सत्यमेव जयते

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 **233** वी बैठक का कार्यवृत |

Subject: Minutes of the **233**rd OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की **233** वीं बैठक दिनांक 15.07.2025 को आयोजित की गयी थी। उक्त बैठक का कार्यवृत्त उत्तर क्षेत्रीय विद्युत समिति की वेबसाइट http://164.100.60.165 पर उपलब्ध है। यदि कार्यवृत पर कोई टिप्पणी हो तो कार्यवृत जारी करने के एक सप्ताह के अन्दर इस कार्यालय को भेजें |

The **233**rd meeting of the Operation Co-ordination Sub-Committee (OCC) of NRPC was held on 15.07.2025. 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: 09-08-2025 08:56:21

(डी. के. मीना)
अधीक्षण अभियंता (प्रचालन)

सेवा में,

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

List of addressee (via mail)

OCC Members for FY 2025-26			
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	sandeepk@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	RAMESHSINGH@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	State Generating Company	ncsharma@ipgcl-ppcl.nic.in
26	HPGCL		seom2.rgtpp@hpgcl.org.in
27	RRVUNL		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	ce-ppr@pspcl.in

		owned Distribution Company	
32	DHBVN	State owned Distribution Company (alphabetical rotational basis/nominated by state govt.)	(cecommercial@dhbvn.org.in)
33	Ajmer Vidyut Vitran Nigam Ltd.		nomination awaited (md.avvnl@rajasthan.gov.in)
34	Purvanchal Vidyut Vitaran Nigam Ltd.		nomination awaited (mdpurvanchalvvnl@gmail.com)
35	UPCL		cgmupcl@yahoo.com
36	HPSEB		cesysophpsebl@gmail.com
37	Prayagraj Power Generation Co. Ltd.	IPP having more than 1000 MW installed capacity	sanjay.bhargava@tatapower.com
38	Aravali Power Company Pvt. Ltd		amit.hooda01@apcpl.co.in
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	Transition Cleantech Services Private Limited	IPP having less than 1000 MW installed capacity (alphabetical rotational basis)	nomination awaited (kswamidoss@evrenenergy.com)
49	UT of J&K	From each of the Union Territories in the region, a representative nominated by the administration of the Union Territory concerned out of the	sojpdd@gmail.com
50	UT of Ladakh		cepdladakh@gmail.com
51	UT of Chandigarh		seelo-chd@nic.in

		entities engaged in generation/ transmission/	
52	Tata Power Delhi Distribution Limited	Private Distribution Company in region (alphabetical rotational basis)	nomination awaited (sandeep.k@tatapower-ddl.com)
53	Gurgaon Palwal Transmission Limited	Private transmission licensee (nominated by central govt.)	nomination awaited (samriddhi.gogoi@indigrid.com)
54	PTC India Limited	Electricity Trader (nominated by central govt.)	nomination awaited (bibhuti.prakash@ptcindia.com)

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उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 233 वीं बैठक का कार्यवृत्त

The 233rd OCC meeting of NRPC was held on 08.07.2025 through video conferencing. MS, NRPC welcomed all the participants connected through VC in the meeting from power utilities of Northern Region.

खण्ड-क:उ.क्षे.वि.स. PART-A:NRPC

A.1. Confirmation of Minutes

Minutes of the 232nd OCC meeting was issued on 08.07.2025. No comments received till now. OCC forum confirmed the minutes of the meeting.

A.2. Status of action taken on decisions of 232nd 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-A.I****.*

A.3. Review of Grid operations of June 2025

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

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

- **Delhi**

  In June 2025, Delhi witnessed an early onset of the monsoon, resulting in subdued peak power demand and energy consumption, which remained significantly lower than anticipated.

- **Haryana**

  The actual demand felt is 11.4% lower than the projected demand in MW. The reason for the same is the substantial reduction in rural agricultural load in the month of June-25 as compared to June-24.

- **Himachal Pradesh**

  The Anticipation in Energy Requirement in respect of Himachal Pradesh for the month of June 2025 came on the lower side due to bad weather (Rain-fall) conditions.

- **Punjab**

  It is intimated that actual energy requirement and actual maximum demand are less than anticipated energy requirement and anticipated maximum demand respectively because of early onset of monsoon and above average rainfall in the month of June 2025 in the state of Punjab.

- **Rajasthan**

  The Actual Peak Demand w.r.t. Anticipated Peak Demand increased by 5.8% due to unexpected temperature rise in state during first fortnight of June 2025 and Energy requirement w.r.t. Anticipated Energy requirement decreased by 7.0% for June' 2025 due to wide rains observed during second fortnight of June 2025 in Rajasthan state control area.

- **Uttarakhand**

  The reason for significant variation in Energy Requirement for month of Jun'25 against anticipated figures) was due to intermittent rainfall/snowfall in this month compared to historical data.

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

The maintenance programme of generating units and transmission lines for the month of August 2025 was deliberated in the meeting on 14.07.2025.

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

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

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
CHANDIGARH	Availability	240	430	No Revision submitted
	Requirement	222	446	
	Surplus / Shortfall	18	-16	
	% Surplus / Shortfall	8.1%	-3.6%	

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
	Availability	5579	8097	
DELHI	Requirement	4150	7450	14-Jul-25
	Surplus / Shortfall	1429	647	
	% Surplus / Shortfall	34.4%	8.7%	
HARYANA	Availability	7260	13640	03-Jul-25
	Requirement	7509	13751	
	Surplus / Shortfall	-249	-111	
	% Surplus / Shortfall	-3.3%	-0.8%	
HIMACHAL PRADESH	Availability	1202	1805	09-Jul-25
	Requirement	1183	1801	
	Surplus / Shortfall	19	4	
	% Surplus / Shortfall	1.6%	0.2%	
J&K and LADAKH	Availability	2050	3370	No Revision submitted
	Requirement	1740	3007	
	Surplus / Shortfall	310	363	
	% Surplus / Shortfall	17.8%	12.1%	
PUNJAB	Availability	9400	17060	14-Jul-25
	Requirement	9885	16700	
	Surplus / Shortfall	-485	360	
	% Surplus / Shortfall	-4.9%	2.2%	
RAJASTHAN	Availability	9960	19410	14-Jul-25
	Requirement	8525	15000	
	Surplus / Shortfall	1435	4410	
	% Surplus / Shortfall	16.8%	29.4%	
UTTAR PRADESH	Availability	16585	30000	05-Jul-25
	Requirement	16430	30000	
	Surplus / Shortfall	155	0	
	% Surplus / Shortfall	0.9%	0.0%	

State / UT	Availability / Requirement	Revised Energy (MU)	Revised Peak (MW)	Date of revision
UTTARAKHAND	Availability	1527	2500	07-Jul-25
	Requirement	1550	2550	
	Surplus / Shortfall	-23	-50	
	% Surplus / Shortfall	-1.5%	-2.0%	
NORTHERN REGION	Availability	55710.0	100100	
	Requirement	54702.0	90500	
	Surplus / Shortfall	1008.0	9600	
	% Surplus / Shortfall	1.8%	10.6%	

A.5.1. Representative of Haryana stated that they will manages the shortfall through Power Exchanges.

A.5.2. Representative of Punjab SLDC informed that the shortfall in Punjab would be met through Real time exchanges.

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.II.***

A.6.2. In 233rd 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.II.I***) before every OCC meeting.

A.7. NR Islanding scheme

A.7.1. In the meeting (233rd OCC), UPPTCL representative apprised that Unchahar-Lucknow Islanding scheme has been successfully implemented and the 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 the same shall be completed by end of July.

A.7.2. With regard to Agra islanding scheme, UPPTCL representative apprised the forum that they have submitted their proposal to the PSDF Secretariat for PSDF funding. A meeting was held on 07.03.2025, during which some queries regarding the scheme were raised and UPPTCL was asked to submit their board

approval. The representative of UPPTCL stated that they are currently preparing responses to the PSDF Secretariat's queries and will resubmit the proposal when it has been approved by the UPPTCL board.

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. A meeting was held on 07.03.2025, during which some queries regarding the scheme were raised. RRVPNL representative informed that responses to these queries has been submitted on 30.05.2025.

A.7.4. RRVPNL representative mentioned that DPR for implementation of Suratgarh islanding scheme would be submitted after the confirmation of PSDF funding from PSDF Sectt. for Jodhpur-Barmer-Rajwest islanding scheme.

A.7.5. Punjab SLDC representative informed that two islanding schemes were approved by NRPC for Punjab Control area as mentioned below-

- NPL Rajpura islanding scheme
- RSD islanding scheme (with only one machine)

These schemes were conceptualized and are based on PMUs and DPR (detailed project report) regarding PSDF funding was submitted for PSDF funding about a year ago. The total estimated cost of scheme is around 20 crores based on re-evaluation done on the pattern of Raipur islanding scheme (similar to schemes proposed by PSTCL) as per directives of authorities sanctioning DPRs for PSDF funding.

A.7.6. MS, NRPC asked concerned representative from Punjab to get the designing aspect of both the islanding scheme vetted by Punjab SLDC and thereafter submit the proposal to NRPC with the undertaking the earlier PSDF funding was not availed for these schemes.

A.7.7. HPSLDC representative apprised that the Monitoring committee of State PSDF has provided approval for State PSDF funding for implementation of proposed UFR scheme for Kullu- Manali islanding scheme and Shimla-Solan Islanding scheme in the meeting held on 22nd April, 2025. He further stated that the procurement of UFRs will be undertaken by HPSEBL. The tentative timeline for the implementation of the schemes to obtain from HPSEBL and shared with the forum in due course.

A.7.8. Further, with regard to Shimla-Solan Islanding scheme he apprised that HPSEBL has done the testing of requisite frequency settings of their generators for islanding scheme.

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

A.8.1. In the meeting, NRPC representative apprised the forum about the coal stock position of generating stations in Northern Region during current month (till 10th July 2025).

A.8.2. The coal stock position of generating stations in Northern Region, having critical stock, during first ten days of July 2025 is NIL.

Station	Capacity (MW)	PLF % (prev. months)	Normative Stock Reqd. (Days)	Actual Stock (Days)
ANPARA C TPS	1200	0.84	15	9.5
ANPARA TPS	2630	0.82	15	22.5
BARKHERA TPS	90	0.01	24	52.3
DADRI (NCTPP)	1820	0.44	24	25.0
GH TPS (LEH.MOH.)	920	0.89	24	20.4
GOINDWAL SAHIB TPP	540	0.70	24	21.7
HARDUAGANJ TPS	1265	0.42	24	44.4
INDIRA GANDHI STPP	1500	0.47	24	47.0
KAWAI TPS	1320	0.70	24	24.7
KHAMBARKHERA TPS	90	0.01	24	49.6
KOTA TPS	1240	0.48	24	27.7
KUNDARKI TPS	90	0.00	24	43.9
LALITPUR TPS	1980	0.72	24	20.8
MAHATMA GANDHI TPS	1320	0.72	24	31.0
MAQSOODPUR TPS	90	0.01	24	55.7
MEJA STPP	1320	0.69	24	22.2
OBRA TPS	1094	0.36	24	13.0
PANIPAT TPS	710	0.57	24	41.3
PARICHHA TPS	1140	0.64	24	17.5
PRAYAGRAJ TPP	1980	0.78	24	28.5
RAJIV GANDHI TPS	1200	0.68	24	36.2
RAJPURA TPP	1400	0.90	24	23.9
RIHAND STPS	3000	0.88	15	22.9
ROPAR TPS	840	0.62	24	33.3
ROSA TPP Ph-I	1200	0.69	24	30.2
SINGRAULI STPS	2000	0.83	15	14.4
SURATGARH TPS	1500	0.28	24	27.6

Station	Capacity (MW)	PLF % (prev. months)	Normative Stock Reqd. (Days)	Actual Stock (Days)
TALWANDI SABO TPP	1980	0.72	24	22.7
TANDA TPS	1760	0.56	24	31.9
UNCHAHAR TPS	1550	0.73	24	27.2
UTRAULA TPS	90	0.00	24	42.5
YAMUNA NAGAR TPS	600	0.61	24	26.9
CHHABRA-I PH-1 TPP	500	0.38	24	28.7
KALISINDH TPS	1200	0.36	24	23.0
SURATGARH STPS	1320	0.45	24	31.4
CHHABRA-I PH-2 TPP	500	0.78	24	21.9
CHHABRA-II TPP	1320	0.63	24	28.9
JAWAHARPUR STPP	660	0.08	24	27.7

A.9. Periodic Testing of generators and FACTS/HVDC Devices (Agenda by NRPC Sectt.)

A.9.1 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.9.2 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 /RLDC/NLDC/ RPC, as the case may be.

A.9.3 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.9.4 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 /RLDC/ NLDC/ 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	(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)	(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	(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.9.5 In accordance with above, Generators and HVDC/FACT owners were supposed to furnish the Testing schedule for 2025-26 by 31st October 2024.

A.9.6 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.9.7 In 73rd 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.

A.9.8 In view of this, a google sheet was prepared and it was 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 73rd NRPC meeting.

A.9.9 EE(O), NRPC informed that information has been received from NHPC for all their hydro plants, THDC regarding the Tehri Hydro Plant, and from SJVN concerning the Nathpa Jhakri plant.

A.9.10 SE(O), NRPC asked Generators and HVDC/FACT owners to furnish Testing schedule for 2025-26 in the format attached at **Annexure-A.III.** to seo-nrpc@nic.in.

Decision of OCC Forum:

OCC forum asked all Generators and HVDC/FACT owners to furnish Testing schedule for 2025-26 in the format attached at Annexure-A.III. to seo-nrpc@nic.in.

A.10. Report of the Committee to Evolve a Mechanism for Ensuring Thermal Generation at Technical Minimum Level for Grid Stability and Renewable Energy Integration (Agenda by NRPC Secretariat)

A.10.1. EE(O), NRPC apprised forum that NPC Division had constituted a committee under the chairmanship of the Member Secretary (NRPC) with representatives from GM Division, CEA, CERC, NLDC, RLDCs as Members and Member Secretary, NPC as the Convener of the committee to resolve the issue of several thermal generators, particularly Central Sector owned units, being scheduled below their technical minimum limits during daytime despite their requirement during non-solar/evening peak demand.

A.10.2. The committee has recommended short term and long-term solutions to ensure Thermal Generation at Technical Minimum level for Grid Stability and RE Integration.

A.10.3. MS, NRPC apprised to the forum the recommendations of the committee as under:

Short Term solutions (within 1 year):

a) Implementation of minimum technical load (MTL) level of 55% immediately on pan India basis and 40% as per phasing plan for all units, irrespective of their ownership at Intrastate/Interstate level and establishment of monitoring mechanism to ensure compliance with the CEA (Flexible Operation of Coal

based Thermal Power Generating Units) Regulations, 2023. **Exemption, if any, may be granted by SERC/CERC on technical ground.**

b) State Grid Codes to be aligned with the Central Electricity Authority (CEA) "Flexible Operation of Coal based Thermal Power Generating Units" regulation 2022, notified in January 2023 and IEGC 2023. Suitable directions need to be issued to SERCs by Ministry of Power/CEA to notify commercial compensation mechanism as per CEA guidelines to ensure the MTL of 55%, which in force from 01.02.2024 as per CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulation 2023 on sustained basis.

c) Generators maintaining MTL of 40-45% may be given more preference (bypassing Merit Order when required for maintaining down reserves) and units may be kept on bar.

d) Directions from RPCs may be issued to existing PSPs to make all pumps operational and use as a load during solar hours as envisaged in Optimal Generation Mix Report of CEA.

e) Time lines for scheduling for all Intra State generators also need to be streamlined/harmonized with CERC IEGC Regulation 2023, which will ensure equitable comparison and similar provisions of scheduling of power.

f) There is a need to create equitable balance between the supply obligation of generators under IEGC Regulation 2023 as well as offtake obligation of drawing entities/ beneficiaries of the generators. Beneficiaries requisitioning power during non-solar hours from an ISGS shall have Offtake obligations from those stations during solar hours. Beneficiaries mandated to maintain a minimum requisition as percentage of maximum requisition in a day, during the lean hours to ensure operationally reasonably schedule during lean hours and availability in non-solar hours. If the ratio cannot be maintained, one or more units from that station could be allowed to be taken under reserve shutdown to replenish down reserves. Once the unit is taken under reserve shut down, the aggregate requisition by beneficiaries in that station should be restricted to the declared capacity corresponding to the units on bar in that station. The proposed ratio of minimum and maximum requisition by the beneficiary in a generating station during a day may be 40%.

g) Optimal number of thermal units may be kept on bar during solar hours by NLDC/RLDC/SLDCs to meet non-solar hours demand. Excess generation is leading to frequency excursions. Empowering NLDC/RLDC/SLDC to take out units under exigencies.

h) Suitable provisions may be provided for higher DSM charges on entities for over-injection or under-drawl by the entities when the grid frequency exceeds 50.05 Hz during solar hours/off-peak hours, irrespective of the nature (both RE and non-RE) of the entities. However, under-injection/over-drawl by the entities

when the grid frequency exceeds 50.05 Hz during solar hours/off-peak hours, irrespective of the entity type (RE or non-RE), should attract a lesser penalty and incentivization may be considered. Further, during the schedule revision under TRAS Emergency provision, over injection may not be allowed and the volume limit may be made as Zero during such time period.

i) Necessary Regulatory provisions for participation of all ISTS & InSTS generators for giving Ancillary Service support to the Grid are required. Ancillary service regulations should be brought out by SERC for intra state level in line with CERC Ancillary Service Regulation. TRAS Shortfall & TRAS Emergency needs to be brought out by all SERC which may include backing down of RE as last resort. Suitable directions need to be issued to SERCs by Ministry of Power/CEA in this regard.

j) NTPC Ltd. shall develop and share Standards Operating Procedure for implementation of 55% minimum turn down level in intrastate thermal power stations. Training program to be conducted in NPTI with support from NTPC Ltd. for employees of state thermal generators/IPPs for running intra state plants upto 55% MTL.

k) Energy storage capacity to be created / augmented in interstate as well as intra-state system. States may accelerate the commissioning of the required storage capacities.

