct to installation
- 1.6 Checking HMI&LCD

Checked



TEST EQUIPMENT USED

Manufacturer	: OMICRON
Type / Model	: CMC256
Serial No.	: KE722D
Cal. Date	: 23.02.2024 to 22-02-2025

Responsibility	Tested by	Approved by
Company	Andritz Hydro Pvt. Ltd.	Malana H.E.P.(2x4.3MW)
Name	Sathiyaseelan T	Mohd Akbar Razaq
Signature		
Date		

FIELD INSPECTION AND TEST REPORT



UNIT PROTECTION RELAY

CUSTOMER : MALANA POWER COMPANY LTD. ERECTION SITE : MALANA H.E.P FEEDER : UNIT-1 GENERATOR	LOCATION : UNIT-1 PANEL No. : DEVICE No. : F111 (MAIN-1)
--	---

1. Measurement Check

Parameter setting :

CT AND VT RATIOS

GEN PHASE SIDE CT

Polarity = Standard
 Primary = 3200 A
 Secondary = 5.000 A

GEN NEUTRAL SIDE CT

Polarity = Standard
 Primary = 3200 A
 Secondary = 5.000 A

GT HV PHASE CT

Polarity = Standard
 Primary = 320 A
 Secondary = 5.000 A

UAT CT

Polarity = Standard
 Primary = 50 A
 Secondary = 1.000 A

GENERATOR PT

Polarity = Standard
 Primary = 11000 V
 Secondary = 110.000 V

NGT FOR 64S

Polarity = Standard
 Primary = 11000 V
 Secondary = 110.000 V

SHAFT CT 51SC

Polarity = Standard
 Primary = 100.0
 Secondary = 1.00

Responsibility		Approved by
Company	Tested by	Malana H.E.P.(2x43MW)
Name	Andritz Hydro Pvt. Ltd.	Mohd Abdul Rafiq
Signature	Sathiyaseelan T	
Date		

FIELD INSPECTION AND TEST REPORT



UNIT PROTECTION RELAY

CUSTOMER : MALANA POWER COMPANY LTD.
ERECTION SITE : MPCL H.E.P
FEEDER : UNIT-1 GENERATOR

LOCATION : UNIT-1
PANEL No. :
DEVICE No. : F112 (MAIN-2)

10. Under Frequency Protection.

Parameter setting :

81U

Start Value stage-1	=	48.00	Hz
Start Value stage-2	=	47.50	Hz
Blocking undervoltage	=	40.40	V
Blocking Overvoltage	=	140.00	V
Operate time delay stage-1	=	5.00	s
Operate time delay stage-2	=	1.00	s
Reset Time delay	=	0.10	s

- Pickup Test

Function	Phase	Relay operate (Hz)		
		Should be	As found	
			Pick up	Drop off
81U	ABC	48.00	48.010	47.990
81U	ABC	47.50	47.510	47.400

- Pickup Test - Block under voltage

Function	Phase	Relay operate (V)		
		Should be	As found	
			Pick up	Drop off
81U	ABC	40.40	40.390	40.410

- Pickup Test - Block Over voltage

Function	Phase	Relay operate (V)		
		Should be	Pick up	Drop off
		81U	ABC	140.00

- Operating test

Function	Injected	Should be	Operating time (s)
	Frequency (Hz)	(s)	
81U	47.9	5.000	5.0
81U	47.4	1.000	1.1

Responsibility	Tested by	Approved by
Company	Andritz Hydro Pvt. Ltd.	Malana H.E.P.(2X43MW)
Name	Sathyaseelan T	Mohd Atul Rafiq
Signature		
Date		

FIELD INSPECTION AND TEST REPORT



UNIT PROTECTION RELAY

CUSTOMER : MALANA POWER COMPANY LTD.
ERECTION SITE : MPCL H.E.P
FEEDER : UNIT-1 GENERATOR

LOCATION : UNIT-1
PANEL No. :
DEVICE No. : F112 (MAIN-2)

11. Over Frequency Protection.

Parameter setting :

81O

Start Value stage-1	=	52.00	Hz
Start Value stage-2	=	52.50	Hz
Blocking undervoltage	=	40.40	V
Blocking Overvoltage	=	140.00	V
Operate time delay stage-1	=	5.00	s
Operate time delay stage-2	=	1.00	s

- Pickup Test

Function	Phase	Relay operate (Hz)		
		Should be	As found	
			Pick up	Drop off
81O	ABC	52.00	52.002	51.950
81O	ABC	52.50	52.510	52.490

- Pickup Test - Block under voltage

Function	Phase	Relay operate (V)		
		Should be	As found	
			Pick up	Drop off
81O	ABC	40.40	40.390	40.410

- Pickup Test - Block Over voltage

Function	Phase	Relay operate (V)		
		Should be	As found	
			Pick up	Drop off
81O	ABC	140.00	140.100	139.900

- Operating test

Function	Injected Frequency (Hz)	Should be (s)	Operating time (ms)
81O	52.1	5.0	5042.0
81O	52.6	1.0	1042.0

Responsibility	Tested by	Approved by
Company Name	Andritz Hydro Pvt. Ltd.	Malana H.E.P(2X43MW)
Signature	Sathiyaseelan T	Mohd Abdul Rafiq
Date	<i>[Signature]</i>	<i>[Signature]</i>

FIELD INSPECTION AND TEST REPORT



UNIT PROTECTION RELAY

CUSTOMER : MALANA POWER COMPANY LTD.	LOCATION : UNIT-2
ERECTION SITE : MPCL H.E.P	PANEL No. :
FEEDER : UNIT-2 GENERATOR	DEVICE No. : F112 (MAIN-2)

TECHNICAL DATA

Manufacture	ANDRITZ	Rated Current In	5	A
Type	HIPASE	Rated Voltage In	110	Vac
Software Ref.1	V1.47.01	Rated Frequency	50	Hz
Serial No.	GGP004-03225B004	Auxiliary Voltage Vx	110 - 250	Vdc
IP Address	172.16.215.64			

VISUAL CHECK

- 1.1 Relay undamaged and clean.
- 1.2 Wiring check, cable and terminal fastened properly.
- 1.3 Check relay case earthed
- 1.4 Test block connect check
- 1.5 Verify relay rated information correct to installation
- 1.6 Checking HMI&LCD

Checked

<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>

TEST EQUIPMENT USED

Manufacturer	: OMICRON
Type / Model	: CMC256
Serial No.	: KE722D
Cal. Date	: 23.02.2024 to 22.02.2025

Responsibility	Tested by	Approved by
Company	Andritz Hydro Pvt. Ltd.	Malana H.E.P.(2X43MW)
Name	Sathiyaseelan T	Mohd Abdul Rafiq
Signature		
Date		

FIELD INSPECTION AND TEST REPORT

UNIT PROTECTION RELAY



CUSTOMER : MALANA POWER COMPANY LTD.	LOCATION : UNIT-2
ERECTION SITE : MPCL H.E.P	PANEL No. :
FEEDER : UNIT-2 GENERATOR	DEVICE No. : F112 (MAIN 2)

1. Measurement Check

Parameter setting :

CT AND VT RATIOS

GEN PHASE SIDE CT

Polarity	=	Standard	
Primary	=	3200	A
Secondary	=	5.000	A

GEN NEUTRAL SIDE CT

Polarity	=	Standard	
Primary	=	3200	A
Secondary	=	5.000	A

GT HV PHASE CT

Polarity	=	Standard	
Primary	=	320	A
Secondary	=	5.000	A

UAT CT

Polarity	=	Standard	
Primary	=	50	A
Secondary	=	1.000	A

GENERATOR PT

Polarity	=	Standard	
Primary	=	11000	V
Secondary	=	110.000	V

NGT FOR 64S

Polarity	=	Standard	
Primary	=	11000	V
Secondary	=	110.000	V

SHAFT CT 51SC

Polarity	=	Standard	
Primary	=	100.0	
Secondary	=	1.00	

Responsibility	Tested by	Approved by
Company	Andritz Hydro Pvt. Ltd.	Malana H E P(2X43MW)
Name	Sathiyaseelan T	Mohd Atkull Rajiq
Signature		
Date		

FIELD INSPECTION AND TEST REPORT



UNIT PROTECTION RELAY

CUSTOMER : MALANA POWER COMPANY LTD.	LOCATION : UNIT-2
ERECTION SITE : MALANA H.E.P	PANEL No. :
FEEDER : UNIT-2 GENERATOR	DEVICE No. : F111 (MAIN-I)

10. Under Frequency Protection.

Parameter setting :

81U

Start Value stage-1	=	48.00	Hz
Start Value stage-2	=	47.50	Hz
Blocking undervoltage	=	40.40	V
Blocking Overvoltage	=	140.00	V
Operate time delay stage-1	=	5.00	s
Operate time delay stage-2	=	1.00	s
Reset Time delay	=	0.10	s

- Pickup Test

Function	Phase	Relay operate (Hz)		
		Should be	As found	
			Pick up	Drop off
81U	ABC	48.00	48.010	48.090
81U	ABC	47.50	47.510	47.500

- Pickup Test - Block under voltage

Function	Phase	Relay operate (V)		
		Should be	As found	
			Pick up	Drop off
81U	ABC	40.40	40.390	40.420

- Pickup Test - Block Over voltage

Function	Phase	Relay operate (V)		
		Should be	Pick up	Drop off
81U	ABC	140.00	140.020	139.910

- Operating test

Function	Injected	Should be	Operating time (s)
	Frequency (Hz)	(s)	
81U	47.9	5.000	5.03
81U	47.4	1.000	1.02

Responsibility	Tested by	Approved by
Company	Andritz Hydro Pvt. Ltd.	Malana H E P(2X43MW)
Name	Sathiyaseelan T	Mohd Abdul Rafig
Signature		
Date		

FIELD INSPECTION AND TEST REPORT



UNIT PROTECTION RELAY

CUSTOMER : MALANA POWER COMPANY LTD.	LOCATION : UNIT-2
ERECTION SITE : MALANA H.E.P	PANEL No. :
FEEDER : UNIT-2 GENERATOR	DEVICE No. : F111 (MAIN-I)

11. Over Frequency Protection.

Parameter setting :

81O

Start Value stage-1	=	52.00	Hz
Start Value stage-2	=	52.50	Hz
Blocking undervoltage	=	40.40	V
Blocking Overvoltage	=	140.00	V
Operate time delay stage-1	=	5.00	s
Operate time delay stage-2	=	1.00	s

- Pickup Test

Function	Phase	Relay operate (Hz)		
		Should be	As found	
			Pick up	Drop off
81O	ABC	52.00	52.003	51.960
81O	ABC	52.50	52.520	52.480

- Pickup Test - Block under voltage

Function	Phase	Relay operate (V)		
		Should be	As found	
			Pick up	Drop off
81O	ABC	40.40	40.390	40.410

- Pickup Test - Block Over voltage

Function	Phase	Relay operate (V)		
		Should be	As found	
			Pick up	Drop off
81O	ABC	140.00	140.100	139.900

- Operating test

Function	Injected Frequency (Hz)	Should be (s)	Operating time (ms)
81O	52.1	5.0	5048.0
81O	52.6	1.0	1039.0

Responsibility	Tested by	Approved by
Company Name	Andritz Hydro Pvt. Ltd. Sathiyaseelan T	Malana H.E.P(2X43MW) Mohd Abdul Rafiq
Signature		
Date		

Request to decrease the Under-Frequency Relay (UFR) settings of generators.

Ajmer Singh <ajmerengineer123@gmail.com>
To: Se Sldc <sehpsldc@gmail.com>

26 December 2024 at 11:55

Dear Sir,

As per our telephonic discussion regarding Chakshi under frequency relay, I am referring to the meeting held on 11.1.2023, wherein we submitted a letter with reference number HPSLDC/SLDC(VOL111-75)7004-13. As requested, the necessary charges have been applied. (Generator management relay 489 Photograph attached for your reference.)
Thank you for your attention to this matter.

Sincerely,
Ajmer Singh
Manager
[Quoted text hidden]



SR 489 UFR.jpeg
114K

UNDERFREQUENCY
ALARM LEVEL: 47.50Hz

489 STATUS

- RELAY IN SERVICE
- SETPOINT ACCESS
- COMPUTER RS232
- COMPUTER RS485
- AUXILIARY RS485
- ALT. SETPOINTS
- RESET POSSIBLE
- MESSAGE

GENERATOR STATUS

- BREAKER OPEN
- BREAKER CLOSED
- HOT STATOR
- NEG. SEQUENCE
- GROUND
- LOSS OF FIELD
- VT FAILURE
- BREAKER FAILURE

OUTPUT STATUS

- 1 TRIP
- 2 AUXILIARY
- 3 AUXILIARY
- 4 AUXILIARY
- 5 ALARM
- 6 SERVICE

7 8 9
4 5 6
1 2 3
· 0 HELP

MESSAGE

ENTER ESCAPE

VALUE
▲ ▼



489 Generator Management Relay

'Annexure-G'



Se Sldc <sehpsldc@gmail.com>

Request to decrease the Under-Frequency Relay (UFR) settings of generators.

toss mhpep <tossmhpep@gmail.com> 13 November 2024 at 12:19

To: Se Sldc <sehpsldc@gmail.com>
Cc: Kumar Abhinav <kumar.abhinav@continuumenergy.in>, "nanti.nhpl" <nanti.nhpl@gmail.com>, Malana Generation <malanageneration@lnjbhilwara.com>, Avtar Singh <avtarsingh13021983@gmail.com>, ajmer@purioilmills.com, Vinay Parmar <binny195@gmail.com>, Kundan Kut <kut@kundangreenenergy.com>, NRLDC Power Grid <nrlcdso2@posoco.in>, NRPC <seo-nrpc@nic.in>


Respected/Sir

As per your mail the setting of Under Frequency Relay(UFR) is 47.50HZ & Over Frequency Relay(OFR) is 52.60HZ for your reference. Please find the attachment for the same.

Best Regards
Pankaj Thakur
Toss Mini Hydel Power Project
9418764081, 9882681658

Show quoted text

[Quoted text hidden]

 **Format of Realy setting (2).xlsx**
10K

A. For Under Frequency Relay (UFR) Setting

Sr.No	Name of the Generator	Existing Under Frequency Relay(UFR) setting of your Generating Units	Whether the Generator decrease its UFR Setting to 47.5Hz(Note: Ony for those Generators having UFR settings above 47.5Hz) (Yes/No)	If No then please give the reasons	Remarks if any
1	5000KW, 6600V, 12 Pole, 50HZ Vertical Brushless Generator	47.50HZ	No	UFR realy setting is 47.5HZ in the REM543 Realy installed at Generator Panel	

B. For Over Frequency Relay (OFR) Setting

Sr.No	Name of the Generator	Existing Under Frequency Relay(OFR) setting of your Generating Units	Whether the Generator decrease its UFR Setting to 52.5Hz(Note: Ony for those Generators having UFR settings above 52.5Hz) (Yes/No)	If No then please give the reasons	Remarks if any
1	5000KW, 6600V, 12 Pole, 50HZ Vertical Brushless Generator	52.60Hz	No	OFR Realy setting is 52.6HZ in the REM543 Realy installed at Generator Panel	

Request to decrease the Under-Frequency Relay (UFR) settings of generators.

Vinay Parmar <binny195@gmail.com>

13 November 2024 at 15:05

To: Se Sldc <sehpsldc@gmail.com>

Cc: NRLDC Power Grid <nrlcso2@posoco.in>, NRPC <seo-nrpc@nic.in>, Parveen Thakur <pthakur874@gmail.com>

Respected/Sir

As per your mail the setting of Under Frequency Relay(UFR) is 47.50HZ & Over Frequency Relay(OFR) is 52.60HZ for your reference. Please find the attachment for the same

Thanks with rgds..

[Quoted text hidden]

--

Vinay Parmar

Manager (O&M)

Kapil Mohan & Asso. Hydro Power Pvt Ltd.

Jirah HEP

9805012776,8894704216



Format of Realy setting Jirah SHEP 4mw.xlsx

10K

A. For Under Frequency Relay (UFR) Setting

Sr.No	Name of the Generator	Existing Under Frequency Relay(UFR) setting of your Generating Units	Whether the Generator decrease its UFR Setting to 47.5Hz(Note: Ony for those Generators having UFR settings above 47.5Hz) (Yes/No)	If No then please give the reasons	Remarks if any
1	2500KW, 6600V, 8 Pole, 50HZ Vertical Brushless Generator	47.50HZ	No	UFR realy setting is 47.5HZ in the REM543 Realy installed at Generator Panel	

B. For Over Frequency Relay (OFR) Setting

Sr.No	Name of the Generator	Existing Under Frequency Relay(OFR) setting of your Generating Units	Whether the Generator decrease its UFR Setting to 52.5Hz(Note: Ony for those Generators having UFR settings above 52.5Hz) (Yes/No)	If No then please give the reasons	Remarks if any
1	2500KW, 6600V, 8 Pole, 50HZ Vertical Brushless Generator	52.60Hz	No	OFR Realy setting is 52.6HZ in the REM543 Realy installed at Generator Panel	