Long Term solutions (Beyond 1 year):

a) Ensuring 40% MTL for all coal based thermal generators both at ISTS & InSTS on sustained basis. Other technological intervention may be considered by generators (storage etc.). Monitoring of the same has to be done rigorously.

b) Two shift operation/taking out units on weekends/holidays/high wind season needs to be implemented. Before implementation two-shift operation of thermal Generating units must be performed on pilot basis in each region and potential damage including wear & tear, O&M, and plant life spans should be thoroughly examined before final implementation. Wear & tear, O&M, plant life spans and cost implications may be recorded properly during pilot two-shift operation.

c) Peaking capacity may be considered with technical and commercial aspects with well-defined rules. This will further optimise number of units on bar, ensuring MTL at solar hours and enable the states to meet the evening peak demand.

d) Energy storage (BESS, PSP etc.) need to be promoted rigorously to integrate the RE targets. BESS installation in existing thermal stations (Both Inter and Intra State thermal stations) may be one of the options for storing excess energy during solar hours.

e) Each control area needs to maintain the reserves (Up & Down) as calculated by NLDC in different timeframes to control and manage the deviations and other grid parameters.

f) Demand response needs to be promoted. Initially large industries with captive generation may be focused.

g) TOD tariff with lower tariff during solar hours and higher tariff during evening needs to be implemented by all SERCs.

A.10.4. MS, NRPC stated that concerned utilities may submit their comments on the recommendations of the committee to NRPC Secretariat.

Decision of OCC Forum:

OCC forum noted the recommendations of the committee. Further, OCC forum asked concerned utilities to submit their comments on the recommendations of the committee to NRPC Secretariat.

A.11. MoU between Powergrid and NTPC for O&M of 400 kV D/C Dadri – Harsh Vihar transmission lines and 400 kV Panipat-2 bays (Agenda by NTPC)

A.11.1. EE(O), NRPC stated that NTPC has informed about signing of the following MOU between Powergrid and NTPC:

1. Operation and Maintenance of NTPC-owned 400 kV Double Circuit (D/C) Dadri – Harsh Vihar transmission lines by Powergrid.
2. Operation and Maintenance of Powergrid-owned 400 kV Panipat-2 bays by NTPC.

A.11.2. NTPC has informed that drafts MOU was subsequently shared with Powergrid on 24.02.2024 for formal signing. Powergrid has conveyed their readiness to proceed with the signing of the MOU mentioned at Sl. No. 2, O&M of Powergrid-owned 400 kV Panipat-2 bays by NTPC. However, consent from Powergrid for the signing of MoU at Sl. No. 1, regarding O&M of NTPC-owned 400 kV Double Circuit (D/C) Dadri – Harsh Vihar transmission lines by Powergrid, is still awaited.

A.11.3. The Member Secretary (MS), NRPC asked NTPC why it cannot carry out the O&M of this line. In response, the NTPC representative stated that NTPC does not possess the expertise for the O&M of high voltage transmission lines.

A.11.4. The Powergrid representative stated that their views have already been conveyed to NTPC during a meeting held between CGM, Powergrid NR-1 and HOD, NTPC Dadri. He further mentioned that since the said line is a dedicated line supplying power to Delhi, it may be handed over to DTL for O&M.

A.11.5. DTL representative stated that since the line is owned by NTPC, the O&M should be carried out by NTPC.

A.11.6. MS, NRPC asked Powergrid to deliberate on the matter bilaterally with NTPC and convey their decision to NTPC within the next 15 days.

Decision of OCC Forum:

OCC Forum asked Powergrid to deliberate the matter bilaterally with NTPC and convey their decision on the matter to NTPC in the next 15 days.

A.12. Unplanned Long shut down of 220kV Anta- RAPPC transmission line (Agenda by NPCIL)

A.12.1. EE(O), NRPC apprised the forum 220 KV RAPP-C-Anta transmission line shutdown was planned from 09.06.2025 to 18.06.2025. However, multiple times extension was taken & shut down was extended up to 01/07/2025 for NHAI diversion works.

A.12.2. NPCIL has submitted that RAPS-C (2x2220MW) and RAPS-D (RAPP-7, 700MW) start-up power is drawn from 220 KV RAPP-B to RAPP-C tie lines and RAPP-C-Anta line. One of the start-up power sources was not available since long period putting challenges on start-up power supply sources for Nuclear Power Plants, which is not a desirable condition.

A.12.3. NPCIL representative stated that planned works must be completed in the approved shutdown period and multiple times extension may not be allowed.

A.12.4. Powergrid NR-1 representative submitted that restoration of the line was delayed due to ROW issues and prevailing conditions at the site due to rain. He further mentioned that they have raised the concern to NHAI.

A.12.5. EE(O), NRPC asked when the line was restored. To which Powergrid representative replied that it was charged on 05.07.2025.

A.12.6. MS, NRPC asked Powergrid to properly coordinate with NHAI and plan the shutdown after all ROW issues are resolved and complete the work within the approved shutdown period.

Decision of OCC Forum:

OCC Forum Powergrid to properly coordinate with NHAI and plan the shutdowns after all ROW issues are resolved and complete the work within the approved shutdown period.

A.13. N-1 Contingency violation in 220KV Lines feeding power to Jammu city (Agenda by Powergrid NR-II)

A.13.1. EE(O), NRPC apprised the forum that Powergrid NR-II has submitted that JKPTCL has urgently requested for upgradation of 220 KV transmission lines to HTLS Conductors to address capacity constraints for Gladni and Chowadhi grid sub-stations.

A.13.2. Powergrid NR-II proposed reconductoring of following ISTS lines with HTLS Conductors (High capacity) as immediate relief to Address Capacity Constraints in the area:

i. 220KV Salal Jammu-1
ii. 220KV Salal Jammu-2
iii. 220KV Jammu-Chowadi
iv. 220KV Chowadi-Samba
v. 220KV Samba Hiranagar
vi. 220KV Hiranagar Sarna

A.13.3. Powergrid NR-II representative stated that load requirements of Jammu city is fed through following Lines:

1. 220KV Salal Jammu-1, ACSR Zebra Conductor, thermal capacity 188MW
2. 220KV Salal Jammu-2, ACSR Moose conductor thermal capacity 211MW
3. 220KV Samba-Chowadi-Jammu, ACSR Zebra thermal capacity 188MW

A.13.4. Powergrid NR-II representative mentioned that these lines are getting overloaded. Further, in case of outage of 220KV Salal - Jammu lines, load shedding is done in some parts of the Jammu city. Therefore, reconductoring of these lines with HTLS conductor is proposed.

A.13.5. Representative of JKPTCL stated that around seventy percent of load of Jammu is fed through 220KV Salal Jammu-1 & 2. In case of outage of these lines load curtailment needs to be done. Therefore, reconductoring of these lines is urgently required.

A.13.6. CTU representative stated that in the 38th CMETS NR meeting JKPTCL representative mentioned the requirement of reconductoring of 220kV Samba - Hiranagar Transmission Line and it was asked to send detailed proposal to CEA/CTU to analyse the reconductoring of above line.

A.13.7. NRLDC representative stated that the reconductoring proposal needs to be vetted through simulation studies. He suggested that JKPTCL representative may approach CTU for simulation studies and thereafter the proposal may be deliberated in the CMETS meeting.

A.13.8. MS, NRPC asked JKPTCL and CTU to conduct simulation studies jointly for reconductoring proposal and thereafter the proposal may be deliberated in the upcoming CMETS meeting.

Decision of OCC Forum:

OCC forum asked JKPTCL and CTU to conduct simulation studies jointly for reconductoring proposal and thereafter the proposal may be deliberated in the upcoming CMETS meeting.

A.14. Replenishment of 03 number of transformers issued to DTL, HVPNL & RVPNL (Agenda by Powergrid NR-II)

A.14.1. EE(O), NRPC apprised the forum that Powergrid has submitted that following transformers were issued from POWERGRID to different utilities on replenishment basis as per request of Utilities:

Sr. No.	ICT Capacity (MVA)	Sent fron substation	Sent to Substation	Utility	Sent on
1	250	Moga (PG)	Nawada	HVPNL	Mar-16
2	315	Ludhiana (PG)	GSS Surpura (Jodhpur)	RVPNL	Nov-23
3	315	Ludhiana (PG)	Mundka	DTL	Apr-23
4	315	Mandola (PG)	Bawana	DTL	Jan-22
5	315	Mandola (PG)	Tikrikalan	DTL	Feb-20
6	315	Ballabgarh (PG)	Tikrikalan	DTL	Mar-24

A.14.2. MS, NRPC expressed serious concern regarding the non-return of the transformers. She requested HVPNL, RVPN, and DTL to submit the target dates for returning the transformers.

A.14.3. Haryana SLDC representative informed that HVPNL has decided to return the cost of the transformer to Powergrid. He suggested Powergrid to take up the matter with HVPNL.

A.14.4. Rajasthan SLDC representative stated that RVPN has informed that ICT diverted to GSS Surpura (Jodhpur) would be returned by Oct'25.

A.14.5. DTL representative stated that they have floated the tender and scheduled to open on 04.08.2025. He further mentioned that earlier their tenders were dropped two times.

A.14.6. NRLDC representative stated that non-return of the transformers reduces reliability of the system, as the spares would not be available in case of urgent requirement. He further mentioned that STUs should also maintain sufficient reserves.

A.14.7. MS, NRPC asked Powergrid to submit draft guidelines regarding return and rent recovery of spare transformers for consideration by the forum.

Decision of OCC Forum:

OCC forum asked Powergrid to submit draft guidelines regarding return and rent recovery of spare transformers for consideration by the forum. Further, forum asked DTL to return the ICTs at the earliest.

A.15. Shifting of 220kV Patti-Verpal Single Circuit from Verpal end to 400kV PGCIL Amritsar (Agenda by PSTCL)

A.15.1. PSTCL representative stated that PSTCL had submitted application on NSWS portal on 23rd May 2024 for the relocation of the 220kV Patti-Verpal Single Circuit line from the 220 kV Verpal end to the 400kV substation PGCIL Amritsar (Balachak). CTUIL had raised concerned about the single bus bar arrangement at the 220kV substation Patti.

A.15.2. He further mentioned that in the meeting held on 15.01.2025 among CEA, NRPC, CTUIL and PSTCL to discuss the issue regarding connectivity agreement of shifting of 220kV Rashiana-Verpal and 220kV Patti-Verpal single circuit lines to 400kV Substation PGCIL Amritsar (Balachak) it was decided that at present CTUIL may grant the connectivity considering that Patti Substation was commissioned in 1989 much before notification of above-mentioned Regulations and space constraints at the Substation. Thereafter, vide various correspondences with CTUIL, the draft agreement for Shifting 220kV Patti-Verpal Single Circuit lines to 400kV Substation PGCIL Amritsar (Balachak) has yet not been issued by CTUIL.

A.15.3. SE(O), NRPC mentioned that in the meeting held on 15.01.2025 it was also decided that a team comprising of CEA, CTUIL, Grid-India, Power Grid and NRPC may visit the site to study the matter in details and to recommend the measures to be taken by PSTCL for ensuring the reliability of power supply and upgradation of the substation.

A.15.4. CTU representative stated that the connectivity agreement for shifting 220kV Patti-Verpal Single Circuit lines to 400kV Substation PGCIL Amritsar (Balachak) is under processing and it would be finalized in two weeks.

A.15.5. MS, NRPC asked CTU to expedite the connectivity agreement.

Decision of OCC Forum:

OCC forum asked CTU to finalize the connectivity agreement within 15 days.

A.16. Retrofitting of Automatic Fire Fighting System (NIFPS) on 10MVA & above Rating Power Transformers in the State of Uttarakhand (Agenda by UPCL)

A.16.1. UPCL representative stated that as per CEA safety regulation 2023, every transformer of 10MVA and above rating shall be provided with automatic fire fighting system as per relevant standards. Therefore, they have proposed to retrofit automatic fire fighting system (NIFPS) through PSDF funding on more than 400 power transformers of 10MVA & above rating in UPCL.

A.16.2. MS, NRPC suggested UPCL to consider water spray system in place of NIFPS as there are some issues in the specifications of NIFPS.

A.16.3. UPCL representative agreed to review the proposal in line with observations of MS, NRPC.

Decision of OCC Forum:

OCC forum asked UPCL to consider water spray cooling system .

A.17. Installation of LT Capacitor Banks on Distribution Transformers in the State of Uttarakhand (Agenda by UPCL)

A.17.1. UPCL representative stated that the proposal of Installation of Reactive Power Solution on 33/11 KV substations in Uttarakhand was approved in 71st meeting of NRPC (Northern Regional Power Committee) held on 29.01.2024. However, the proposal was turndown by the PSDF Committee due to insufficient funds in PSDF account.

A.17.2. UPCL representative proposed 100% funding through PSDF for the project in the general interest of providing better supply to the consumers as UPCL is not financially sound and the project will enhance health and safety of Grid.

A.17.3. MS, NRPC asked UPCL whether the proposal was not considered in RDSS.

A.17.4. UPCL representative mentioned that some other works were done for loss reduction under RDSS.

A.17.5. MS, NRPC further enquired weather capacitor banks were installed under any other scheme in UPCL. In response, UPCL representative mentioned that earlier 50 Capacitor banks were installed through state funding.

A.17.6. MS, NRPC suggested UPCL to get the proposal vetted through SLDC for further consideration in NRPC. She further suggested including voltage profile of the area where installation of the LT Capacitor Banks are proposed in the DPR.

Decision of OCC Forum:

OCC forum asked UPCL to get the proposal vetted through SLDC for further consideration in NRPC. Forum further suggested including voltage profile of the area where installation of the LT Capacitor Banks are proposed in the DPR.

A.18. Enhancement of capacity of 400 kV Hissar-BBMB-Bawana transmission system by replacement of existing moose conductor with HTLS conductor (Agenda by Powergrid NR-I)

A.18.1. EE(O), NRPC apprised the forum that Powergrid has submitted that 400 kV Hissar-BBMB-Bawana transmission system with 400 kV Hissar-Bawana & 400 kV Hissar-BBMB & 400 kV BBMB- Bawana system was commissioned in 1995. Subsequently, the original transmission system has been LILO at several grid substations resulting in increased power flow through the above transmission system. Further, due to heavy pollution in the area, rusting has made around 30% of towers of corridor very weak. The said pollution effect along with ageing and increased power flow has resulted in frequent breakdown of above transmission system feeding power to Delhi.

A.18.2. Therefore, Powergrid has proposed replacement of existing corridor with HTLS conductor and replacement of defective towers at cost estimate of Rs 197 Crores

A.18.3. CTU representative stated that the loadings of 400 kV Hissar-Bawana & 400 kV Hissar-BBMB & 400 kV BBMB- Bawana along with loading of ICTs at Hisar need to be studied. Thereafter the proposal may be taken up in the upcoming CMETS meeting.

A.18.4. NRLDC representative stated that most of the tripping in this system are occurring in Bawana - Bahadurdagh section. Further, the system has not yet completed its usefule life. Therefore, he suggested that a third-party inspection may be carried out to assess the requirement of replacement of defective towers and reconductoring. Further, he agreed to share the loading data with CTU for the study.

A.18.5. SE(O), NRPC asked CTU to conduct the study and thereafter the agenda may be taken up in the upcoming CMETS meeting.

Decision of OCC Forum:

OCC forum asked CTU to conduct the study within 15 days and thereafter the agenda may be taken up in the upcoming CMETS meeting.