Capacity (MW) 30-11-2023	Name of Station	UNIT_NM	STN_TYP	SECTOR	REGION_NM	ST_NM	SH_NM	IPP	FUEL_NM	Capacity (MW) 31-03-2025	Approved Planned Outage-1			Actual Planned Outage-1		
											Start Date	End Date	Reason	Start Date	End Date	Reason for any deviation
600	RAJIV GANDHI TPS	1	T	STATE SECTOR	Northern	Haryana	HPGCL	FALSE	COAL	600	15-Nov-24	30-Jan-25	AOH			Not availed during the said duration by utility
660	SURATGARH TPS	7	T	STATE SECTOR	Northern	Rajasthan	RRVUNL	FALSE	COAL	660	1-Jan-25	25-Jan-25	AOH			Deferred due to ongoing Rabi season, huge Power demand in State is running
660	PRAYAGRAJ TPP	1	T	IPP SECTOR	Northern	Uttar Pradesh	PPGCL (Jaypee)	FALSE	COAL	660	1-Jan-25	15-Jan-25	Maintenance Works			Shutdown Work Postponed due to Mahakumbh
660	LALITPUR TPS	3	T	IPP SECTOR	Northern	Uttar Pradesh	LPGCL	FALSE	COAL	660	15-Dec-24	9-Jan-25	AOH	5-Jan-25	31-Jan-25	
200	SINGRAULI STPS	4	T	CENTRAL SECTOR	Northern	Uttar Pradesh	NTPC Ltd.	FALSE	COAL-P	200	15-Dec-24	18-Jan-25	AOH	15-Dec-24	26-Jan-25	as per 225th OCC approved outage program (15/12/24 to 18/01/25). Become late by 08 days due to undertaking of 100% HRH Coil replacement, seeing condition of boiler
660	TANDA TPS	6	T	CENTRAL SECTOR	Northern	Uttar Pradesh	NTPC Ltd.	FALSE	COAL	660	20-Dec-24	28-Jan-25	AOH			To be taken in fy 25-26
111.19	AURAIYA CAPP	4	T	CENTRAL SECTOR	Northern	Uttar Pradesh	NTPC Ltd.	FALSE	NATURAL GAS	111.19	5-Jan-25	19-Jan-25	Filter Replacement	20-Jan-25	7-Feb-25	as per 225th OCC approved outage program (31/12/24 to 14 Jan 25). Postponed to extension of EOH (evaluated operating hours)
225	GAMA CAPP	1	T	IPP SECTOR	Northern	Uttarakhand	GIPL	FALSE	NATURAL GAS	225	22-Jan-25	31-Jan-25	Inspection	10-Jan-25	14-Jan-25	As per availability of inspection dates.
30	L.P.CAPP	1	T	STATE SECTOR	Northern	Delhi	IPGCL	FALSE	NATURAL GAS	30	20-Nov-24	22-Dec-24	Major Inspection			
104.6	PRAGATI CAPP	1	T	STATE SECTOR	Northern	Delhi	PPCL	FALSE	NATURAL GAS	104.6	1-Nov-24	10-Dec-24	Major Inspection			Shutdown deferred for next year from 01.11.2025 to 10.12.2025 due to non-availability of Overhauling spares & Contract from M/s GE. The same is also intimated to CEA through Generation Programme for FY 25-26
104.6	PRAGATI CAPP	2	T	STATE SECTOR	Northern	Delhi	PPCL	FALSE	NATURAL GAS	104.6	3-Dec-24	4-Dec-24	Air Filter Replacement			Shutdown deferred for next year in the month of September 25.
250	PRAGATI CCGT-III	2	T	STATE SECTOR	Northern	Delhi	PPCL	FALSE	NATURAL GAS	250	18-Nov-24	5-Dec-24	Mark VI upgradation			Not availed during the said duration as required spares awaited.
700	RAJPURA TPP	1	T	IPP SECTOR	Northern	Punjab	NPL	FALSE	COAL	700	20-Nov-24	10-Dec-24	AOH			deferred by utility to 06th March for 20 days
660	TALWANDI SABO TPP	2	T	IPP SECTOR	Northern	Punjab	TSPCL	FALSE	COAL	660	1-Dec-24	25-Dec-24	COH			Not required . Instead s/d of unit 1 and 3 availed in FY 2024-2025
220	RAJASTHAN A.P.S.	4	N	CENTRAL SECTOR	Northern	Rajasthan	NPCIL	FALSE	NUCLEAR	220	1-Nov-24	10-Dec-24	Biennial Shutdown	20-Nov-24	1-Jan-25	Biennial Shutdown
105	HARDUAGANJ TPS	7	T	STATE SECTOR	Northern	Uttar Pradesh	UPRVUNL	FALSE	COAL	105	20-Nov-24	24-Dec-24	COH			As this unit is vintage unit and remains under RSD very frequently. Therefore OH dropped.
500	ANPARA TPS	7	T	STATE SECTOR	Northern	Uttar Pradesh	UPRVUNL	FALSE	COAL-P	500	10-Nov-24	9-Dec-24	AOH			The Generator of Anapara Unit#06 damaged on 10.11.24 resulted OH postponement of Unit-07 of same Anpara-DTPS (2x500 MW) to reduce fix cost losses and meeting UP state power demand.
660	PRAYAGRAJ TPP	2	T	IPP SECTOR	Northern	Uttar Pradesh	PPGCL (Jaypee)	FALSE	COAL	660	20-Nov-24	20-Dec-24	AOH	19-Nov-24	22-Dec-24	
660	LALITPUR TPS	1	T	IPP SECTOR	Northern	Uttar Pradesh	LPGCL	FALSE	COAL	660	1-Dec-24	11-Dec-24	Boiler License Renewal	7-Nov-24	16-Nov-24	
600	ANPARA C TPS	2	T	IPP SECTOR	Northern	Uttar Pradesh	LAPPL	FALSE	COAL-P	600	11-Nov-24	1-Dec-24	AOH	11-Jan-25	24-Feb-25	AOH date was changed (changed date was 11.2.25 to 7.3.25) due to major work planned in boiler and material supply delay. However, on 11.1.25 unit 2 was taken under forced shutdown due to Generator fault (100% SEF). Now due to long time in rectification of generator, AOH work has been also taken up to utilize the time.
200	SINGRAULI STPS	2	T	CENTRAL SECTOR	Northern	Uttar Pradesh	NTPC Ltd.	FALSE	COAL-P	200	10-Nov-24	9-Dec-24	AOH	20-Jul-24	30-Aug-24	as per 221st OCC approved outage program (20/07/24 to 19/08/2024). Late by 10 days due to heavy rain in the singrauli area.
500	RIHAND STPS	1	T	CENTRAL SECTOR	Northern	Uttar Pradesh	NTPC Ltd.	FALSE	COAL-P	500	15-Nov-24	19-Dec-24	Annual Overhauling	11-Sep-24	12-Oct-24	as per 222nd OCC approved outage program (07/09/24 to 11/10/2024). Postponed slightly due to extension of unit-2 outage.
210	UNCHAHAR TPS	3	T	CENTRAL SECTOR	Northern	Uttar Pradesh	NTPC Ltd.	FALSE	COAL	210	5-Nov-24	9-Dec-24	AOH			To be taken in fy 25-26
660	MEJA STPP	2	T	CENTRAL SECTOR	Northern	Uttar Pradesh	MUNPL	FALSE	COAL	660	20-Oct-24	18-Dec-24	COH	21-Feb-25	6-Apr-25	In the year 2024-25 only a short Shutdown of Meja TPS Unit#2 was envisaged w.r.t. Boiler inspection including other minor related works for 10 days approved by UPPCL w.e.f. 11.11.2024 to 20.11.2024, and accordingly actual shutdown was taken On 17.11.2024 and Unit#2 was synchronized back on 29.11.2024 only.
110	TANDA TPS	4	T	CENTRAL SECTOR	Northern	Uttar Pradesh	NTPC Ltd.	FALSE	COAL	110	11-Nov-24	10-Dec-24	AOH	14-Sep-24	7-Nov-24	as per 222nd OCC approved outage program (01/09/24 to 25/10/2024). Postponed due to non availability of boiler acid cleaning contract.
300	ROSA TPP Ph-I	1	T	IPP SECTOR	Northern	Uttar Pradesh	RPSCCL	FALSE	COAL	300	15-Nov-24	6-Dec-24	Boiler Overhauling			Unit 2 Boiler OH shutdown taken instead from 11.11.2024 to 06.12.2024
45	MAQSOODPUR TPS	2	T	IPP SECTOR	Northern	Uttar Pradesh	BEPL	FALSE	COAL	45	15-Nov-24	30-Dec-24	Boiler Overhauling			Due to unavailability of spare. Planned on 10-03-25 to 25-03-25
135	JALPA KAPURDI TPP	1	T	IPP SECTOR	Northern	Rajasthan	JSWBL	FALSE	LIGNITE	135	1-Nov-24	12-Nov-24	Boiler Inspection	4-Dec-24	10-Dec-24	
135	JALPA KAPURDI TPP	4	T	IPP SECTOR	Northern	Rajasthan	JSWBL	FALSE	LIGNITE	135	23-Nov-24	30-Nov-24	Boiler License Renewal			Boiler Licence Renew done on 05.12.2024
110	RAMGARH CAPP	5	T	STATE SECTOR	Northern	Rajasthan	RRVUNL	FALSE	NATURAL GAS	110	1-Aug-24	15-Sep-24	Major Inspection			Boxed up since 26.02.2024 due to Non-availability of gas



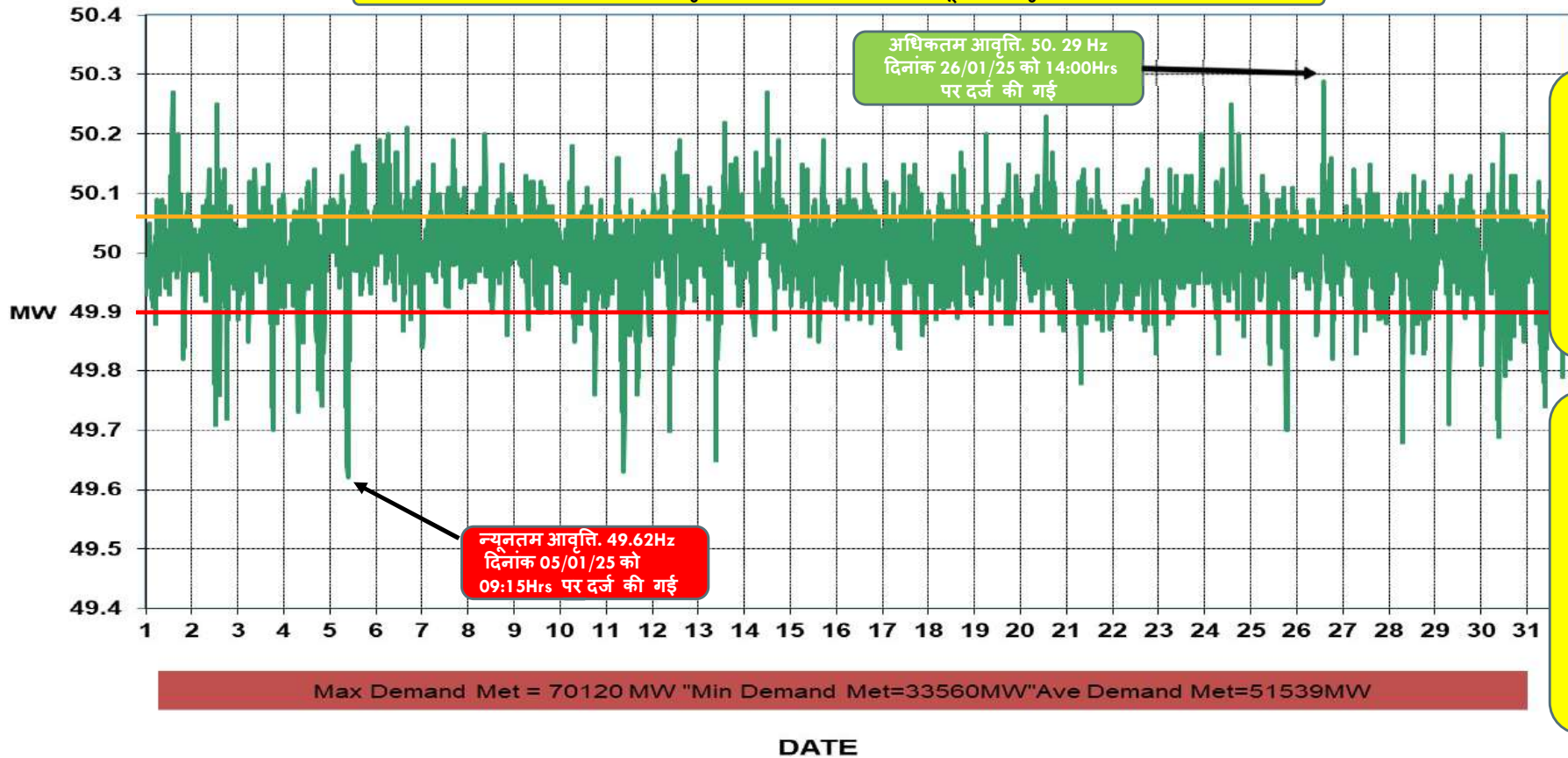
**प्रचालन समन्वय उपसमिति की बैठक
जनवरी- 2025**