A.19. Review of Switchgear Adequacy and Proposal for Installation of Fault-Limiting Reactors at 400kV Meerut (PG) Substation (Agenda by Powergrid NR-I)

A.19.1. EE(O), NRPC apprised the forum that Powergrid NR-I has submitted that POWERGRID Meerut Substation has been in operation since 2002–03, with the original switchgear in the 400kV switchyard rated for 40kA. With the later integration of the 765kV system and energization of new transmission lines and ICTs, additional bays were commissioned with switchgear rated for 50kA. Recently, NRLDC published its Reactive Power Management document (December 2024), which indicates that the fault levels at the 400kV bus of Meerut Substation have reached as high as 63kA under various system conditions.

A.19.2. Therefore, Powergrid has requested to deliberate the adequate measures to be taken to ensure healthiness of switchyard equipment's & reliable operation of Meerut Substation in view of increased short circuit fault level.

A.19.3. CTU representative agreed that fault levels have increased in several stations in Punjab, Haryana and UP. He stated that the immediate solution is the replacement of switchgear for which detailed studies are required.

A.19.4. NRLDC representative stated that they have mentioned the issue in the operational feedback also. He suggested that CTU may carry out studies to resolve the issue. Data required for the studies would be shared by NRLDC.

A.19.5. SE(O), NRPC asked CTU to carry out studies and submit recommendations within three months to reduce fault levels at 400kV Meerut (PG) Substation.

Decision of OCC Forum:

OCC forum asked CTU to carry out studies and submit recommendations within three months to reduce fault levels at 400kV Meerut (PG) Substation.

A.20. Proposal of Process bus-based solution for 400kV Switchyard of 400/220kV Bassi Substation (Agenda by Powergrid NR-I)

A.20.1. EE(O), NRPC apprised the forum that Powergrid NR-I has submitted that Control/Power cables laid in the trenches at 400/220kV Bassi substation have depreciated largely due to wear and tear. Outer insulating layer and arm has been damaged due to ageing, and it causes multiple DC earth faults and mixing in rainy and foggy weather. Hence, Powergrid NR-1 has submitted the proposal for implementation of process bus-based solution for 400kV Switchyard of 400/220kV Bassi Substation with a tentative cost estimate of ₹21 crore under ADD-CAP (2024-29)

A.20.2. EE(O), NRPC mentioned that similar agenda of Powergrid was deliberated in 53rd TCC/ 78th NRPC meeting and it was decided that the said agenda may firstly be deliberated from technical perspective in the upcoming TeST meeting.

A.20.3. SE(O), NRPC asked Powergrid weather the agenda was discussed in the TeST meeting. In response, Powergrid submitted that it has not been deliberated in the TeST meeting.

A.20.4. SE(O), NRPC stated that the agenda may be deliberated from technical perspective in the upcoming TeST sub-committee meeting.

Decision of OCC Forum:

OCC decided that the agenda may be deliberated in upcoming TeST sub-committee meeting for technical perspective.

A.21. Shutdown consent/Approval of Bus-1 & 2 at 400kV Ballabhgarh and 220kV System at Hisar for Jack Bus Replacement work (Agenda by Powergrid NR-I)

A.21.1. EE(O), NRPC apprised the forum that Powergrid NR-I Powergrid has requested shutdown consent for Bus-1 and Bus-2 at 400kV Ballabhgarh Substation for a duration of four (04) continuous days, to facilitate the safe and timely replacement of the jack bus. Further, Powergrid has also requested shutdown of the 220kV system at Hisar Substation, also for a period of four (04) days, to enable the replacement of the existing jack bus with a twin conductor arrangement.

A.21.2. EE(O), NRPC informed that in 230th OCC meeting Haryana SLDC agreed to facilitate 400 kV bus -1&2 shutdown at Ballabgarh Substation after commissioning of Kadarpur Substation of HVPN. Further, regarding shutdown of 200KV Buses at Hisar substation Powergrid NR-1 was asked coordinate with concerned officials and conduct a joint visit at site to explore the feasibility of the shutdown

A.21.3. Powergrid representative informed that they had sent a letter in this regard to Chief Engineer, HVPNL. However, consent for shutdown has not been provided yet.

A.21.4. Delhi SLDC representative stated that shutdown of Bus-1 & 2 at 400kV Ballabhgarh may be planned after 15th October.

A.21.5. Haryana SLDC representative stated that Powergrid may take up the matter with HCPNL.

A.21.6. SE(O), NRPC asked Powergrid to hold a meeting with HVPNL to deliberate the matter.

Decision of OCC Forum:

OCC forum asked Powergrid bilaterally have a meeting with HVPNL and DTL to deliberate the matter and plan the shutdown with consent of HVPNL and DTL.

A.22. Returning of spare 400/220 kV 315 MVA ICT provided by POWERGRID to DTL & RVPNL (Agenda by Powergrid NR-I)

Agenda deliberated together with A.14. Please refer deliberations under A.14.

A.23. Implementation of Travelling Wave Fault Locator (TWFL) in Critical Renewable & NCR lines in Northern Region-I under Additional Capitalisation for tariff block 2024-29 (Agenda by Powergrid NR-I)

A.23.1 EE (O), NRPC apprised that in POWERGRID, Travelling Wave Fault Locators (TWFL) devices have been installed in 765kV and Inter-regional lines in a previous phase, prior to 2015. POWERGRID has mentioned that based on their experience in pilot projects, TWFL has been found to be capable of detecting fault locations with high accuracy, within a range of one tower span or 0.5 km.

A.23.2 Powergrid submitted that technique used in TWFL is unaffected by factors such as line transpositions, mutual coupling of parallel lines, or changes in line construction. It provides high-quality results for all types of faults, including high-resistance ground faults and open circuits. As a result, the implementation of TWFL on lines will enable accurate fault location detection, leading to quicker restoration times, reduced outages, and improved system reliability.

A.23.3 Based on various parameter like line terrain, power flow capacity, generator connectivity, tripping frequencies, installation of TWFL in 06 nos. 765 kV Lines, 08 nos. 400 kV lines & 02 nos. 220 kV lines in Northern Region-1 at estimated expenditure of Rs 6.91 Cr has been proposed. List of lines proposed for installation of TWFL by POWERGRID NR-I is mentioned as below:

Sl. No.	Description of Line	Line Length (approx. in	Criticality

		KM)	
1.	**765kV Transmission lines for TWL Installation**:		
1.1	Ajmer-Bhadla-2 Ckt-1&2	326	RE connected
1.2	Banaskantha-Chittorgarh Ckt-1&2	302	RE connected, Inter regional line
1.3	Bhadla2-Fatehgarh2 Ckt-1 & 2	185	RE connected
1.4	Bhadla2-Fatehgarh2 Ckt-3&4	185	RE connected
1.5	Moga-Bikaner Ckt-1&2	367	RE connected, Intern regional line
1.6	Bhadla-1-Fatehgarh-2 Ckt-1&2	185	RE connected
2.	**400kV Transmission lines for TWL Installation**		
2.1	Dadri-Panipat Ckt-1&2	122	Generator and both end other utilities
2.2	Dehradun-Baghpat S/C	164	Passing through forest area
2.3	Jaipur(S)-RAPP D S/C	122	Generator and both end other utilities
2.4	Dehradun-Roorkee S/C	79	Passing through forest area
2.5	Kota – Merta S/C	255	One end other utility
2.6	Kankroli – RAPP S/C	198	One end other utility
2.7	Saharanpur-Bagpat	120	Passing through forest area
2.8	Roorkee-Kashipur Ckt-1& 2	150	One end other utility

3.	**<u>220kV Transmission lines for TWL Installation</u>**		
3.1	Anta-Bhilwara Ckt-1&2	186	Both end other utilities
3.2	RAPP(B)-Debari	230	Generator and both end other utilities

A.23.4 POWERGRID mentioned that in hilly terrain, TWFL has been found quite effective in quicker fault detection in case of line fault compared to conventional DR/DL technology.

A.23.5 MS, NRPC enquired from POWERGRID about their experience with TWFL technology, based on the pilot installations carried out on their 765 kV lines. She further asked whether the data from the pilot project substantiates the claim that TWFL helps reduce fault restoration time and facilitates quicker system recovery.

A.23.6 ATIL informed that they have also installed TWFL on their 400 kV transmission line transmitting power from the Godda Thermal Power Station in India to the Bangladesh grid. They observed that while conventional distance relays typically indicate a fault location within a margin of 3 to 4 towers, TWFL provides the precise tower location of the fault.

A.23.7 Further, MS NRPC was of view that POWERGRID and NRLDC may jointly evaluate and submit criteria for installation of TWFL lines.

A.23.8 EE (O), NRPC enquired whether POWERGRID has installed TWFL on their transmission lines in other regions as well. POWERGRID responded that, during the pilot phase, the technology was installed in the Western Region

A.23.9 MS, NRPC asked about the mode of implementation of TWFL installations in other regions—specifically, whether they have been undertaken under ADD-CAP or O&M.

Decision of OCC Forum:

OCC forum asked Powergrid to substantiate with data their claim of precise fault location and faster restoration—by comparing scenarios with and without TWFL and referred the matter to protection sub-committee.

A.24. Demolition and reconstruction of residential/ non-residential buildings in the substation premises at 400kV Bassi Substation through Additional Capitalization in Tariff Block 2024-29 (Agenda by Powergrid NR-I)

A.24.1 EE(O), NRPC apprised that Powergrid has mentioned that the residential and non-residential buildings at Bassi substation were constructed under the Rihand Transmission System between (1992 -1993) and are currently in service. These assets shall complete approximately 32 years of useful service life during the 2024-29 Tariff Block. Total 65 nos. residential quarters, 01 no transit camp & 01 no recreation club was constructed at Bassi as residential & non-residential buildings.

A.24.2 Subsequently, the demolition and reconstruction of residential and non-residential buildings within the substation premises at Ballabhgarh, Bassi, Mandola and Hisar Substation were proposed during the 216th OCC meeting held on February 14, 2024, through Additional Capitalization in the 2019-24 Tariff Block.

A.24.3 During the meeting, forum suggested that structural assessment of these projects may be carried out by an appropriate agency, such as NCCBM. Subsequently, the proposal may be taken up for approval in the NRPC meeting.

A.24.4 NCCBM conducted an assessment at the Bassi substation, including the residential quarters, transit camp, and recreation center. The final assessment report was submitted to POWERGRID on 10th March 2025.

NCCBM's recommendation for Bassi Substation is provided based on the findings of the detailed assessment report.

QUOTE

“Considering the buildings are load bearing structures, these quarters buildings are not safe for living in its present condition. Also, it seems that if the repair of these buildings will be done, it won’t increase the service life of the structures.” (Detail assessment report of Bassi SS is attached as Annexure-A.X of agenda)

UNQUOTE

A.24.5 Considering the above, Powergrid has proposed to demolish the old and deteriorated residential quarters and non-residential buildings (Transit Camp and Recreational Centre) at the Bassi station and rebuild them under the Rihand Transmission System through Additional Capitalization in the 2024-29 Tariff Block with a tentative cost of ₹27.41 crore including of GST. Detail cost estimate will be submitted after approval.

Tentative cost estimate for demolition and reconstruction of residential and non-residential buildings at Bassi SS		
Residential building		
	No of quarter	Estimated cost in crore (Inclusive of GST)

Colony quarters (including demolition of old quarters & site development works)	23	22.66
Non- Residential building		
Transit camp	1	2.33
Recreation center	1	2.42
Total		27.41 Crore

A.24.6 Powergrid has proposed for demolishing and reconstructing the building at Bassi substation with a tentative cost estimate of ₹27.41 crore under ADD-CAP (2024-29).

A.24.7 SE(O), NRPC enquired that out of 65 mentioned residential quarters, only 23 are proposed for reconstruction.

A.24.8 POWERGRID replied that 65 residential quarters are at Bassi S/s and assessment has been carried out for all of them. However, due to reduced manpower requirements at present, fewer quarters are now proposed.

A.24.9 MS, NRPC enquired what is the useful life for civil infrastructure with the standards specified in CPWD norms.

A.24.10 POWERGRID mentioned that as Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, depreciation rate for existing projects are specified in Appendix-I to these regulations for the assets of the generating station and transmission systems.

A.24.11 SE (O), NRPC enquired from POWERGRID about the basis used for the cost calculation of the project. In response, POWERGRID stated that the cost were calculated based on CPWD standard rates.

A.24.12 MS, NRPC was of view that matter may be taken up in NRPC meetings for the consolidated views of constituents.

Decision of OCC Forum:

OCC forum was of view that matter may be taken up in NRPC meetings for the consolidated views of constituents.

A.25. Implementation of minimum clearance b/w conductor and road surface in the 220kV transmission line of POWERGRID (Agenda by Powergrid NR-III)

A.25.1 EE(O), NRPC apprised that Powergrid NR-3 has mentioned that recently during routine CEA inspection of transmission assets under O&M, at some locations of the following transmission lines, clearances of the bottom conductor with the NH

(National Highway) road surface are found less than the permissible limits of 12.52m as per recent CEA safety regulations 2023.

Sr no	Line name	Commissioned in the year	Span	Clearnce of bottom conductor with NH road surface (in m)
1	220 kV D/C Unchahar-Kanpur-1&2 line	**1999**	192-193 & 433-434	10.83m & 10.3m
2	220 kV D/C Unchahar-Kanpur-3&4	**2000**	195-196	7.74m
3	220 kV D/C Kanpur-Naubasta & Kanpur-Kidwainagar line	**2003**	38-39	9.1m

These lines were commissioned long year back as per prevailed applicable guidelines.

A.25.2 POWERGRID has submitted that it is ready to maintain road surface clearances as per recent CEA safety regulations 2023 with the deemed outages and financial implications for supply & installations of new Towers etc. with AddCap.

A.25.3 SE, UPPTCL mentioned that they had taken up the matter with CEA, and it was clarified by CEA that the minimum clearance norms specified in the CEA Safety Regulations, 2023 apply to newly constructed lines. However, for critical existing lines where raising work is required andto be carried out, CEA advised UPPTCL to approach the respective State Electricity Regulatory Commission (SERC) for guidance on how the financial implications would be addressed.

A.25.4 MS, NRPC asked POWERGRID to check whether these clearance norms for the bottom conductor over National Highways is applicable for 220kV lines also.

A.25.5 MS, NRPC instructed all transmission utilities in the Northern Region to ensure strict compliance with the clearance norms for the bottom conductor over National Highways as per the recent CEA Safety Regulations, 2023.

Decision of OCC Forum:

OCC forum asked all transmission utilities in the Northern Region to ensure strict compliance with the clearance norms for the bottom conductor over National Highways as per the recent CEA Safety Regulations, 2023 and suggested financial implications for supply & installations of new Towers etc. The agenda may be put-up in NRPC meeting.

A.26. Shifting of 220 KV line bays of 220 KV Kurukshetra(PGCIL) — Salempur D/C line from bay no. 05 & 06 to 07 & 08 at 800 KV Grid S/Stn. Kurukshetra PGCIL as well as modalities involved in connectivity agreement (Agenda by CTUIL)

A.26.1 EE(O), NRPC apprised that HVPNL vide their letter dated 17.06.25 requested CTU to provide permission for shifting of 220 KV line bays of 220 KV Kurukshetra (PGCIL) — Salempur D/C line from bay no. 05 & 06 to 07 & 08 at 800 KV Grid S/Stn. Kurukshetra PGCIL.

A.26.2 HVPNL has submitted the following in the above cited letter:

- 220 KV Kurukshetra (PGCIL) — Salempur D/C line is running from 800 KV Grid S/ Stn. Kurukshetra PGCIL and connected at bay no. 05 & 06.
- At 800 KV Grid S/Stn. Kurukshetra PGCIL, 02 no. bays bay no. 07 & 08 are reserved for HVPNL for connecting 220 KV Kurukshetra — Ramana Ramani D/C line.
- To avoid crossing of existing 220 KV Kurukshetra(PGCIL) — Salempur D/C line with upcoming 220 KV Kurukshetra — Ramana Ramani D/C line, the 220kV Kurukshetra(PGCIL) — Salempur D/C line is required to be shifted at bay no. 07 & 08 from bay no 05 & 06 at 800 KV Grid S/Stn. Kurukshetra PGCIL. HVPNL vide application no. 2200002035 for connecting 220 KV Kurukshetra — Ramana Ramani D/C line at 800 KV Grid S/Stn. Kurukshetra PGCIL has already applied to CTU for necessary approval.
- In view of the above, HVPNL has requested necessary permission for shifting of 220 KV line bays of 220 KV Kurukshetra(PGCIL) — Salempur D/C line from bay no. 05 & 06 to 07 & 08 at 800 KV Grid S/Stn. Kurukshetra PGCIL may lease be granted to avoid unnecessary crossing of 02 no. 220 KV transmission lines.

A.26.3 Powergrid vide mail 08.07.25 to HVPN informed that the 220 kV GIS system at POWERGRID Kurukshetra Substation, comprising 12 bays (2 ICT + 8 line bays), was commissioned on 23.03.2017. From a technical standpoint, POWERGRID have no objection to HVPNL's proposal for shifting the Ramana–Ramana D/C line to the existing Bay Nos. 209 & 210 (currently assigned to Salempur–1 & 2), and relocating the charged Salempur–1 & 2 lines to Bay Nos. 211 & 212. However, Powergrid requested to obtain the necessary approval from NRPC/NRLDC for the proposed modification.