जनवरी-2025 के दौरान आवृत्ति की स्थिति (As per 5 Minute SCADA data)



FREQ

क्षेत्रीय OD/UD : अधिकतम आवृत्ति पर: 122 MW(OD) न्यूनतम आवृत्ति पर : 1414 MW(UD)



OD(+)/UD(-) at
Min Freq

UP	+270
Del	+107
JK	+12
HP	-157
Chd	-26
Utt	-177
Raj	-117
Har	-181
Pun	-78

OD(+)/UD(-) at
Max Freq

Del	-231
Har	-187
Pun	-400
JK	-217
Raj	-161
HP	+50
Chd	+26
Utt	+7
UP	+354

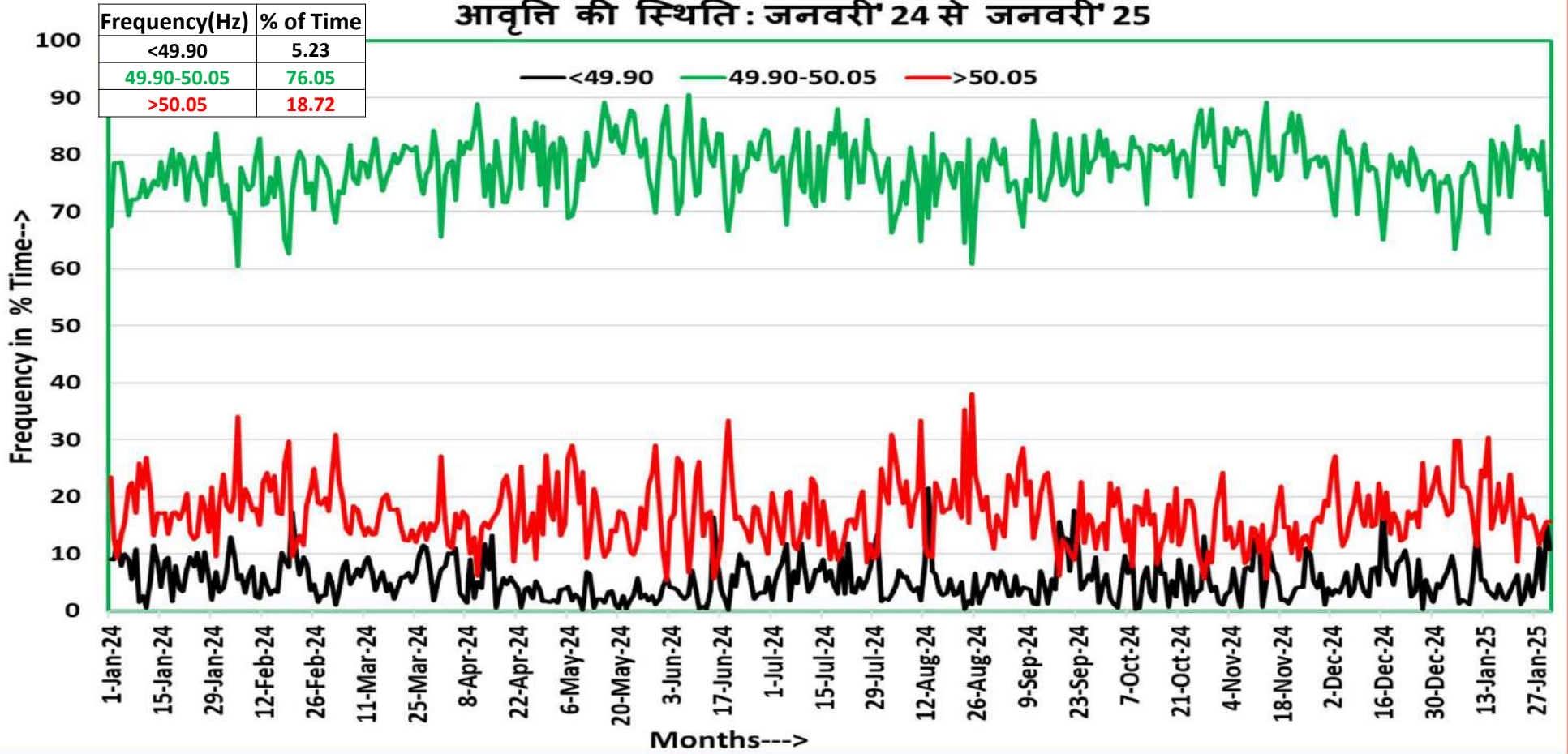
Max Demand Met = 70120 MW "Min Demand Met=33560MW"Ave Demand Met=51539MW

DATE

आवृत्ति की स्थिति: जनवरी -2024 से 2025



आवृत्ति की स्थिति: जनवरी' 24 से जनवरी' 25



पिछले एक साल मे आवृत्ति की स्थिति



आवृत्ति बैंड	जनवरी 2024	फ़रवरी 2024	मार्च 2024	अप्रैल 2024	मई 2024	जून 2024	जुलाई 2024	अगस्त 2024	सितम्बर 2024	अक्टूबर 2024	नवम्बर 2024	दिसंबर 2024	जनवरी 2025
< 49.7 Hz(%)	0.12	0.095	0.065	0.030	0.000	0.02	0.054	0.176	0.18	0.14	0.10	0.29	0.18
<49.8 Hz(%)	0.92	0.797	0.479	0.432	0.059	0.31	0.621	0.631	0.89	0.60	0.66	0.97	0.92
<49.9 Hz(%)	6.80	6.239	6.022	5.254	2.490	4.50	6.406	4.660	6.09	4.86	5.15	5.58	5.23
49.90-50.05 Hz(%)	75.83	74.06	77.51	78.56	80.045	79.177	78.424	75.012	77.130	80.27	80.80	76.45	76.05
50.05-50.10 Hz(%)	11.91	14.118	12.262	11.178	13.839	13.34	12.122	13.334	10.36	12.18	10.90	14.59	15.09
>50.10 Hz(%)	5.47	5.581	4.204	5.010	3.627	2.99	3.047	6.992	6.42	2.49	3.15	3.38	3.63
>50.20 Hz(%)	0.41	0.565	0.657	0.539	0.285	0.12	0.280	1.725	1.03	0.20	0.21	0.37	0.33
औसत आवृत्ति	49.99	50.00	50.00	50.00	50.00	50.002	49.997	50.008	50.000	49.998	49.995	49.998	49.998

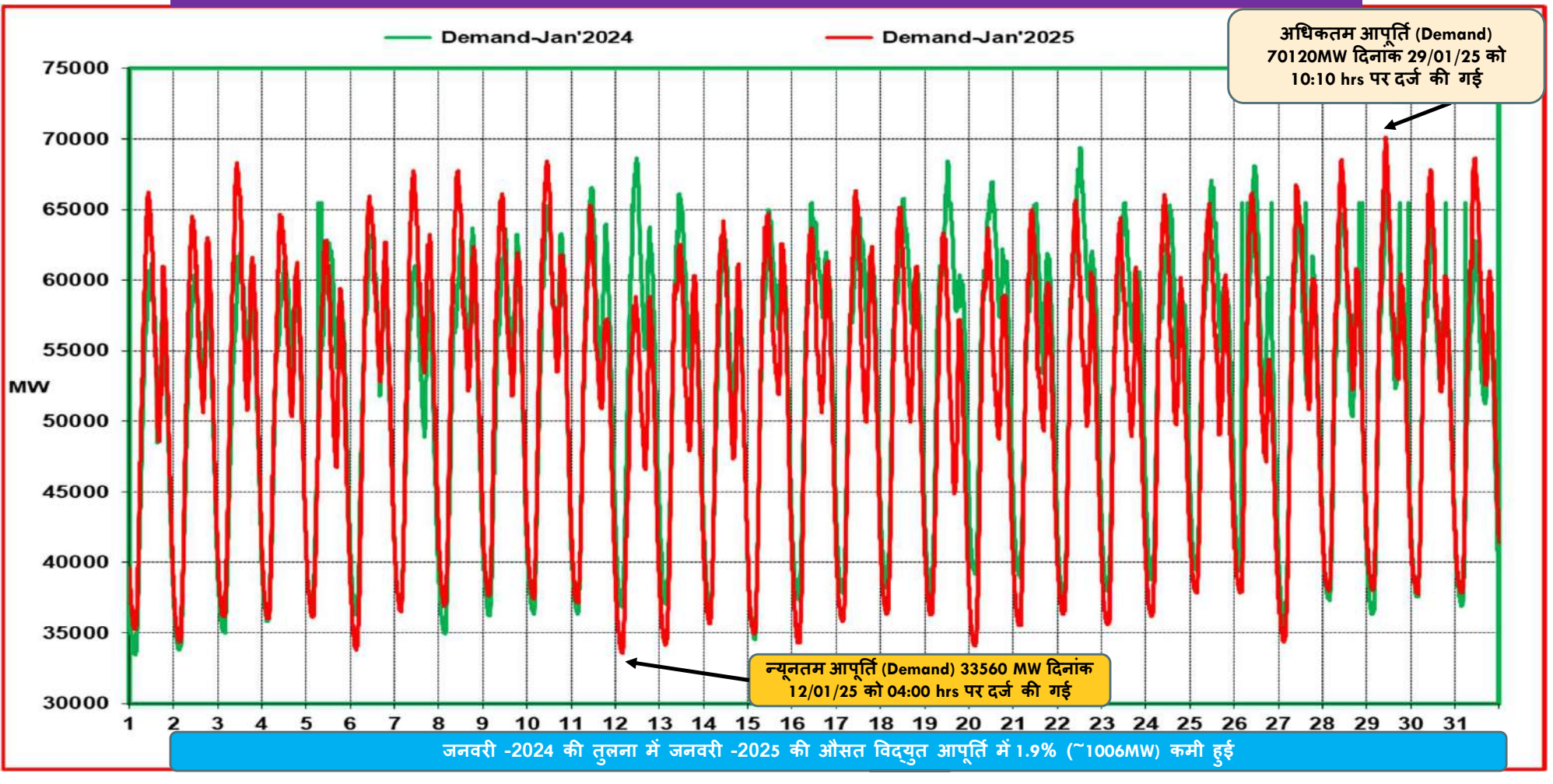
जनवरी-2025 के दौरान अधिकतम मांग (Demand Met), अधिकतम ऊर्जा खपत (Energy consumption) और अब तक का कीर्तिमान (राज्यों द्वारा जमा आंकड़ों के अनुसार)



राज्य	अधिकतम मांग (MW) (in Jan'25)	दिनांक / समय	रिकॉर्ड अधिकतम मांग (in MW) (upto Dec'24)	दिनांक / समय	अधिकतम ऊर्जा खपत (MU) (in Jan'25)	दिनांक	रिकॉर्ड अधिकतम ऊर्जा खपत (MU) (Upto Dec'24)	दिनांक
पंजाब	10142	29.01.25 at 10:30	16089	29.06.24 at 12:45	175.1	29.01.25	366.8	21.07.2024
हरियाणा	9157	30.01.25 at 10:00	14662	31.07.24 at 14:30	167.2	29.01.25	293.4	30.07.2024
राजस्थान	18572	28.01.25 at 09:00	18643	19.12.24 at 09:45	352.8	30.01.25	379.1	30.05.2024
दिल्ली	5655	01.01.25 at 11:44	8656	19.06.24 at 15:06	91.3	17.01.25	177.7	18.06.2024
उत्तर प्रदेश	22034	03.01.25 at 19:11	30618	13.06.24 at 22:00	387.6	07.01.25	658.7	17.06.2024
उत्तराखंड	2568	10.01.25 at 09:00	2863	14.06.24 at 22:00	47.5	10.01.25	62.1	14.06.2024
हिमाचल प्रदेश	2273	17.01.25 at 09:00	2254	25.12.24 at 09:00	40.4	16.01.25	41.3	20.12.24
जम्मू और कश्मीर (UT) तथा लद्दाख (UT)	3200	07.01.25 at 10:00	3181	24.12.24 at 20:00	69.3	10.01.25	68.4	26.12.24
चंडीगढ़	312	01.01.25 at 10:00	482	18.06.24 at 15:28	5.2	01.01.25	9.1	18.06.2024
उत्तरी क्षेत्र #	70120	29.01.25 at 10:10	91234	19.06.24 at 14:37	1273.0	20.12.24	1990.4	18.06.2024

उत्तरी क्षेत्र अधिकतम मांग (Demand Met) as per 1 min SCADA Data

क्षेत्रीय विद्युत आपूर्ति (Demand) जनवरी 2024 बनाम जनवरी 2025 (As per 5 Minute SCADA data)

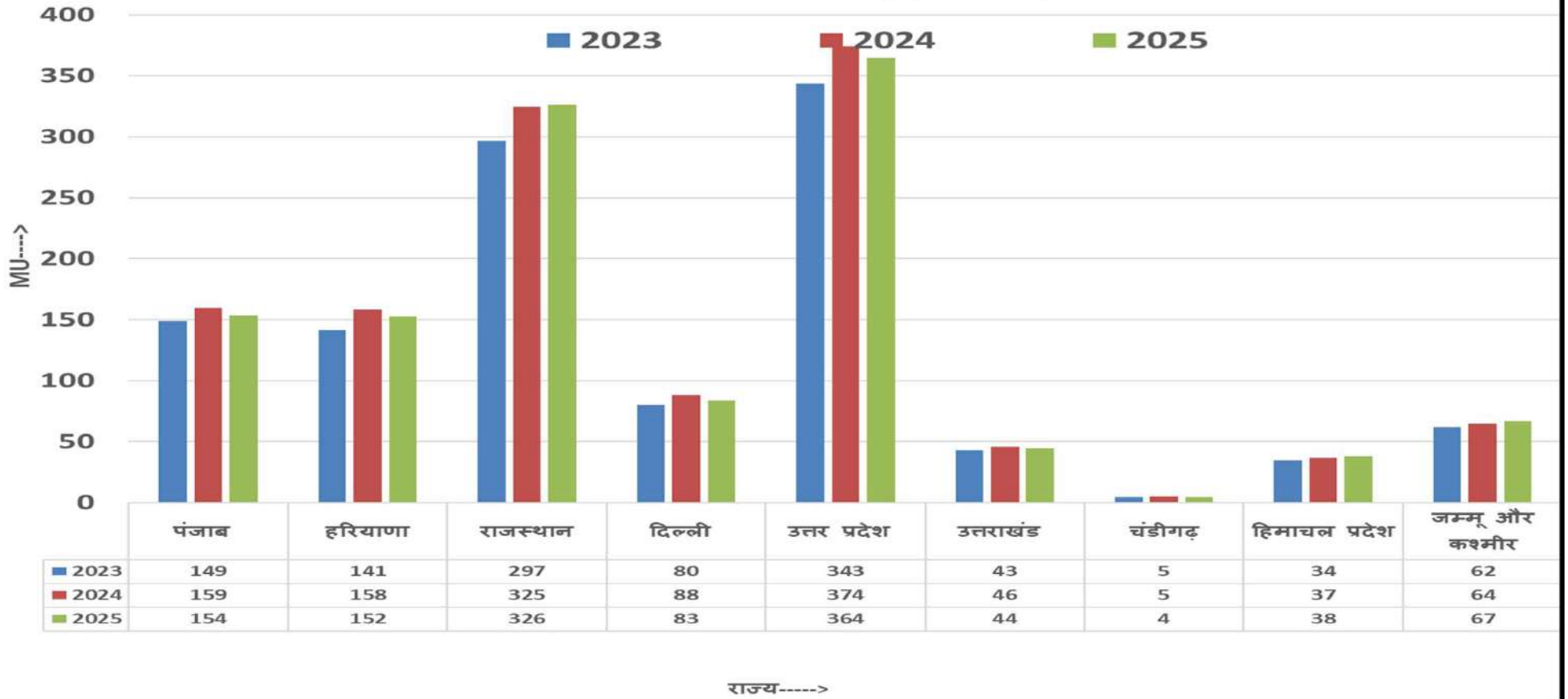


उत्तरी क्षेत्र की औसत ऊर्जा खपत में वृद्धि(% में) जनवरी -2025/ जनवरी -2024
/ जनवरी -2023

राज्य	जनवरी -2023	जनवरी -2024	जनवरी -2025	% वृद्धि (जनवरी -2024 vs जनवरी -2023)	% वृद्धि (जनवरी -2025 vs जनवरी -2024)
पंजाब	149	159	154	7.1%	-3.7%
हरियाणा	141	158	152	12.0%	-3.8%
राजस्थान	297	325	326	9.4%	0.5%
दिल्ली	80	88	83	10.1%	-5.4%
उत्तर प्रदेश	343	374	364	8.9%	-2.5%
उत्तराखंड	43	46	44	7.0%	-3.0%
चंडीगढ़	5	5	4	10.8%	-12.9%
हिमाचल प्रदेश	34	37	38	6.9%	3.1%
जम्मू और कश्मीर (UT) तथा लद्दाख (UT)	62	64	67	4.1%	4.0%
उत्तरी क्षेत्र	1154	1260	1238	9.2%	-1.8%

उत्तरी क्षेत्र की औसत ऊर्जा खपत में वृद्धि(% में) जनवरी-2025/ जनवरी-2024 / जनवरी-2023

औसत ऊर्जा खपत में वृद्धि(% में)