A.26.4 Further, following the approval, and in addition to the bay shifting works, Powergrid has requested HVPNL to urgently carry out the following activities to facilitate line charging:

1. **Shifting of PLCC equipment** for the existing Salempur–1 & 2 lines.
2. **Commissioning of new PLCC panels** for the Ramana–Ramana D/C line.

A.26.5 NRLDC vide mail 10.07.25 informed HVPN to apply NRLDC for first time charging for shifting of 220kv line bays of 220kv Kurukshetra- (PG)- Saleempur D/c line bay

5&6 to 7&8 at Kurukshetra S/s with standing committee meeting approval and connectivity agreement from CTU.

A.26.6 CTU has requested that matter may be deliberated in OCC forum for shifting of 220 KV line bays of 220 KV Kurukshetra(PGCIL) — Salempur D/C line from bay no. 05 & 06 to 07 & 08 at 800 KV Grid S/Stn. Kurukshetra PGCIL as well as modalities involved in connectivity agreement.

A.26.7 CTU informed the forum that POWERGRID has given its consent for the proposed bay swapping work, subject to approval by any appropriate forum of NRPC. It was also clarified that the said work would be executed by HVPNL at their own cost.

A.26.8 Further, CTU seeked clarification from NRLDC regarding the requirement of the Connectivity Agreement at the time of charging — specifically, whether the connectivity agreement would need to reflect the old bay configuration or the new bay arrangement.

A.26.9 GM, NRLDC stated that upon approval of the proposed work by this forum, HVPNL may proceed with the execution of a new Connectivity Agreement and submit the necessary details on the FTC portal accordingly.

A.26.10 SE(O), NRPC mentioned that since bay numbers 05, 06, 07, and 08 are reserved for Haryana, there is no objection to the proposed bay swapping. Accordingly, approval may be accorded for shifting the 220 kV line bays of the 220 kV Kurukshetra (PGCIL) – Salempur D/C line from bay numbers 05 & 06 to 07 & 08 at the 800 kV Grid Substation, Kurukshetra (PGCIL).

Further, the CTU may also process the Connectivity Agreement for the Ramana–Ramana D/C line to be connected with the existing bay numbers 05 & 06.

Decision of OCC Forum:

OCC forum agreed for shifting of 220 KV line bays of 220 KV Kurukshetra (PGCIL) — Salempur D/C line from bay no. 05 & 06 to 07 & 08 at 800 KV Grid S/Stn. Kurukshetra PGCIL. Further, CTU was advised to process connectivity agreement for the Ramana–Ramana D/C line to the existing bay no. 05 to 06.

A.27. Table agenda No. 1 - Charging of dead D/C 400kV Dadri-Harsh Vihar Circuits from Dadri end in case of any 400kV lines tripping (Agenda by DTL)

A.27.1. DTL representative submitted the following:

i. The D/C 400kV Dadri-Harsh Vihar line was tripped on 21.05.2025, at 20.00Hrs & 20.07Hrs respectively at 400/220/66kV GIS Sub-station Harsh Vihar, during the heavy storm in the evening. Next day, during the patrolling by NTPC Dadri team (Being the owner & maintained by NTPC Dadri) of this line, they have observed that tower no. 24 (tension type DD+25) of 400kV Dadri-Harsh Vihar line (Ckt-1 & 2) was found collapsed. The D/C 400kV Dadri-Harsh Vihar line

was restored on 22.06.2025 after installing the new tower at place of collapsed tower no.24.

ii. After resistance from DTL's end and with the help of NRLDC, the said 400kV Dadri-Harsh Vihar Ckt-I was charged from Dadri NTPC end and after then second circuit was back charged from Harsh Vihar end.

iii. In this regard, it is to state that DTL's 400KV Harsh Vihar substation is having radial connectivity at 400kV level with 400kV Dadri S/Stn and no other 400kV Source/ Feed is available at 400kV Level at this substation. During that period, there was no voltage at 400kV level available and both 400kV buses were dead at 400/220/66kV Harsh vihar GIS S/Stn.

iv. There is no provision mentioned in Operating Procedure that 400kV line must be back charged through ICT from grid substation even when there is no voltage at 400kV level & 400kV buses are dead, i.e. first charge 315MVA transformer from 220kV side and then charge 400kV buses and then charge their dead 400kV line.

v. As per NRLDC Operating Procedure cl. No (vii) ***"All precautions should be taken to avoid switching on to fault particularly in case of Interconnecting Transformers. In order to avoid fault current through costly equipment generally the line shall be charged from the far end, wherever possible".***

vi. Therefore, back charging of dead line by back charging through Interconnecting Transformers is also not in line with operating procedure.

vii. If any decision is taken for back charging dead 400kV line through ICT, then this may lead flow of fault current to ICT, Korean make GIS, 220kV cables which are costly equipment in the GIS Substation and any damage to any of these costly equipments may take generally long time for restoration as these are not available readily and manufacturing of the same will take longer time after placing the PO. Further, any damages to these equipment's may affected power supply for many days in eastern part of Delhi.

viii. Further, last year this kind of operation i.e. back charging of dead 400kV Dadri-Harsh vihar line through ICT-1 was done in the night on 06.06.2024 and as a result, DTL's one no. 315 MVA, ICT-I was got damaged/faulty

A.27.2. In view of above, DTL requested that henceforth, during any tripping of both 400kV ckts, then either

(a) Both dead 400kV Dadri-Harsh Vihar Ckt-I & II should be charged from Dadri NTPC end

Or

(b) Any one dead 400kV Dadri-Harsh Vihar Ckt-I or II should be charged from Dadri NTPC end and after then second circuit will be back charged from 400kV GIS S/Stn Harsh Vihar end.

A.27.3. NTPC representative stated that 400kV Dadri-Harsh Vihar Ckt-I was charged from Dadri NTPC end since no unit was running at that time. However, generally the line is only synchronised from generation end when the units are running.

A.27.4. NRLDC representative stated that as per operating procedure a transmission line which has a generating station at one end and a grid substation at another end and shall preferably be charged from the grid substation. Deadline charging by a generator shall normally be avoided except during system restoration, black start, or in case where both ends of the transmission line are terminating at two generating stations or the other and of the line has no other source of power. Further, before charging it is necessary to ensure that there are no faults in the line.

A.27.5. SE(O), NRPC asked NRLDC whether any modification is required in the operating procedure.

A.27.6. CGM, NRLDC stated that aforementioned provision of the operating procedure is followed in all regions of the country. Regarding the apprehension of DTL and Delhi SLDC that ICT may fail during such charging; NRLDC representative mentioned that equipment's protection system must be in place to operate in such condition. He mentioned that charging of dead 400kV Dadri-Harsh Vihar Ckt-I & II may affect around 2000 MW generation in the Dadri Complex along with HVDC line, which may result in the grid collapse.

A.27.7. DTL and Delhi SLDC representative submitted that dead line may be charged from Dadri end by a separate bus. In response, NTPC representative submitted that it is not desirable since critical operations are involved in separating the bus.

A.27.8. SE(O), NRPC stated that since the agenda was submitted by DTL as table agenda, it may be deliberated again as agenda in the next OCC meeting. CGM, NRLDC agreed to include the agenda under part B in the next OCC meeting.

Decision of OCC Forum:

OCC forum decided that the agenda may be taken up by NRLDC in the next OCC meeting.

A.28. Table agenda No. 2 - Controlling overloading of 400kV Jhatikra –Bamnauli Line (Agenda by DTL)

A.28.1. DTL submitted that the issue of controlling of overloading of 400 kV Bamnauli-Jhatikra line (one circuit) was discussed in the 221th OCC meeting on 19.07.2024.

A.28.2. In the meeting, DTL representative explained that reason for high loading of Bamnauli – Jhatikara ckt is the LILO of one of the Bamnauli –Jhatikara Ckts at

Dwarka which has resulted in reducing the capacity of the Delhi ring corridor. It is very much essential to restore the original Delhi ring by restoring the Bamnauli – Jhatikara ckts and the Dwarka line should emanate from Bamnauli.

A.28.3. Further, DTL submitted that PGCIL is planning double ckt line from Jhatikara to Dwarka under evacuation renewable energy from Rajasthan which includes construction of 765 KV Narela Sub-station and associated transmission lines.

Restoring of both Jhatikara – Bamnauli ckts will result in flow of 1900 MW on each of the ckts as originally planned for Delhi Ring Main. It is worth mentioning that LILO for Dwarka has been done near Bamnauli Sub-Station.

A.28.4. Accordingly, the issue of restoring the integrity of the 400kV Delhi Main Ring by removing the single-circuit LILO of Jhatikra–Bamnauli at Dwarka and terminating both Dwarka circuits directly at Bamnauli Substation was discussed in an online meeting with PSPA-1, CEA and Powergrid on 03.03.2025.

A.28.5. Based on the deliberation held in the meeting on 03.03.2025, POWERGRID and DTL were requested to carry out the joint visit for the DTL proposal regarding removal of LILO of 400kV Jhatikara-Bamanauli at 400kV Dwarka.

A.28.6. POWERGRID informed that joint survey was carried out at Bamnauli substation on 10.03.2025 by a team of DTL and POWERGRID.

A.28.7. Powergrd apprised that the draft report of joint survey has been provided to DTL for consent vide mail dated 15.03.2025.

Salient Points of joint survey report is provided below:

- The line LILO of 400kV Jhatikra-Bamnauli at Dwarka can be diverted from tower no. 05 (AP4) to the Bamnauli substation with construction of 02 nos 400kV towers within DTL Bamnauli premises and further termination at Bay no. 23& 24 at Bamnauli Substation.
- The line/bay equipment's/C&P for termination of Dwarka- Bamnauli D/C is not available at Bamnauli Substation.
- The line route for construction of 02 nos towers is within DTL premises and passing through forest/trees/bush area.

A.28.8. However, DTL vide letter dated 29.05.2025 has replied to Powergrid that the construction of 02 nos. of 400 kV line bays for termination of 400 kV D/C Dwarka-Bamnauli at Bamnauli shall be undertaken by POWERGRID.

A.28.9. Since then, there is no progress in restoration of the 400kV Delhi Main by removing the single-circuit LILO of Jhatikra–Bamnauli at Dwarka and terminating both Dwarka circuits directly at Bamnauli Substation.

A.28.10. MS, NRPC asked POWERGRID and DTL to submit the signed report of the joint site visit to CEA within 15 days, clearly stating the scope of work to be undertaken

for the removal of the LILO of the 400 kV Jhatikara–Bamnauli line at 400 kV Dwarka.

Decision of OCC Forum:

OCC forum directed POWERGRID and DTL to submit the signed report of the joint site visit to CEA within 15 days, clearly stating the scope of work to be undertaken for the removal of the LILO of the 400 kV Jhatikara–Bamnauli line at 400 kV Dwarka.

A.29. Table agenda No. 3 - Controlling Installation of 315 MVA 400/220kV Synthetic Ester Oil based Transformer in Delhi-NCR (Agenda by POWERGRID NR-1)

A.29.1. POWERGRID apprised forum that it has developed one number Synthetic Ester Oil based 315 MVA 400 / 220 Transformer in association with M/s Hitachi which is a first-of-its-kind, highlighting technological progress in the field of 400kV class Power Transformer in India due to following advantages:

- **Fire Safety**: Synthetic esters have a **high flash point (275–315°C)** and **fire point (317–355°C)**, significantly reducing fire risk compared to mineral oils.
- **Environmental Safety**: These fluids are **readily biodegradable** and **non-toxic**, minimizing ecological damage in case of leaks or spills.
- **Moisture Tolerance**: Synthetic esters can absorb more moisture without compromising insulation, which helps **extend transformer life** and **reduce aging of cellulose insulation**

A.29.2. Powergrid has submitted that in the document “STANDARD SPECIFICATIONS AND TECHNICAL PARAMETERS FOR TRANSFORMERS AND REACTORS (66 kV & ABOVE VOLTAGE CLASS)” published by CEA, it is mentioned that utilities may use Ester (synthetic/natural) fluid for Transformer/Reactor as per their requirement.

A.29.3. Further, Powergrid mentioned that for ease of designing and adoptability, said transformer does not have OLTC due to fact that type tested OLTC with ester oil was not available during engineering stage.

A.29.4. To facilitate close monitoring of the transformer's performance, POWERGRID is of view to commission the new transformer at Bhiwadi, replacing the existing ICT-2 unit, based on the following considerations:

a) Bhiwadi is located in proximity to Delhi and is equipped with a state-of-the-art oil-testing laboratory, enabling comprehensive monitoring and in-depth analysis of the transformer's insulating oil. The performance data obtained through this monitoring can be valuable for future optimization of design and technical specifications.

b) The existing ICT-2 transformer at Bhiwadi has been exhibiting high levels of fault gases, indicating a potential vulnerability that could compromise reliable power supply if not addressed.

Additionally, it is noted that no OLTC operations have been carried out at the Bhiwadi substation for the past five years, suggesting that the absence of OLTC in the proposed transformer would not adversely impact system operation at this location.

A.29.5. In this regard, POWERGRID has proposed for replacement of 315 MVA 400/220kV ICT-2 with 315 MVA 400/220kV Synthetic Ester Oil based Transformer at Bhiwadi without any cost implication to constituents. Further, POWERGRID has requested that the outage period for replacement to be considered as deemed available.

A.29.6. MS, NRPC asked POWERGRID to obtain confirmation from NRLDC regarding the grid operational feasibility of installing the proposed ICT with Synthetic Ester Oil technology at Bhiwadi without an OLTC. This confirmation is necessary to ensure that the absence of OLTC does not adversely affect grid reliability or operational flexibility from a regional system perspective.

A.29.7. MS, NRPC stated that decision on deemed availability would be dealt separately after examination of the cited matter by NRPC Sectt. as per CERC tariff regulation.

Decision of OCC Forum:

OCC forum asked POWERGRID to obtain confirmation from NRLDC regarding the grid operational feasibility of installing the proposed ICT with Synthetic Ester Oil technology at Bhiwadi without an OLTC.

खण्ड-ख: उ.क्षे.भा.प्रे.के. Part-B: NRLDC

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

NRLDC representative presented the following grid highlights for month of Jun'2025:

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	460	12.06.25 at 14:00	9.28	12.06.25	7.13
2	Delhi	8442	12.06.25 at 23:09	174.03	12.06.25	140.87
3	Haryana	13499	23.06.25 at	281.94	13.06.25	244.63

			14:00			
4	H.P.	1943	11.06.25 at 10:00	42.55	11.06.25	38.26
5	J&K	2869	13.06.25 at 13:00	61.75	07.06.25	55.59
6	Punjab	16754	28.06.25 at 15:00	351.56	13.06.25	307.26
7	Rajasthan	18260	13.06.25 at 11:00	388.01	11.06.25	316.37
8	UP	31486	11.06.25 at 00:45	656.26	12.06.25	564.32
9	Uttarakhand	2910	11.06.25 at 22:00	62.41	12.06.25	52.94
*10	Northern Region	90850.3	12.06.25 at 15:45	2023	12.06.25	1727.37

*****As per SCADA

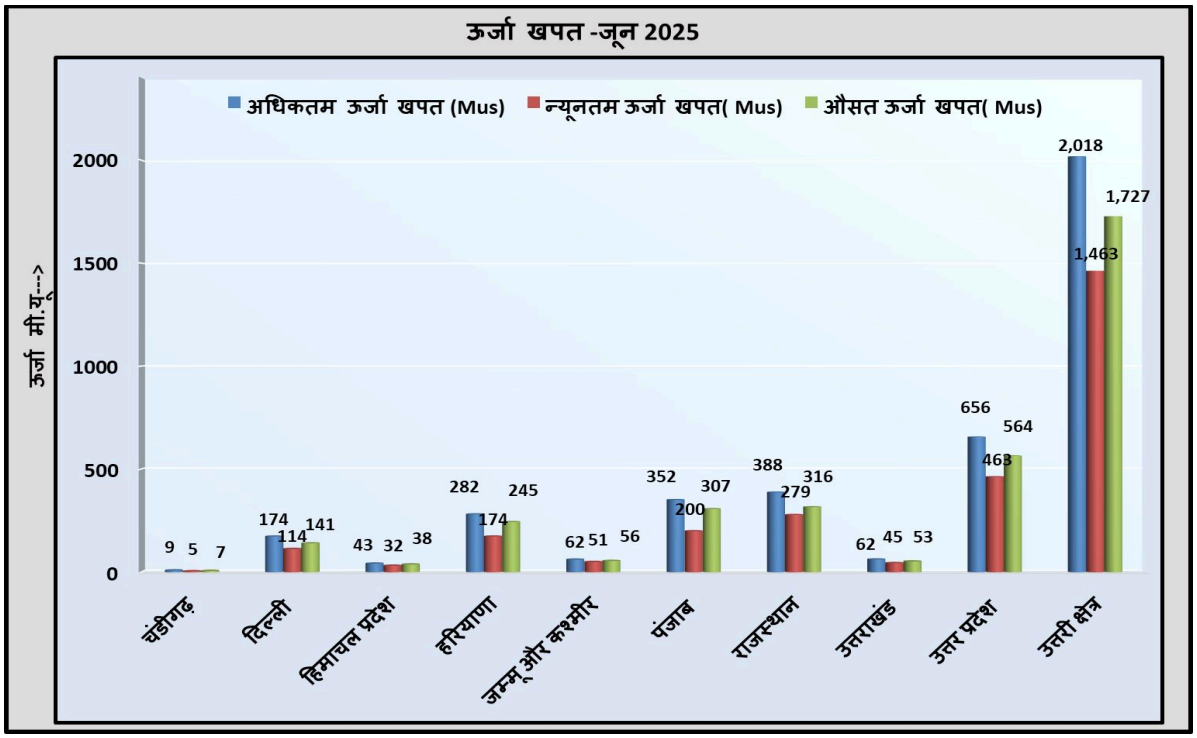
- In June'25, the Maximum energy consumption of Northern Region was 2023 MUs on 12th June'25 and it was 1.85% higher than June'24 (1986.1 MU 18th June'24)
- In June'25, the Average energy consumption per day of Northern Region was 1727.37 MUs and it was 4.51% lower than June'24 (1809 MUs/day)
- In June'25, the Maximum Demand met of Northern Region was 90850 MW on 12th June'25 @15:45 hours (as perSCADA data) as compared to 91234 MW on 19th June'24 @14:37hours.

Comparison of Average Energy Consumption (MUs/Day) - June'24 vs June'25

क्षेत्र/राज्य	मई- 2024	मई- 2025	% अंतर
चंडीगढ़	6.76	6.2	-8.3%
दिल्ली	135.74	123	-9.4%
हिमाचल प्रदेश	34.61	36.6	5.7%
हरियाणा	220.61	200.4	-9.2%
जम्मू और कश्मीर	52.95	50.2	-5.2%
पंजाब	233.5	214.5	-8.1%
राजस्थान	331.61	309.3	-6.7%

उत्तराखंड	53.81	50	-7.1%
उत्तर प्रदेश	563.11	515	-8.5%
उत्तरी क्षेत्र	**1636.96**	**1505**	**-8.1%**

Energy Consumptions



Northern Region all-time high value recorded in June'25:

States	Max. Demand Met (MW)	Date and time	Energy Consumption (MUs)	Date
Chandigarh	460	12.06.25 at 14:00	9.3	12.06.25
Uttarakhand	2910	11.06.25 at 22:00	62.4	12.06.25
Punjab	16754	28.06.25 at 15:00		
U.P	31486	11.06.25 at 00:45		

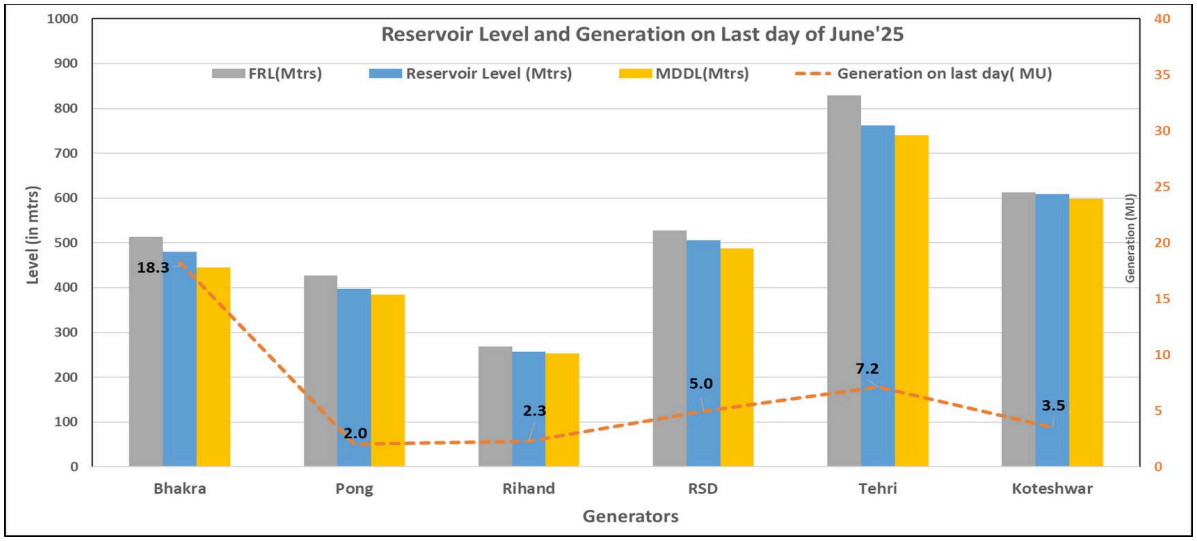
Rajasthan			388.0	11.06.25
HP			42.6	11.06.25
Northern Region			2023	12.06.25

***As per Format28/hourly data submitted by states in PSP

Frequency profile

Month	Avg. Freq. (Hz)	Max. Freq. (Hz)	Min. Freq. (Hz)	<49.90 (% time)	49.90 – 50.05 (% time)	>50.05 (% time)
June'25	50.002	50.381 *(29.06.25 at 13:48:50 hrs)*	49.549 *(29.06.25 at 22:10:40 hrs)*	7.56	71.85	20.60

Reservoir Level and Generation on Last Day of Month



Reservoir Level on last day of June month (Low: -ve) (High: +ve)

Year	Bhakra	Pong	Rihand HPS	RSD	Tehri	Koteshwar
2025	480	398	258	505	763	609
2024	484	398	260	502	751	596
Diff (in m)	-3.3	-0.2	-2.4	3.2	11.4	13.1

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

NRLDC presentation also included highlights regarding the portal being developed at NRLDC end for forecast file data sharing by NR states. OCC forum appreciated the efforts made from NRLDC side and asked all SLDCs to submit data as requested by NRLDC as per IEGC 2023 clauses.

OCC forum appreciated the efforts made from NRLDC side.

B.2 State-wise transmission constraints in monsoon 2025

During the high demand season, the transmission system in Northern region remains heavily loaded. Transmission constraints observed in the grid during high demand period are regularly being highlighted in OCC meetings. The same is also being submitted to CTUIL and CEA through quarterly operational feedback.

Even after several follow-ups, it is observed that progress of several transmission elements are not up to the mark and expeditious actions from transmission utilities are required so that minimal issues are observed at transmission level during the high demand season.

NRLDC representative presented the records that were broken in last one month:

- Maximum demand met:
  - Punjab: 17,250MW on 05.07.2025
  - UP: 31,381MW on 11.06.2025

- Energy consumption:
  - Rajasthan: 387MUs on 12.06.2025
  - HP: 41.5MUs on 12.06.2025
  - Chandigarh: 9MUs on 12.06.2025
  - Northern region: 2023MUs on 12.06.2025

State-wise issues and measures required thereof as discussed in the meeting are listed below.

Punjab:

NRLDC representative stated that the loading of 400/220kV ICTs supplying power to Punjab state is within the N-1 limits when import is close to the ATC limits and suggested that Punjab SLDC further reviews the ATC/TTC assessment for paddy 2025 for any further enhancement also considering other constraints at 220kV level.

NRLDC representative requested Punjab SLDC to share measures taken for minimizing outages of Talwandi Saboo thermal generating units. It was also mentioned that Unit-1 was under outage from 14.06.2025 to 16.06.2025 due to abnormal boiler sound.

Punjab SLDC representative stated that PSPCL has been taking up the matter with TSPL generating station. Punjab SLDC and PSPCL will further take up the matter with TSPL.

Punjab SLDC informed that the studies for review of ATC/TTC enhancement of Punjab state control area is under progress.

NRLDC representative further asked Punjab SLDC to study/review any intrastate constraints being observed in 220kV network as maximum demand of Punjab has also crossed 17000MW recently.

Punjab SLDC assured that no major transmission constraints are being observed in intrastate level even when demand crossed 17000MW. Further, studies after review of ATC/TTC enhancement of Punjab will be submitted to NRLDC at the earliest.

Haryana:

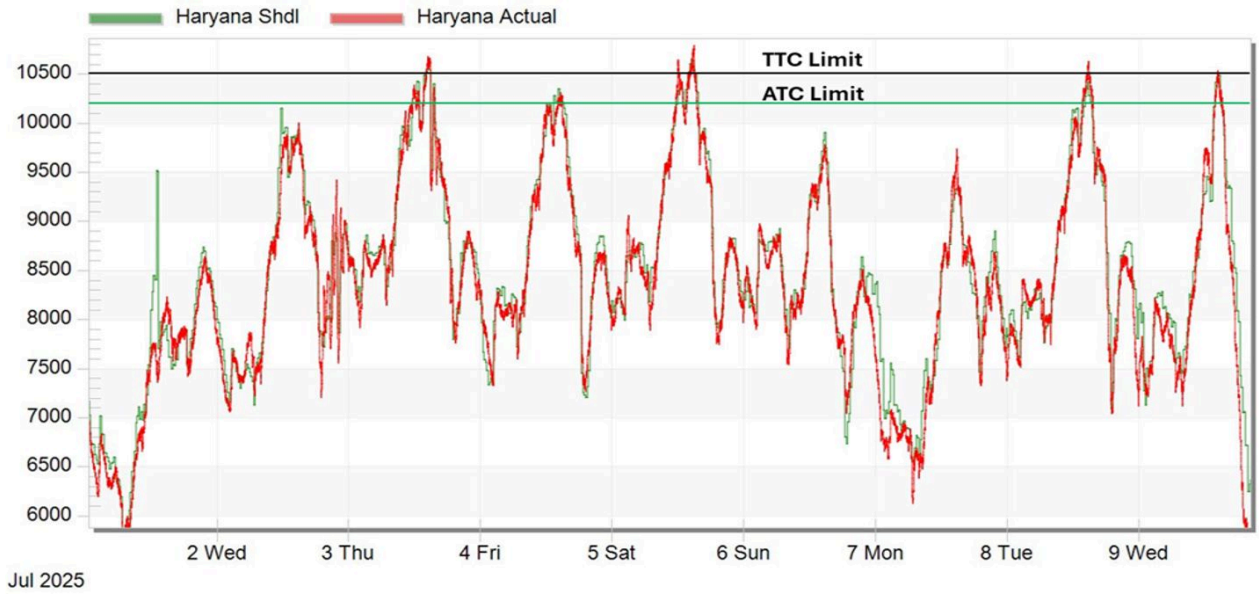
NRLDC representative requested HVPN regarding:

- Action plan for N-1 non-compliance being observed in real-time at 765/400kV Bhiwani, 400/220kV Panipat (BBMB), Kabulpur, Hisar ICTs by Haryana SLDC.
- SPS implementation till ICT capacity augmentation.
- Measures required for minimising MVAR drawl from ISTS to avoid low voltages.

There was a separate meeting on 16.06.2025 between Haryana SLDC and NRLDC to review ATC/TTC of Haryana. Simulation studies were carried out keeping power order of Champa-Kurukshetra as 4500MW, Mundra-Mahendragarh HVDC as 2000MW and considering LILO of 220kV Samalkha-Mohana D/C at Sonepat(PG). Internal generation of Haryana state was considered around 3200MW.

Further, NRLDC recommended Haryana SLDC to maximise internal generation of Haryana and ensure drawl within the ATC/TTC limits.

NRLDC representative highlighted that schedule as well as actual drawl by HVPNL is crossing the ATC/TTC limits during several time blocks.



After revival of 400kV Mahendragarh-Bhiwani D/C and 400kV Bhiwani-Babai D/C lines, following are present ATC/TTC limits of Haryana state:

- 10200/10500MW

After implementation of SPS at 765/400kV Bhiwani(PG) and 400/220kV Hissar(PG), following would be tentative ATC/TTC limits:

- 10600/10900MW

Haryana SLDC representative informed that MoM of 27.06.2025 meeting would be issued shortly by NRPC. After issuance of MoM and implementation of SPS by POWERGRID at 765/400kV Bhiwani(PG), request for enhancement of ATC/TTC of Haryana state would be made to NRLDC.

Further, 400/220kV 315MVA ICT-1 at Kabulpur which is under long outage is also expected to be revived by 20.07.2025.

Rajasthan:

Constrained location	Status as available with NRLDC
N-1 contingency of 3*315=945 MVA ICT at Bhiwadi(PG)	Additional 500MVA ICT approved in 29 CMETS on 17.05.2024
N-1 contingency of 2*315+500=1130 MVA ICT at Bassi(PG)	Additional 500MVA ICT has been approved. Same is anticipated by 14.12.2025.
N-1 contingency of 315+500=815 MVA ICT at Neemrana(PG)	Additional 500MVA ICT has been approved in 36 NR CMETS held on 15.01.2025.
N-1 contingency of 2*500=1000	Additional 500MVA ICT has been

MVA ICT at Jaipur South(PG)	approved in 36 NR CMETS held on 15.01.2025.
N-1 contingency of 2*315+500=1130 MVA ICT at Sikar(PG)	Additional 500MVA ICT has been approved in 38 NR CMETS held on 28.05.2025..
N-1 contingency of 3*315=945 MVA ICT at Kankroli(PG)	ICT-4 has been approved and is expected to be commissioned by 22.09.2025.
N-1 contingency of 2*315=630 MVA ICT at Kotputli(PG)	Augmentation by 400/220 kV 500 MVA (3rd) ICT at Kotputli (PG) is expected by 31.12.2025
N-1 contingency of 2*315=630 MVA ICT at Deedwana(RVPN)	As per latest status shared by Rajasthan SLDC order for 10 no. ICT has been placed recently. New 500MVA ICTs are expected to be commissioned at 400/220kV Merta, Ajmer and Bikaner by Sep 2025. SPS has been implemented as temporary measure for some of the stations such as Chittorgarh (RVPN), Ajmer (RVPN), Merta (RVPN), Bikaner (RVPN), Jodhpur (RVPN), Suratgarh(RVPN), Ratangarh(RVPN)
N-1 contingency of 3*250+315=1065 MVA ICT at Heerapura(RVPN)	
N-1 contingency of 3*315 =945 MVA ICT at Chittorgarh (RVPN)	
N-1 contingency of 2*315 =630 MVA ICT at Ajmer (RVPN)	
N-1 contingency of 2*315 =630 MVA ICT at Merta (RVPN)	
N-1 contingency of 2*315 =630 MVA ICT at Bikaner (RVPN)	
N-1 contingency of 2*315 =630 MVA ICT at Jodhpur (RVPN)	
N-1 contingency of 2*315=630 MVA ICT at Suratgarh(RVPN)	
N-1 contingency of 3*315=945 MVA ICT at Ratangarh(RVPN)	
N-1 contingency of 1*500+1*315 =815 MVA ICT at Bhilwara (RVPN)	

RRVPNL representative informed that:

- Work order has been placed for improvement of condition of 400kV Bhadla-Bikaner D/C and also upgradation of terminal equipment. Work is expected to be completed by Dec 2025.

- Proposal of upgradation of terminal equipment for other lines is being prepared and order would be placed shortly.
- Supply of 100 no. total 5.43MVAr capacitors has been done and in next 1-2 months all the supplied capacitors would be commissioned.
- Proposal of 100no.s capacitor banks through PSDF funding are under development.
- Jaipur and Jodhpur DISCOMs have directly applied for PSDF funding. Ajmer DISCOM has already included proposal for capacitor under RDSS Scheme and is not going for additional capacitor banks
- New 500MVA ICTs are expected to be commissioned at 400/220kV Merta, Ajmer and Bikaner by Sep 2025.

RRVPNL representative informed that:

- Proposal of upgradation of terminal equipment for other lines is being prepared. Bidding document are under preparation for Akal and Kankani. Estimate has been prepared for switchgear upgradation at Jaisalmer.
- Work order has been placed for improvement of condition of 400kV Bhadla-Bikaner D/C and also upgradation of terminal equipment. Work is expected to be completed by Dec 2025.
- Supply of 100 no. total 5.43MVAr capacitors has been done and in next 1-2 months all the supplied capacitors would be commissioned.
- Supply of additional 50 no. capacitors is further expected from Aug 2025 onwards.
- Jaipur and Jodhpur DISCOMs have also been asked to expedite capacitor commissioning.

NRLDC representative stated that peak demand season of Rajasthan starts from mid Nov onwards and accordingly any shutdown requirement of 400kV Bhadla-Bikaner for condition improvement may be taken up timely and work may preferably be completed by mid Nov so that line remains available during peak demand and high MVAR drawl season of Rajasthan.

Uttar Pradesh:

POWERGRID representative stated that 500MVA ICT-4 at Allahabad is expected to be commissioned by Sep 2025.