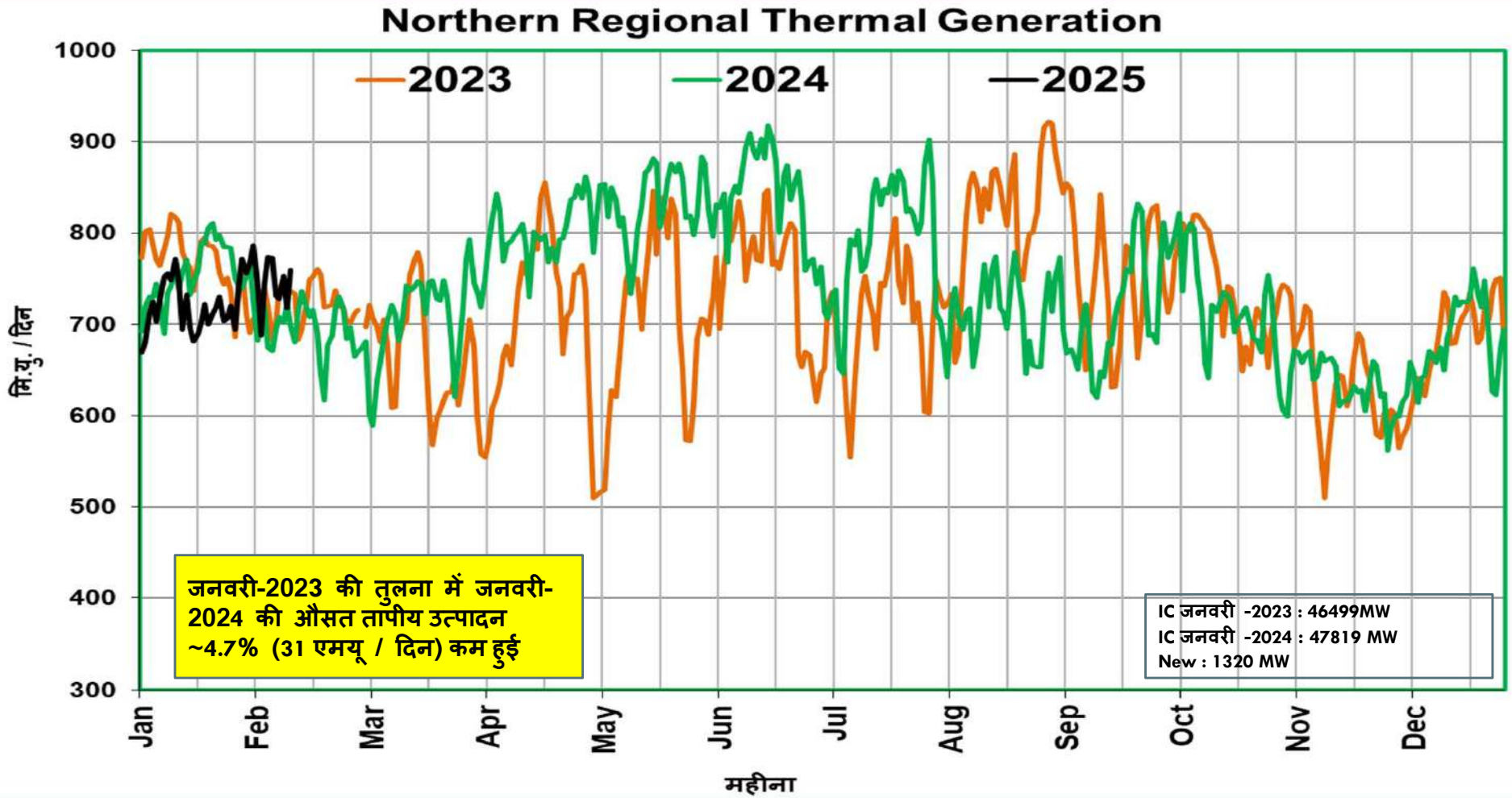


उत्तरी क्षेत्र की ऊर्जा खपत(MUs)

Northern Region Energy Consumption Pattern

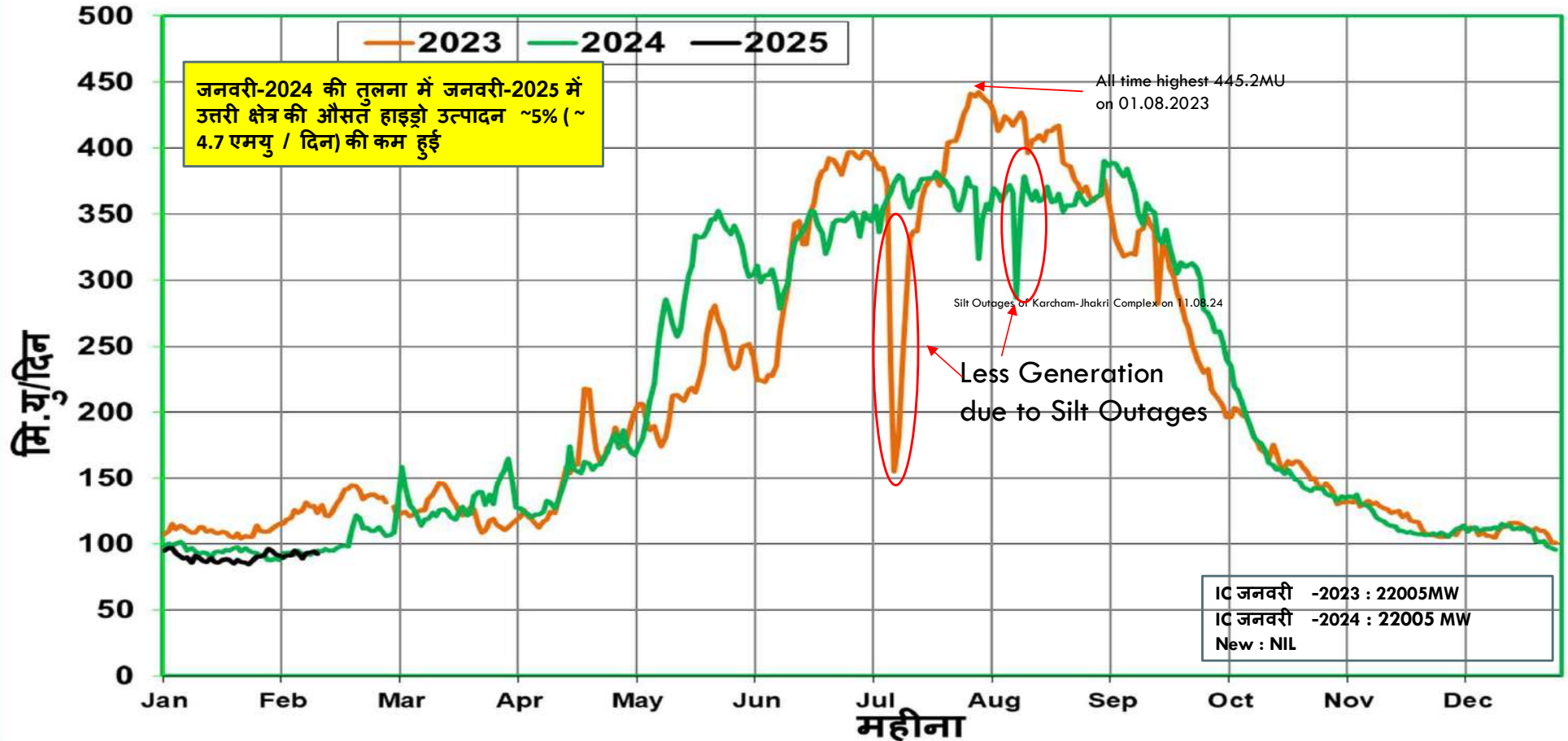


उत्तरी क्षेत्र की तापीय (Thermal) उत्पादन की स्थिति (MUs/Day)

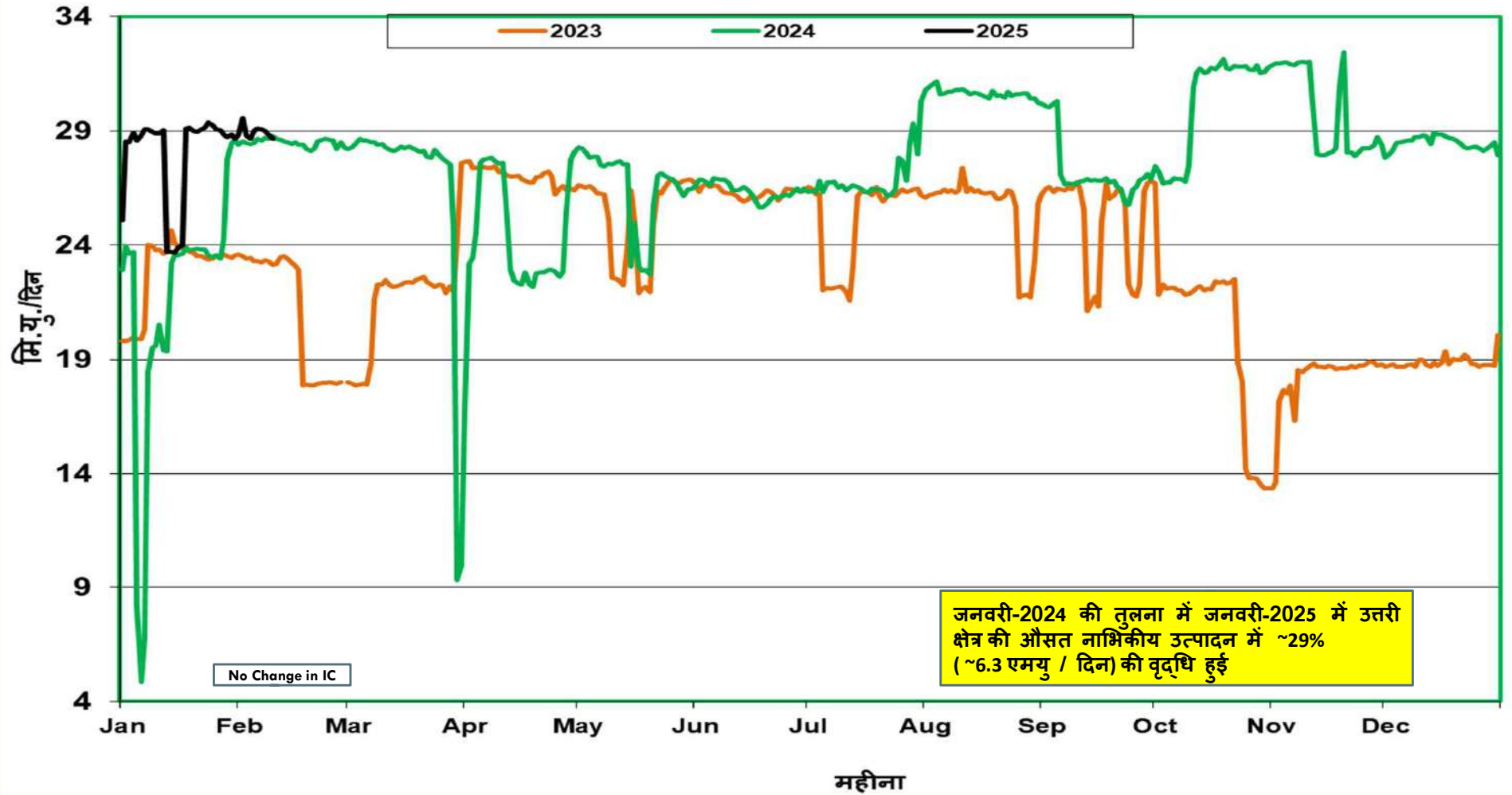


उत्तरी क्षेत्र की जलीय (हाइड्रो) उत्पादन की स्थिति (MU_s/Day)

Northern Regional Hydro Generation

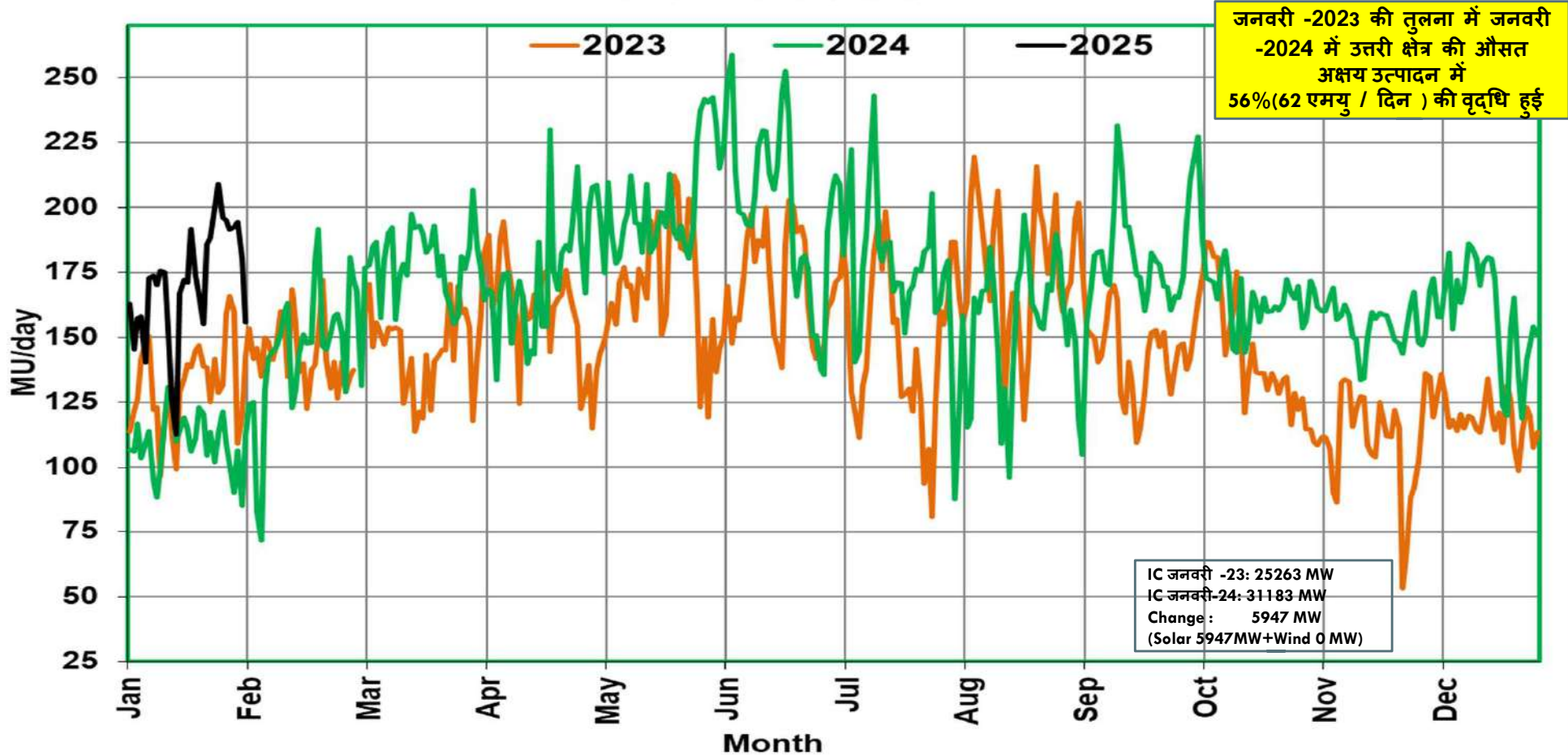


उत्तरी क्षेत्र की नाभिकीय उत्पादन की स्थिति (MUs/Day)

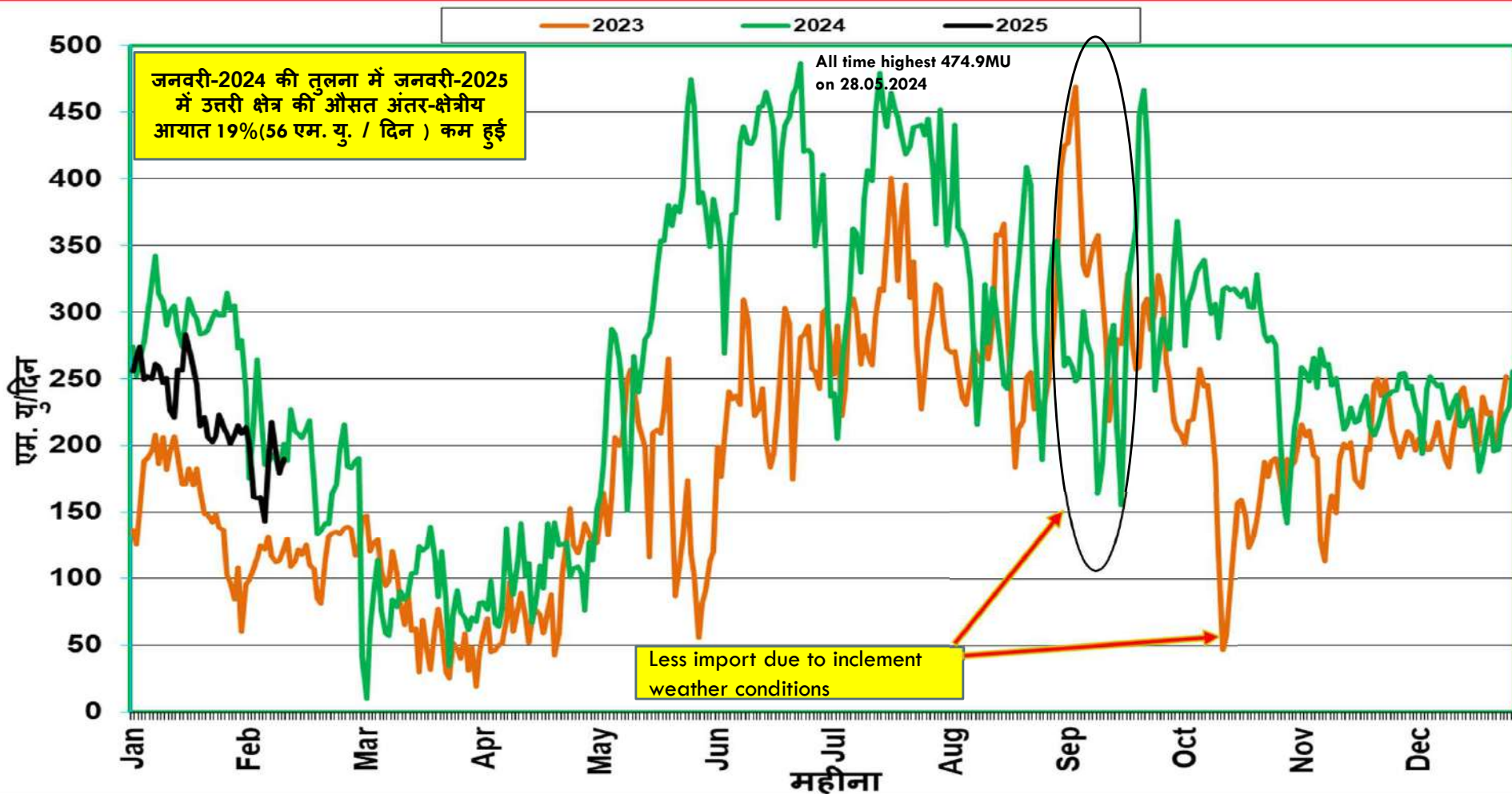


उत्तरी क्षेत्र की अक्षय (Renewable) उत्पादन की स्थिति (MUs/Day)

NR Renewable Generation



अंतर-क्षेत्रीय आयात(MUs/Day) की स्थिति



वास्तविक सारांश -
जनवरी-2024 बनाम जनवरी-2025

	जनवरी-2024 (मि.यु. /दिन)	जनवरी-2025 (मि.यु. /दिन)	जनवरी माह में वृद्धि (मि.यु./दिन)
तापीय (Thermal) उत्पादन	754	723	-31
जलीय (Hydro) उत्पादन	94	90	-5
नाभिकीय (Nuclear) उत्पादन	22	28.0	6
अंतर-क्षेत्रीय (Inter- Regional) कुल आयात	293	237	-56
अक्षय (Renewable) उत्पादन	109	171	62

RE Penetration

Maximum Daily MU Penetration

	Jan '2025		Record upto Dec '2024	
	Max % Penetration	Date	Max % Penetration	Date
Punjab	4.41	15-01-2025	12.28	01-04-2020
Rajasthan	17.76	17-01-2025	36.47	22-10-2021
UP	4.44	25-01-2025	5.50	05-03-2024
NR	16.76	24-01-2025	20.69	02-04-2023

DEMAND FORECAST STATUS OF SLDC

- With reference to the Clause 31(2) of Central Electricity Regulatory Commission-IEGC Regulations, 2023 and the Operating Procedure of NRLDC prepared in accordance with the same, each SLDC has to furnish the demand estimation for day ahead, week ahead, month ahead (with time block wise granularity) and demand estimation for year ahead (with hour granularity). The sub-clause 31(2) (h) of IEGC-2023 states the following timeline for the submission of demand estimate data to RLDC.