UP SLDC informed that SPS logic of 400/220kV Panki S/s was approved from NRPC and OCC side. However, there were certain recommendations to modify the overcurrent settings for ICTs. The revised settings are under implementation at 400/220KV Panki S/s. Further, SPS at 400/220kV Panki is expected to be commissioned at the earliest.

It was also informed that 240MVA ICT at Obra is expected to be revived by Sep 2025 whereas 315MVA ICTs at Obra would be revived after some time due to requirement of procurement of ICTs.

NRLDC representative requested that:

- All SLDCs take actions such that loading of ICTs and lines in their control area are below their N-1 contingency limits.
- While requisitioning power from various sources, states should take care to limit their scheduled drawl as well as actual drawl in real time within the Available Transfer Capability (ATC) limits assessed by SLDC and NRLDC.
- SLDCs also need to ensure that their drawl from grid remains within these limits during real-time operation. In the past, it has been observed that some states have drawn power beyond their ATC limits as assessed by SLDCs and NRLDC.
- Further, all SLDCs need to make sure that loading of 220kV and below voltage level intrastate lines remain within safe limits during the high demand season.

Further, it may be noted that 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" which requires SLDCs to submit network data as well as PSSE basecases on M-12, M-6, M-1 basis. The monitoring of submission of these data by SLDCs is being done in OCC meetings on monthly basis where response of some of the states needs improvement.

February 2025 Mails						
	ATC/TTC Declaration				Interconnection Studies	
	M-1 (March-25)		M-12 (February-26)		M-6 (August-25)	
	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases
Chandigarh	No	No	No	No	No	No
Delhi	No	No	Yes	Yes	No	No
Haryana	No	No	No	No	No	No
Himachal	Yes	No	Yes	No	Yes	No
J &K	Yes	Yes	Yes	Yes	Yes	Yes
Ladakh	No	No	No	No	No	No
Punjab	No	No	Yes	Yes	Yes	Yes
Rajasthan	Yes	Yes	Yes	Yes	Yes	Yes
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes
Uttarakhand	No	No	No	No	No	No

March 2025 Mails						
	ATC/TTC Declaration				Interconnection Studies	
	M-1 (April-25)		M-12 (March-26)		M-6 (September-25)	
	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases
Chandigarh	No	No	No	No	No	No
Delhi	No	No	Yes	Yes	No	No
Haryana	No	No	Yes	Yes	No	No
Himachal	Yes	No	Yes	No	Yes	No
J &K	Yes	No	Yes	Yes	Yes	No
Ladakh	No	No	No	No	No	No
Punjab	Yes	Yes	Yes	Yes	Yes	Yes
Rajasthan	Yes	Yes	Yes	Yes	Yes	Yes
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes
Uttarakhand	No	No	No	No	No	No

April 2025 Mails						
	ATC/TTC Declaration				Interconnection Studies	
	M-1 (May-25)		M-12 (April-26)		M-6 (October-25)	
	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases
Chandigarh	No	No	No	No	No	No
Delhi	No	No	Yes	Yes	No	No
Haryana	Yes	Yes	Yes	Yes	Yes	Yes
Himachal	Yes	No	Yes	No	Yes	No
J &K	Yes	Yes	Yes	Yes	Yes	Yes
Ladakh	No	No	No	No	No	No
Punjab	Yes	Yes	Yes	Yes	Yes	Yes
Rajasthan	Yes	Yes	Yes	Yes	Yes	Yes
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes
Uttarakhand	No	No	No	No	No	No

May 2025 Mails						
	ATC/TTC Declaration				Interconnection Studies	
	M-1 (June-25)		M-12 (May-26)		M-6 (November-25)	
	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases
Chandigarh	No	No	No	No	No	No
Delhi	No	No	Yes	Yes	No	No
Haryana	No	No	No	No	No	No
Himachal	Yes	No	Yes	No	Yes	No
J &K	Yes	Yes	Yes	Yes	Yes	Yes
Ladakh	No	No	No	No	No	No
Punjab	Yes	Yes	Yes	Yes	Yes	Yes
Rajasthan	No	No	No	No	No	No
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes
Uttarakhand	No	No	No	No	No	No

Submitted with one month delay

June 2025 Mails						
	ATC/TTC Declaration				Interconnection Studies	
	M-1 (July-25)		M-12 (June-26)		M-6 (December-25)	
	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases
Chandigarh	No	No	No	No	No	No
Delhi	No	No	Yes	Yes	No	No
Haryana	No	No	No	No	No	No
Himachal	No	No	No	No	No	No
J &K	Yes	Yes	Yes	Yes	Yes	Yes
Ladakh	No	No	No	No	No	No
Punjab	Yes	Yes	Yes	Yes	Yes	Yes
Rajasthan	Yes	Yes	Yes	Yes	Yes	Yes
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes
Uttarakhand	No	No	No	No	No	No

July 2025 Mails						
	ATC/TTC Declaration				Interconnection Studies	
	M-1 (August-25)		M-12 (July-26)		M-6 (January-26)	
	Data Values	Basecases	Data Values	Basecases	Data Values	Basecases
Chandigarh						
Delhi			Yes	Yes		
Haryana						
Himachal						
J &K	Yes	Yes	Yes	Yes	Yes	Yes
Ladakh						
Punjab	Yes	Yes	Yes	Yes	Yes	Yes
Rajasthan	Yes	Yes	Yes	Yes	Yes	Yes
Uttar Pradesh	Yes	Yes	Yes	Yes	Yes	Yes
Uttarakhand						

Haryana, HP, Delhi and Uttarakhand SLDCs were requested to timely share basecase and data with NRLDC as per CERC approved procedure.

ATC/TTC limits of states for the month of Aug 2025 are attached as Annexure-B.I of agenda. Utilities were requested to go through these limits and provide comments. Accordingly, these limits would be approved.

OCC forum asked all utilities to take necessary actions as discussed above.

B.3 Expediting SPS implementation before summer 2025:

Very high demand in Northern region is experienced during the month of May-Sep months. During the high demand period, it is observed that often the transmission system remains heavily loaded and may become N-1 non-compliant on several occasions.

To overcome this N-1 non-compliance, planning for new transmission system is being carried out by CTUIL and CEA. However, it is observed that there are certain occasions when the transmission elements approved take considerable time for commissioning. Due to this delay, the existing transmission system may get overloaded.

To address the issue and avoid major contingency due to cascade tripping, SPS are being designed to minimize impact of outage of one or more transmission elements. As per clause 29.14 of IEGC 2023,

"NLDC, RLDCs, SLDCs, CTU, STUs or users may identify the requirement of System Protection Schemes (SPS) (including inter-tripping and run-back) in the power system to operate the transmission system within operating limits and to protect against situations such as voltage collapse, cascade tripping and tripping of important corridors/flow-gates. Any such SPS at the intra-regional level shall be finalized by the concerned RPC. SPS at the inter-regional and cross-border levels shall be finalized by the NLDC in coordination with the concerned RPCs. SPS shall be installed and commissioned by the concerned users. SPS shall always be kept in service. If any SPS at the intra-regional level is to be taken out of service, the permission of the concerned RLDC shall be required. If any SPS at the inter-regional and cross-border levels is to be taken out of service, permission of NLDC shall be required."

As per NRLDC, SPS at following substations need to be commissioned at the earliest so as to avoid major contingency incase of outage of one or more transmission element.

Haryana

Separate meeting was organized recently on 27.06.2025 by NRPC under chairmanship of SE(O) NRPC with participants from NRLDC, Punjab SLDC, Haryana SLDC, Raj SLDC, BBMB, POWERGRID and HVPNL representatives.

After detailed discussions, it was agreed that:

- **For SPS at 765/400kV Bhiwani(PG) ICTs**: 400/220kV Bhiwani(PG) ICT 1, ICT 2 and 400kV Bhiwani(PG)-Bhiwani(BBMB) line to be wired in SPS logic. POWERGRID provided timeline of 10-15 days for SPS implementation. NRLDC had shared the proposed logic on 01.07.2025 for comments from stakeholders and would be included as part of MOM of meeting.

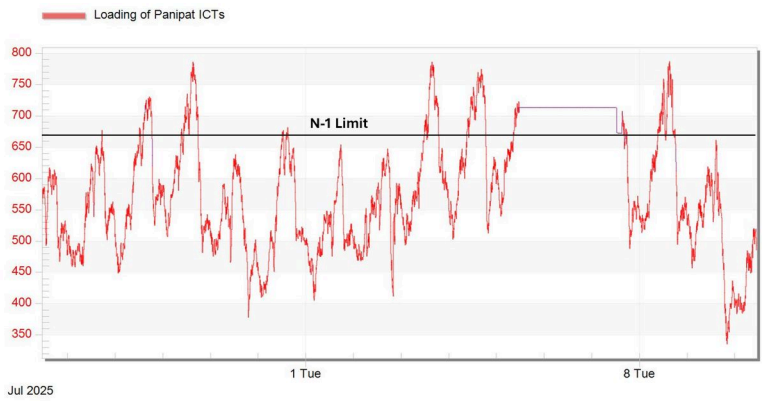
- **For SPS at 400/220kV Hissar(PG) ICTs:** Haryana SLDC wanted to wire 220kV Hissar(BBMB)-220kV Sangrur D/C (supplying power to Punjab) and 220kV Hissar-Chirawa (supplying power to Rajasthan) lines in SPS. Punjab SLDC was assured from NRLDC side that there would not be impact on state ATC/TTC in case these feeders are wired, however, Punjab SLDC will need to take measures for managing loading of 220kV lines. Rajasthan SLDC agreed for wiring 220kV Hissar-Chirawa line in SPS logic.

- POWERGRID informed that PLCC channel is not available for transferring signal from 220kV Hissar(PG)--->220kV Hissar(IA-HVPNL)--->220kV Hissar(BBMB) and it would require procurement of DTPC coupler for implementation of SPS. It was discussed that new 500MVA ICT is approved at Hissar(PG) but it may not be commissioned before next paddy season. Further, there are also loading issues in 220kV Hissar(PG)---220kV Hissar(IA-HVPNL)---220kV Hissar(BBMB) for most part of the year. Accordingly, SPS for N-1 contigency of 400/220kV Hissar(PG) ICTs and 220kV Hissar(PG)---220kV Hissar(IA-HVPNL)---220kV Hissar(BBMB) ckts is required. HVPNL and BBMB were asked to check at their respective substations regarding space for DTPC panel and also confirm feasibility of SPS implementation.

- As a short term measure (till implementation of SPS at Hissar-PG), in case loading of 400/220kV Hissar(PG) ICTs crosses 90% of rated capacity, then NRLDC in consultation with BBMB, Haryana SLDC, Punjab SLDC and Rajasthan SLDC may ask BBMB to open 220kV Hissar(BBMB)-220kV Sangrur D/C (supplying power to Punjab) and 220kV Hissar-Chirawa (supplying power to Rajasthan) lines. Punjab SLDC and Rajasthan SLDC to ensure supply of these stations from other stations before disconnection from Hissar(BBMB).

For SPS at 400/220kV Panipat ICTs: Haryana SLDC was asked by NRLDC to review the requirement of SPS as continuous N-1 violation is being observed in June 2025. Further, BBMB was asked to expedite new ICT approval/implementation process. Haryana SLDC assured that after LILO of 2nd ckt of 220kV Samalkha-Mohana at 400/220kV Sonepat(PG), loading would be under limits. NRLDC suggested to review the loading as soon as 2nd ckt is LILOed and take necessary actions in case loading is not within N-1 limit.

As per recent trends loading of 400/220kV Panipat ICTs is still on the higher side and there seems to be requirement of SPS till ICT capacity augmentation.



NRLDC and Haryana SLDC requested POWERGRID to expedite commissioning of SPS at 765/400kV Bhiwani(PG). It was also highlighted that there are severe N-1 issues at 765/400kV Bhiwani(PG) and expeditious commissioning of SPS would provide mitigation measure and also enhance ATC/TTC of Haryana state control area during this high demand season.

POWERGRID assured to implement the SPS at 765/400kV Bhiwani ICTs at the earliest.

NRLDC representative stated that loading of 400/220kV Panipat is still beyond the N-1 limits even after LILO of 2nd ckt of 220kV Samalkha-Mohana at 400/220kV Sonepat(PG). It was requested that Haryana SLDC may review requirement of SPS at 400/220kV Panipat (BBMB) in view of continuous N-1 violations of ICT loading.

BBMB representative informed that site has verbally confirmed space availability for DTPC at Hissar (BBMB) end. It was further informed that HVPNL would be implementing new ICT at 400/220kV Panipat(BBMB).

NRLDC and CTUIL representatives asked BBMB to share MoM/ consent from HVPNL regarding commissioning of new ICT at 400/220kV Panipat(BBMB).

HVPNL representative confirmed space availability in case of requirement of DTPC coupler positioning for SPS at 220kV Hissar-IA.

NRLDC representative further requested that Haryana SLDC may further explore shifting of some load from 400/220kV Panipat to 400/220kV Sonepat(PG).

Rajasthan

As discussed earlier on numerous occasions, majority of 400/220kV ICTs in Rajasthan state (both interstate as well as intrastate are N-1 non-compliant, RVPNL may identify feeders and discuss with POWERGRID for finalisation of SPS at interstate substations. For intrastate substations, where SPS have not been planned and implemented, the same may be taken up. List of N-1 non-compliant substations is shown below:

Constrained location	SPS Status as available

	with NRLDC
3*315=945 MVA ICT at Bhiwadi(PG)	Not planned
2*315+500=1130 MVA ICT at Bassi(PG)	Not planned
315+500=815 MVA ICT at Neemrana(PG)	Not planned
2*500=1000 MVA ICT at Jaipur South(PG)	Not planned
2*315+500=1130 MVA ICT at Sikar(PG)	Not planned
3*315=945 MVA ICT at Kankroli(PG)	Not planned
2*315=630 MVA ICT at Kotputli(PG)	Not planned
2*315=630 MVA ICT at Deedwana(RVPN)	Not planned
3*250+315=1065 MVA ICT at Heerapura(RVPN)	Not planned
3*315 =945 MVA ICT at Chittorgarh (RVPN)	Implemented
2*315 =630 MVA ICT at Ajmer (RVPN)	Implemented
2*315 =630 MVA ICT at Merta (RVPN)	Implemented
2*315 =630 MVA ICT at Bikaner (RVPN)	Implemented
2*315 =630 MVA ICT at Jodhpur (RVPN)	Implemented
2*315=630 MVA ICT at Suratgarh(RVPN)	Implemented
3*315=945 MVA ICT at Ratangarh(RVPN)	Implemented
1*500+1*315 =815 MVA ICT at Bhilwara (RVPN)	Implemented

During 232 OCC meeting, Rajasthan SLDC representative informed that proposal has been prepared for SPS at 400/220kV Heerapura and is under internal approval whereas ATIL has been asked to prepare SPS logic for 400/220kV Deedwana.

Rajasthan SLDC/RVPN were also requested to identify feeders for SPS at pending 400/220kV POWERGRID and RVPN substations supplying power to Rajasthan. While identification of feeders it needs to be ensured that in case of SPS operation and tripping of one/two feeders, any other element should not get overloaded (no cascade tripping).

During 233 OCC meeting, NRLDC representative informed that feeders/ SPS logics have been received from Rajasthan SLDC. The proposed feeder list is being reviewed at NRLDC end through simulation studies. Further, NRLDC representative requested Rajasthan SLDC to share any studies done at their end.

Rajasthan SLDC stated that they are in process of carrying out simulation studies and agreed to share the same by 31.07.2025.

Delhi

POWERGRID agreed to share mock testing report of SPS at 765/400kV Jhatikara ICTs (Dwarka-Bamnauli section as well as Mundka section) at the earliest.

Uttar Pradesh

NRLDC also received a request from UP SLDC vide email dated 24.05.2025 regarding implementation of SPS at 400/220kV Agra(PG) ICTs. During 232 OCC

meeting, UP SLDC stated that they will shortly convene a meeting with participation from POWERGRID and STU in next week and submit agenda for SPS proposal at 400/220kV Agra(PG) in upcoming Protection subcommittee meeting of NRPC.

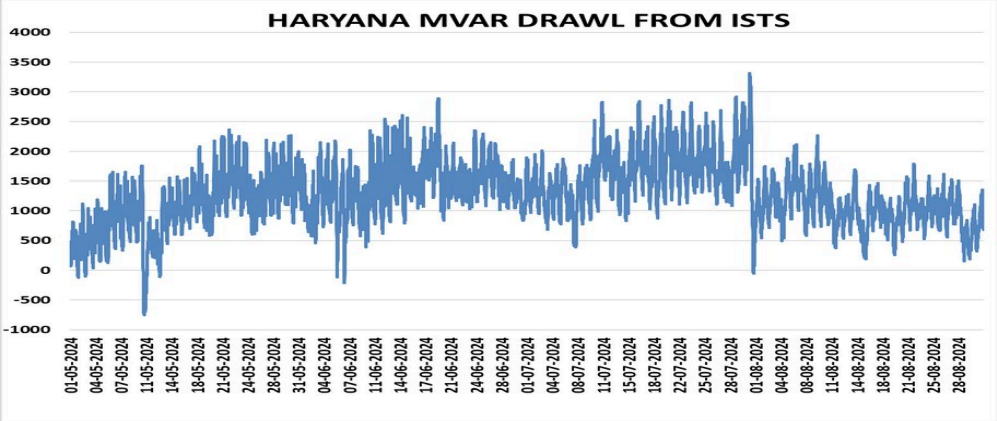
During 233 OCC meeting, MS NRPC suggested that NRLDC may prepare SPS logic for 400/220kV Agra(PG) ICTs and share with UPPTCL and POWERGRID. Thereafter, SPS logic can be discussed in next OCC meeting.