Type of Demand Estimation	Timeline
Daily	10:00 hours of previous day
Weekly	First working day of previous week
Monthly	Fifth day of previous month
Yearly	30th September of previous year

- The following is the status regarding forecast data submission.

State/Entity	Day Ahead (2025-26)	Week Ahead	Month Ahead (Mar 2025)	Year-Ahead
Punjab	As per Format	As per Format	Not received	Not received
Haryana	Demand and Resource not as per format	Not received	Not received	Not received
Delhi	As per Format	As per Format	As per Format	Only Demand
Rajasthan	As per Format	Not received	Not received	Not received
Uttar Pradesh	As per Format	Only Demand	Only Demand	Only Demand
Uttarakhand	Demand and Resource not as per format	Only Demand	Not received	Not received
Himachal Pradesh	As per Format	As per Format	As per Format	As per Format
J&K and Ladakh (UT)	As per Format	Not received	As per Format	Not received
Chandigarh (UT)	As per Format	As per Format	Not received	Not received

- In accordance with above, all SLDCs are requested to furnish the demand estimation data as per the formats to NRLDC through mail (nrlcmmis@grid-india.in) and SFTP as per above timeline.

Outage Summary For January 2025

CONSTITUENTS	PLANNED (A)	FORCED OUTAGES (B=C+D)	EMERGENCY SHUTDOWNS (C)	TRIPPING	% PLANNED SHUTDOWNS (A/(A+C))	% EMERGENCY SHUTDOWNS(C/(A+C))	% ESD SHUTDOWNS(C/B)	% TRIPPING	TOTAL OUTAGES (A+B)
				(D)				(D/B)	
POWERGRID	432	293	197	96	68.7%	31.3%	67.2%	32.8%	725
UPPTCL	163	180	72	108	69.4%	30.6%	40.0%	60.0%	343
RRVPNL	83	175	86	89	49.1%	50.9%	49.1%	50.9%	258
PSTCL	84	22	15	7	84.8%	15.2%	68.2%	31.8%	106
HVPNL	43	24	7	17	86.0%	14.0%	29.2%	70.8%	67
BBMB	29	19	11	8	72.5%	27.5%	57.9%	42.1%	48
DTL	16	20	15	5	51.6%	48.4%	75.0%	25.0%	36
SJVNL	29	2	0	2	100.0%	0.0%	0.0%	100.0%	31
ADHPL	24	2	0	2	100.0%	0.0%	0.0%	100.0%	26
HPPTCL	13	9	4	5	76.5%	23.5%	44.4%	55.6%	22
PTCUL	9	13	2	11	81.8%	18.2%	15.4%	84.6%	22
NTPC	10	11	5	6	66.7%	33.3%	45.5%	54.5%	21
NRSS36	1	18	18	0	5.3%	94.7%	100.0%	0.0%	19
GTL	6	3	1	2	85.7%	14.3%	33.3%	66.7%	9
NPCIL	6	2	2	0	75.0%	25.0%	100.0%	0.0%	8
AHEJ4L	4	3	1	2	80.0%	20.0%	33.3%	66.7%	7
PKTCL	6	1	0	1	100.0%	0.0%	0.0%	100.0%	7
PDD JK	0	6	3	3	0.0%	100.0%	50.0%	50.0%	6
ESUCRL	2	2	2	0	50.0%	50.0%	100.0%	0.0%	4
THDC	2	2	2	0	50.0%	50.0%	100.0%	0.0%	4
AHEJ2L	0	3	1	2	0.0%	100.0%	33.3%	66.7%	3
NHPC	1	2	1	1	50.0%	50.0%	50.0%	50.0%	3
Sekura	2	1	0	1	100.0%	0.0%	0.0%	100.0%	3
Total	965	813	445	368	68.4%	31.6%	54.7%	45.3%	1778

OUTAGE SUMMARY OF LAST THREE MONTHS

MONTH	PLANNED	FORCED OUTAGES	EMERGENCY SHUTDOWNS	TRIPPING	% PLANNED as of TOTAL S/D	% EMERGENCY SHUTDOWNS	TOTAL OUTAGES (A+B)
	(A)	(B=C+D)	(C)	(D)	(A/(A+C))	(C/(A+C))	
Oct-24	985	815	434	381	69.4%	30.6%	1800
Nov-24	1117	818	425	393	72.4%	27.6%	1935
Dec-24	1131	882	450	432	71.5%	28.5%	2013
Jan-25	965	813	445	368	68.4%	31.6%	1778

New Elements First Time Charged During Jan 2025

S. No.	Type of transmission element	Total No
1	Transformer	03
2	Solar Plant	03
3	Harmonic Filter	05
Total New Elements charged		11

Transformer

S.No	Name of element	Owner	Voltage Level (HV/LV/Tertiary)	MVA Capacity	Transformer Details	OLD MVA Capacity	Actual date of charging
1	400/220/33kV, 500 MVA, 3-Phase, T&R, ICT - 3 at Hindaun(RS)	RRVPL	400/220/33kV	500	New	NA	15-Jan-2025
2	400/132/33kV, 200 MVA, 3-Phase, T&R, ICT - 3 at Noida Sec 123(UP)	UPPTCL	400/132/33kV	200	New	NA	23-Jan-2025
3	400/220/33kV, 500 MVA, 3-Phase, GE T& D, ICT - 1 at Sahupuri(UP)	UPPTCL	400/220/33kV	500	New	NA	29-Jan-2025

Solar plant

S.No	Plant Name	Pooling Sub-station	Total Capacity charged(MW)	Total Installed Capacity of Plant(MW)	Type of RE	Total No. of Solar ICR/Block Charged	Agency/ Owner	Actual date of charging
1	AMP Energy Green Four Private Limited	Bhadla_2(PG)	53.85 MW	100 MW	Solar	7	AMP_EG4PL	23-Jan-2025
2	Adani Green Energy Twenty Four Limited	Fatehgarh_2	107 MW	500 MW	Solar	9	AGE24L	25-Jan-2025
3	Kolayat Solar Power Plant NTPC Limited	Bhadla_2(PG)	18.32MW	550MW	Solar	3	NTPC_KOLAYAT SL	31-Jan-2025

Harmonic Filter

S.No	Name of element	Owner	Voltage Level (in kV)	Capacitor Bank No	Sub Capacitor Bank MVAR Rating	Capacitor MVAR Rating	Actual date of charging
1	33kV, Harmonic Filter Capacitor Bank, 21 MVAR at AGE24L(Bhimsar)SL_Ftg2_PG	AGE24L	33kV	1	12+9 MVAR Filter bank as per compliances related to Clause B.1 Power Quality Norms. 1x12 MVAR Hi-pass Filter with quality factor of 2, cut off frequency 500 Hz. 1x9 MVAR Single tuned Filter with quality factor of 30, cut off frequency 225Hz.	21	09-Jan-2025
2	33kV, Harmonic Filter Capacitor Bank, 21 MVAR at AGE24L(Bhimsar)SL_Ftg2_PG	AGE24L	33kV	4	12+9 MVAR Filter bank as per compliances related to Clause B.1 Power Quality Norms. 1x12 MVAR Hi-pass Filter with quality factor of 2, cut off frequency 500 Hz. 1x9 MVAR Single tuned Filter with quality factor of 30, cut off frequency 225Hz.	21	09-Jan-2025
3	33kV, Harmonic Filter Capacitor Bank, 21 MVAR at AGE24L(Bhimsar)SL_Ftg2_PG	AGE24L	33kV	2	12+9 MVAR Filter bank as per compliances related to Clause B.1 Power Quality Norms. 1x12 MVAR Hi-pass Filter with quality factor of 2, cut off frequency 500 Hz. 1x9 MVAR Single tuned Filter with quality factor of 30, cut off frequency 225Hz.	21	10-Jan-2025
4	33kV, Harmonic Filter Capacitor Bank, 21 MVAR at AGE24L(Bhimsar)SL_Ftg2_PG	AGE24L	33kV	3	12+9 MVAR Filter bank as per compliances related to Clause B.1 Power Quality Norms. 1x12 MVAR Hi-pass Filter with quality factor of 2, cut off frequency 500 Hz. 1x9 MVAR Single tuned Filter with quality factor of 30, cut off frequency 225Hz.	21	10-Jan-2025
5	33kV, Harmonic Filter Bank , 12 MVAR at AEGPL_SL_BHD2_PG	AMP_EG4PL	33kV	1	12 MVR C-Type (225 Hz)	12	21-Jan-2025



धन्यवाद