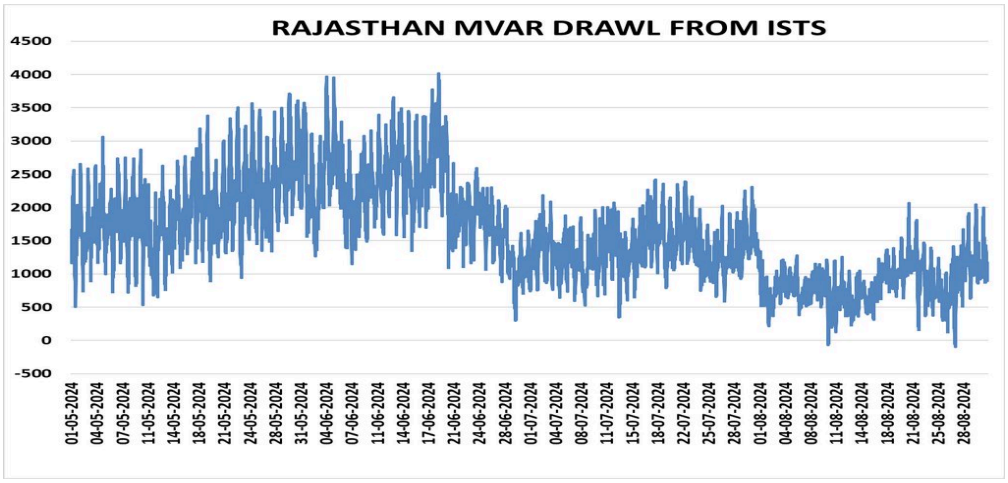
OCC forum asked all utilities to take necessary actions as discussed above.

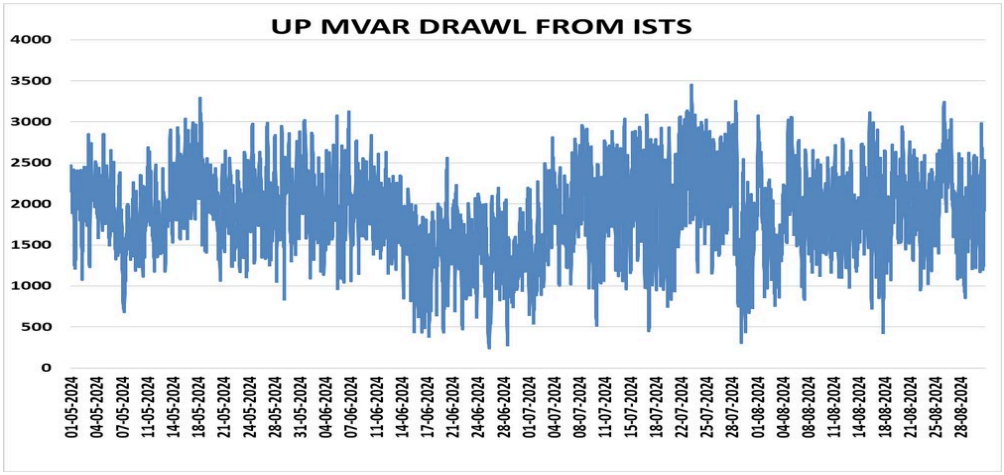
B.4 SPS for Champa-Kurukshetra HVDC and SOP actions in case of tripping

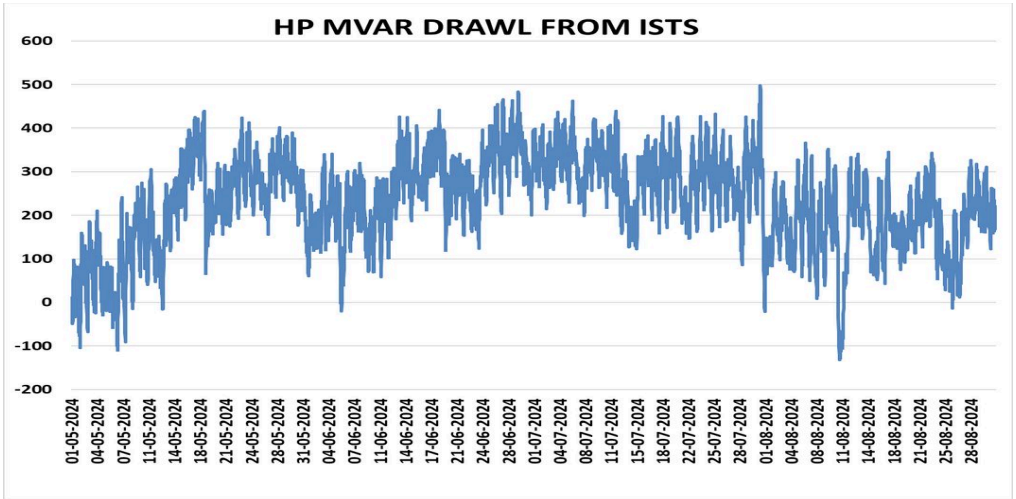
During high demand period of Northern region, NR imports high power from Western and Eastern region. To optimize flows on AC paths, HVDC power orders are accordingly modulated. Power order of Champa-Kurukshetra HVDC is also kept on the higher side in summer months due to less demand in Western region and high demand in Northern region. However, there have been reliability issues related to Champa-Kurukshetra HVDC since long time. There have been events of simultaneous pole outages also, which creates stressful condition for grid and number of issues are observed in real-time. These effects are more pronounced when Champa-Kurukshetra poles trip simultaneously carrying huge power in antecedent condition. This switches out filter banks, increases power flow on parallel AC lines, increased loading reduces the grid voltages, further, due to increased distance for power to travel, the reactive power support requirement increases tremendously. This may lead to sudden dips in voltage and further load loss due to stalling of induction motor type load.

NRLDC representative stated that they have been continuously pursuing with NR states to take measures for reactive power support at local level so that reactive power exchange from ISTS is minimal. However, as per discussions held in 229-232 OCC meetings, no progress is being reported. From the plots presented by NRLDC in OCC meetings, it can be clearly seen that there is huge MVAR drawl by some of the states such as Haryana, Rajasthan, HP and UP during May-Sep months. These huge MVAR drawl leads to low voltages in the grid especially during the day-time as there is high agricultural as well as cooling load requirement during this time.









There have been two major events involving load loss with simultaneous all poles outage of Champa-Kurukshetra HVDC in last two years:

1. 16.5GW load loss event on 17.06.2024 due to tripping of Champa-Kurukshetra all poles carrying 4000MW with NR total load as 89.4GW

2. 0.9GW load loss event on 09.06.2025 due to tripping of Champa-Kurukshetra all poles carrying 4300MW with NR total load as 82.6GW

This year NR demand has been slightly on the lower side due to favourable weather conditions, however, prolonged dry spell may lead to sudden surge in demand and NR demand may again cross 85GW. It is expected that any incident of simultaneous outage of HVDC Champa-Kurukshetra poles may cause emergency conditions in the Grid. It is possible that voltages in NR stations may reach extremely low values as witnessed during similar incident which occurred on 17th Jun 2024.

Accordingly, it is proposed to implement a SPS scheme which can shed loads in case of simultaneous outage of all poles of HVDC Champa-Kurukshetra. Since, identification and wiring of new load groups may be difficult for implementation in short time frame and further utilities have also expressed concerns in identifying further new feeders for UFR or other load shedding schemes, it is suggested to utilise the wired loads of existing Agra-Gwalior or Rihand-Dadri SPS scheme. Signal of multiple HVDC pole outage can be extended from Kurukshetra station to Dadri/Agra SPS scheme and some load relief can be obtained. The automatic disconnection of wired loads post outage of multiple HVDC Poles at Kurukshetra may provide some relief and may help in containing the voltages till suitable static and dynamic compensation devices are commissioned.

List of feeders for Agra-Gwalior/ Rihand-Dadri SPS scheme is attached as Annexure-B.II of agenda. Concerned states were requested to verify the load quantum mentioned against each feeder. NRLDC will then carry out simulation studies and in consultation with SLDCs/NLDC propose SPS logic for Champa-Kurukshetra HVDC. As some load is proposed to be shed in SPS scheme, corresponding generation backing down will also need to be taken up in Western region.

Recent letter from ED NLDC in this regard is also attached as Annexure-B.III of agenda.

This feeder review exercise becomes important as on 21.05.2025, at 20:21 hrs, 500kV HVDC Rihand-Dadri D/C tripped on commutation failure. Multiple elements tripped at 400kV Dadri(NTPC) during the event due to multiple faults. 500kV HVDC Rihand-Dadri D/C was carrying ~1150 MW before tripping.

As per SPS of 500kV HVDC Rihand-Dadri, Case-2 of SPS which is "Tripping of any or both poles resulting in power order reduction by 750 MW and above" operated during the event. As per SPS case-2 action, immediate load shed in load groups A, B, C & D and generation backdown at Singrauli / Rihand TPS by 500 MW should occur. However, no major load relief was observed based on demand pattern of states.

NRLDC representative stated that SLDCs may share any comments from their side for feeders wired for Agra-Gwalior SPS or Rihand-Dadri SPS scheme by 31.07.2025.

MS NRPC stated that the agenda was also discussed in recent NPC meeting and it was agreed that separate committee would be formed under Member Power System, CEA to look into frequent tripping of Champa-Kurukshetra and suggest remedial measures. The committee would also include members from NLDC, NRLDC, WRLDC, WRPC, NRPC, CTUIL and POWERGRID.

SOP for actions to be taken in real-time in case of tripping of HVDC Champa-Kurukshetra

During 232 OCC meeting it was discussed that tripping of HVDC Champa-Kurukshetra is credible contingency and all NR states need to have SOP for taking actions in real-time in case of tripping of HVDC Champa-Kurukshetra and observance of low voltages in NR grid.

Accordingly, SOP has been prepared from NRLDC side and is attached as Annexure-B.IV of agenda for comments from OCC members. Members were requested to go through the SOP and provide comments to NRLDC at the earliest.

OCC asked all SLDCs to share any comments from their side for feeders wired for Agra-Gwalior SPS or Rihand-Dadri SPS scheme by 31.07.2025. Further, if there are any comments on the SOP prepared by NRLDC, the same may also be shared at the earliest with NRLDC/NRPC.

B.5 Update of Operating Procedure document in line with IEGC:

NRLDC representative stated that in compliance with Regulation 28.4 of Indian Electricity Grid Code-2023, Operating Procedure document would be updated by NRLDC in mid-July 2025. Latest available document is available at

https://drive.google.com/file/d/16HHfg_YbGHl9XuP4vkO9Drxy-rUZmUlA/view?usp=drive_link

All utilities were requested once again to provide their inputs/comments for any suggested changes in the document. It is requested that inputs/comments may be provided latest by 15th July 2025.

OCC forum asked all utilities to go through the operating Procedure Document of NRLDC and provide their inputs/comments for any suggested changes in the document.

B.6 Minimising deviation against scheduled drawl by state control area

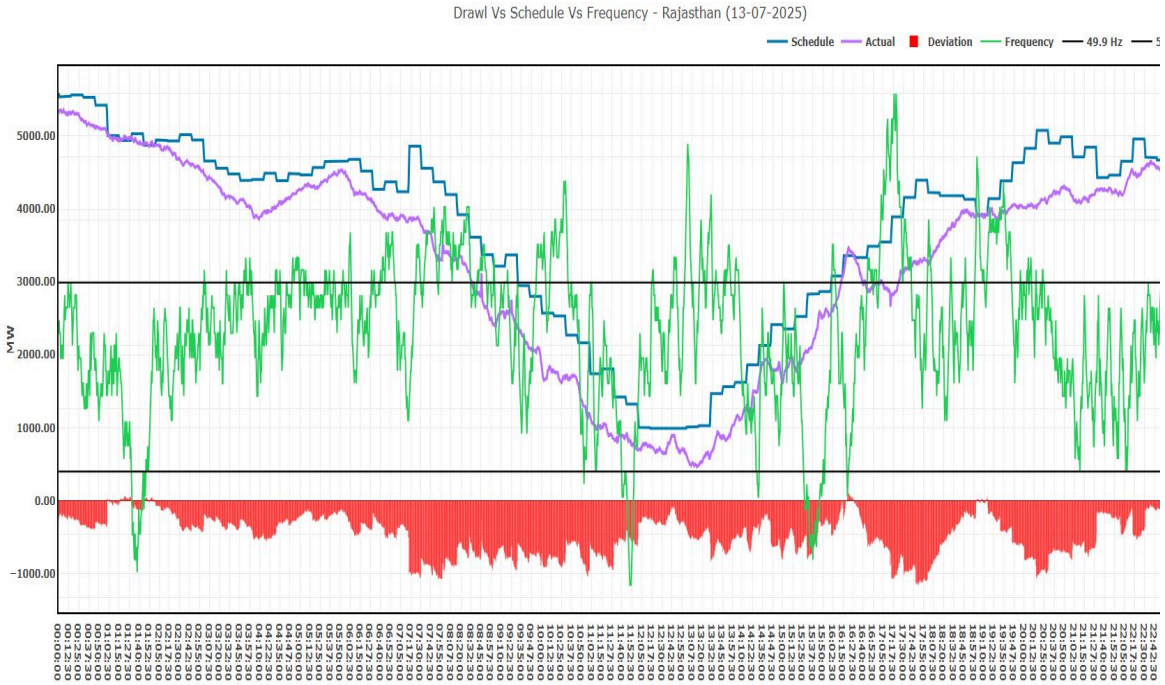
It has been observed that some of the NR states have been under drawing from the grid in June 2025. The under drawl in Energy terms has reached 8-12 MUs on daily basis as per the Daily Operation Report published by NRLDC. With inclement weather leading to load crash and lower demand, high frequency grid operation has been observed recently. NRLDC has been advising constituents to maintain load generation

balance and messages are also regularly issued from Real time operators to the under-drawing constituents. Further, NRLDC has been pro-actively carrying out hydro moderation of ISGS plants in addition to TRAS down support from NLDC to arrest high frequency.

The details of Grid frequency remaining above 50.05 Hz (above IEGC band), maximum frequency of the day, daily under-drawl (MU) and max. under-drawl based on 5 minutes average telemetered data i.r.o. Delhi and Rajasthan state control area is given below:

Rajasthan Deviation and grid frequency

Date	Max. Under-drawl in day (ACE in MW)	Daily Deviation (Under-drawl) (MU)	>50.05 (% of time in day)	Max. freq. of day (Hz)
1-Jun-25	1650	5.4	25.5	50.37
2-Jun-25	1325	8.5	24.1	50.31
4-Jun-25	1650	8.0	28.6	50.35
9-Jun-25	915	4.2	26.4	50.31
17-Jun-25	2000	5.4	29.1	50.36
20-Jun-25	1015	11.8	24.7	50.32
22-Jun-25	1382	9.8	21.8	50.34
23-Jun-25	1545	4.5	17.8	50.33
28-Jun-25	1603	6.3	20.7	50.32
29-Jun-25	1749	12.0	35.2	50.38



Delhi Deviation and grid frequency

Date	Max. Under-drawl in day (ACE in MW)	Daily Deviation (Under-drawl) (MU)	>50.05 (% of time in day)	Max. freq. of day (Hz)
1-Jun-25	350	5.7	25.5	50.37
2-Jun-25	605	4.5	24.1	50.31
4-Jun-25	580	1.2	28.6	50.35
9-Jun-25	650	7.0	26.4	50.31
17-Jun-25	1400	4.3	29.1	50.36
20-Jun-25	440	1.3	24.7	50.32
28-Jun-25	824	2.2	20.7	50.32
29-Jun-25	397	1.6	35.2	50.38

NRLDC representative stated that such large deviations from schedule and high frequency operation are a threat to the system security.

Rajasthan SLDC representative stated the state demand has reduced drastically during Jun 2025 compared to previous year. Intrastate Thermal generation is being backed down to technical minimum level as well as requisitions from ISGS are being revised to revise net schedule of state from ISTS. Moreover, as a last resort, RE curtailment has also been done on few occasions to maintain state drawl from the grid.

CGM NRLDC highlighted that all available measures are being taken at GRID-INDIA level to manage frequency during day-time and all ISGS thermal generating stations are operating at 55% of their MCR during peak solar period. In view of lack of support from intrastate thermal generators in backing down of generation, under Emergency condition, TRAS down was implemented on several days from 25.05.2025 in ISTS RE solar generating stations having installed capacity of 250 MW or more. Accordingly, decisions regarding closing and bringing intrastate machines on bar need to be taken swiftly by SLDCs.

To avoid continuous high frequency operation in the grid, improvement in following actions were requested during real-time grid operation and maintaining state control area drawl close to schedule:

- Portfolio management through sale/purchase of power in T-GNA
- Lifting of planned load shedding, curtailments, if any
- Generation backing down in coal fired thermal stations to 55% of Maximum Continuous Rating (MCR) loading of the units on bar at the generating station

after deducting the normative Auxiliary Energy Consumption plus Auxiliary Energy Consumption compensation as per the provisions of the Grid Code as per merit order based on variable charges

- Downward revision of requisitions from ISGS as per merit order on request of beneficiaries
- Generation reduction at hydro stations having storage capability.
- Decision regarding closing and bringing intrastate machines on bar to be taken swiftly by SLDCs

OCC forum asked all states to take necessary measures for maintaining their drawl from grid close to schedule and avoiding large deviations from nominal frequency.

B.7 Demand forecasting and resource adequacy related

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.

Subsequently, a meeting was taken by Hon'ble CERC on 14.02.2025 with all NR SLDCs, NRLDC and NRPC to review the actions being taken at SLDC end on measures related to resource adequacy.

It is to be noted that CERC has also released "Report on 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 Order dated 07.10.2024 in Suo-Moto Petition No. 9/SM/2024" on 29.04.2025.

In the report following actions have been suggested:

Area	Key Action
Power Procurement	Advance contracts, banking arrangements
Forecasting	Tool access, RLDC coordination, automation incase of manpower issue, Feedback from DISCOM,

Manpower	Approvals as per MoP guidelines, training
Reserve Management	Enforce obligations, clarify reserve norms
Thermal Generation	Enable operation at MTL, regulatory support from SERC
SAMAST	Ensure implementation within strict timelines

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 Jul-2025 as per Clause 31(4) (a) & (b) of IEGC-2023 as presented by NRLDC in OCC meeting is shown below:

State/Entity	Day Ahead (As on Jul-25)	Week Ahead	Month Ahead (Aug 2025)	Year-Ahead
Punjab	As per Format	Demand and Resource not as per timeline	Not received	Not received
Haryana	Demand and Resource not as per format	Only demand & irregular	Not received	Not received
Delhi	Demand and Resource not as per format	As per Format	As per Format	Only Demand
Rajasthan	As per Format but irregular	As per Format	Not received	Not received
Uttar Pradesh	As per Format	As per Format	As per Format	As per Format
Uttarakhand	Demand and Resource not as per format and irregular	As per Format	As per Format	Not received
Himachal Pradesh	Demand and Resource not as per format	As per Format	As per Format	As per Format
J&K and Ladakh (UT)	Demand and Resource not as per format & irregular	Not received	Not received	Not received
Chandigarh (UT)	As per Format	Not received	Not received	Not received

In accordance with above, all SLDCs were 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/1KWY4G9gTBLV5wTJkhGEIeRptKP-QbhjL?usp=drive_link* to NRLDC through mail (nrldcmis@grid-india.in) and FTP as per above timeline.

All SLDCs need to take 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.

Self-audit related:

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.

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.

Self-audit report has been received from NHPC and Koteshwar THDC for F.Y. 2023-24.

NRLDC representative stated that:

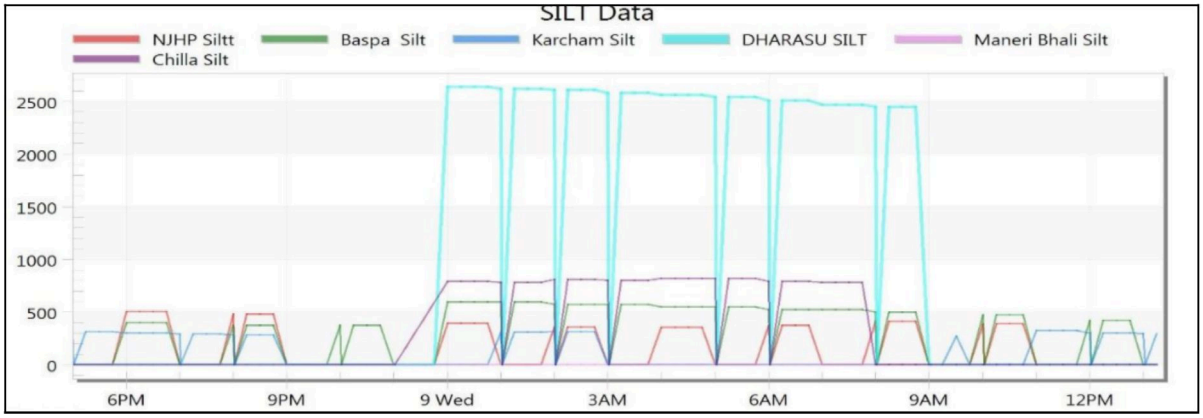
- Data on day ahead basis received from some of the states (as shown in table) is not as per NRLDC format. It was further mentioned that NRLDC is in process of developing a code/program for automation of day-ahead resource adequacy. In case data is not received in formats circulated by NRLDC, it would not be possible to map/utilize the data submitted by states in the internal program being developed at NRLDC end.

- Self-audit report has been received from NHPC and Koteshwar THDC only for F.Y. 2023-24. As F.Y. 2024-25 has also completed recently, all utilities in Northern region are requested to carry out self-audit exercise and share report with NRLDC as per IEGC Clause 56.2(c).

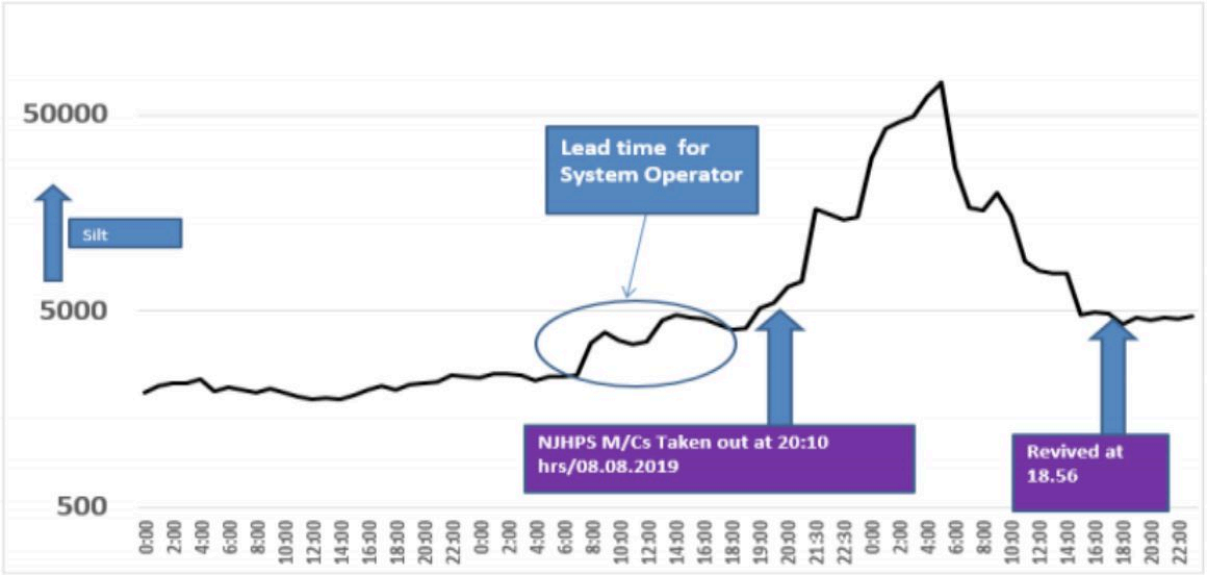
OCC asked all the states to take actions at their end to ensure compliance of all regulations and guidelines w.r.t. resource adequacy framework. OCC forum asked all concerned utilities to carry out self-audit exercise as per IEGC Clause 56.2(c), and submit the report to NRLDC.

B.8 Near real-time monitoring of silt at NRLDC for hydro generating stations

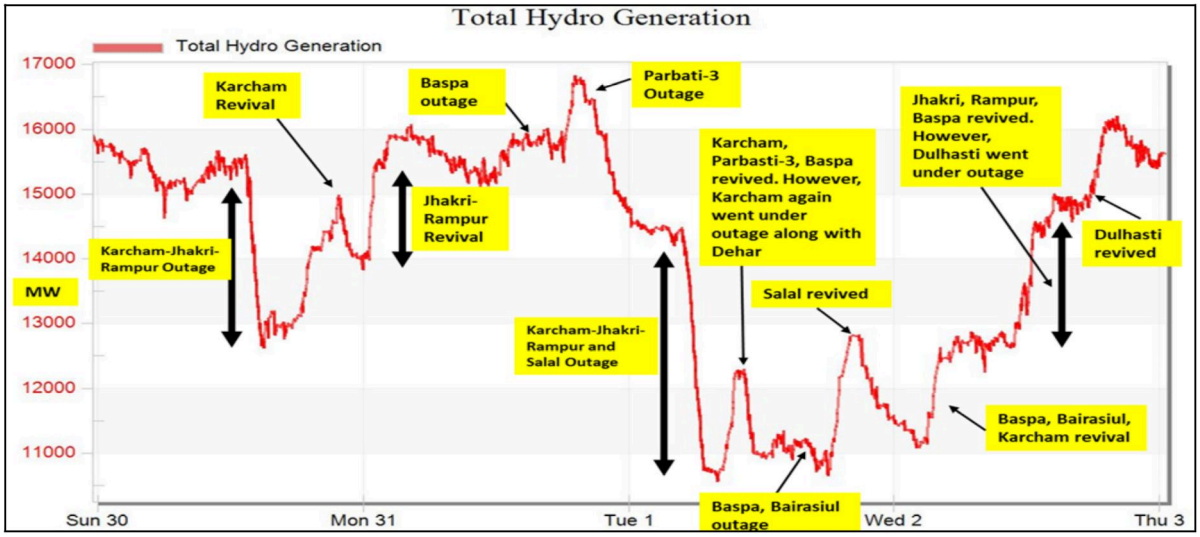
Availability of near real time silt measurement data to NRLDC/ SLDCs is helpful for real time system operation in view of frequent hydro generation outage due to silt. PPM numbers are being punched directly from the site/control room at NRLDC server providing silt measurement at NRLDC control room. During previous years also, for Nathpa Jhakri, Baspa, Karcham and other small HEPs of Uttarakhand, trends of silt data were made available at NRLDC & being monitored by system operators in real-time.



Sample available data of silt shown below suggests that there is some lead-time (varying from few hours to several hours) available with system operators to accommodate outage of hydro generators on account of high silt level.



Sample plot showing outage of hydro generating stations due to high silt level leading sudden outage of hydro generating stations in Northern region is shown below:



Large hydro outage in short duration during monsoon on silt is a common phenomenon and the associated challenges have been highlighted in regular OCC/TCC meeting. The agreed action based on deliberation in various meetings are given below:

- Action for Generator
  - Silt monitoring/Silt forecasting for planned hydro outage [Advance information]
  - Reduction of Generation/Tripping of Units as per protocol (Staggering of units)
  - Slow ramping down of generation on the units to be closed as per protocol.

- Action by SLDC/Constituents
    - Generation reserve to be maintained
        - Own Generation
        - Contracted Generation from Other State/Traders
    - Load management to be planned
    - Optimization of Hydro generation as per demand requirement

In view of upcoming silt scenario, all hydro stations were requested to furnish the silt forecast data (near-real time silt measurement) for operational planning measures to control centers (RLDCs/SLDCs) as this would help them gain some lead-time for better tackling of hydro generator outage on silt.

NRLDC has also developed a portal for sharing of silt-data by hydro generating stations with NRLDC. The portal is expected to go live withing a week and login credentials are being shared with all hydro generating stations for sharing of the data with NRLDC. NRLDC also demonstrated the silt monitoring portal in 233 OCC meeting on 15.07.2025.

CGM NRLDC highlighted that silt monitoring is very crucial for large hydro generation complexes. In the past it has been observed that large generation complex of Karcham-Jhakri-Rampur (more than 3000MW) is taken under outage in very short span of time due to high silt. Similarly, there are other large hydro generation complex also which require quick balancing actions from Load despatchers side. Therefore, adhering to protocol as approved by NRPC for taking units out in staggered manner is also crucial.

OCC forum advised all hydro stations to timely share silt related information with NRLDC on newly developed portal and also follow protocol as approved by NRPC for taking units out in staggered manner in case of high silt.

B.9 Mock testing of islanding scheme and simulation studies

Following four islanding schemes are operational in the Northern Region: NAPP Islanding Scheme (Uttar Pradesh), RAPP Islanding Scheme (Rajasthan), Bawana Islanding Scheme (Delhi), and Unchahar Islanding Scheme (Uttar Pradesh).

During 233 OCC meeting, NRLDC representative presented the latest status of actions required on various islanding schemes.

Scheme	UFR testing done	Basecase shared	SCADA display made
NAPP Islanding scheme (UP)	✅ Yes	✅ Yes	✅ Yes
RAPP Islanding scheme (Raj)	✅ Yes	✅ Yes	✅ Yes
Bawana Islanding scheme (Delhi)	❌ No	✅ Yes	✅ Yes

Unchahar Islanding scheme(UP)	✅ Yes	❌ No	❌ No

It was also discussed that there have been recent directions from NPC and MoP also for islanding testing.

POWERGRID representative stated that pending testing of UFR at POWERGRID will be carried out shortly.

NRLDC asked DTL to share comprehensive testing report of islanding scheme after completion of testing exercise of Delhi islanding scheme.

MS NRPC expressed concern on delay in UFR testing of Delhi islanding scheme and asked all concerned to take necessary actions at the earliest and submit report to NRLDC/NRPC.

It was highlighted from NRLDC side that although SCADA displays have been made for islanding schemes, telemetry of site data to NRLDC is poor and most of the time, some or other data is missing. UFR testing report has been submitted by UP SLDC for Unchahar islanding scheme, however, basecase details and SCADA display are yet to be received at NRLDC end.

UP SLDC representative stated that SCADA display of Unchahar islanding scheme is available at UP SLDC and would be shared with NRLDC also.

OCC forum asked all utilities to take necessary actions as discussed above.

B.10 Power Supply Data for Critical Infrastructure (Major Cities and Airports)

NRLDC is compiling a comprehensive database of power supply arrangements for critical national infrastructure and major load centres, which shall be displayed on a dedicated SCADA screen. This data is vital for enhancing our collective situational awareness and operational control. In the event of any grid disturbance, emergency, or black start condition, having this information readily available will be critical. It will allow for improved visibility and controllability of the grid and enable faster, more strategic decision-making during system restoration. This ensures the swift restoration of power to essential services like airports and major population centres.

The required data points are highlighted in the two tables provided:

1. For Airports (International and Domestic):

- Name of lines for power supply to the Airport
- Nearby 765, 400, 220 kV Substations

2. For Major Cities:

- Name of 765 kV or 400 kV stations feeding the city
- Embedded or nearest generating station

An email has also been sent from NRLDC side to all SLDCs requesting this data. It is requested that the data may be furnished to NRLDC at the earliest.

OCC forum requested all SLDCs to provide the necessary information to NRLDC for respective state by filling in the blank columns in the attached Excel file as Annexure-B.V of agenda.

B.11 Long outages of transmission elements

Several important transmission lines in the Northern Region are under prolonged outage due to tower collapse. The extended non-availability of these elements is impacting grid reliability, load transfer capability, and in some cases RE evacuation.

Sr. No.	Element	Owner	Outage Date	No. of Days Out	Reason
1	220 kV Gazipur (DTL) – Sahibabad (UP)	UPPTCL	30-04-2022	1158	Bending of tower no. 4
2	220kV Gazipur(DTL)-Noida Sec. 62				Tower tilted at location no. 10
3	220 kV Kishenpur (PG) – Mir Bazar (PDD) Ckt-1	JKPTCL	21-06-2024	375	Tower foundation damaged at loc. no. KP-196
4	400 kV Moradabad (UP) – Kashipur (UK) Ckt-1	PTCUL	18-04-2025	74	Tower collapse at loc. no. 94
5	400 kV Jaisalmer – Barmer (RS) Ckt-2	RRVPNL	01-05-2025	61	Tower collapse at 12 locations (Loc. no. 70–81)
6	400 kV Jaisalmer – Barmer (RS) Ckt-1		01-05-2025	61	
7	400 kV Babai (RS) – Bhiwani (PG) Ckt-1	NRSS36	13-06-2025	18	Collapse of tower no. 300 & 301

Further, number of other transmission elements are also under prolonged outage such as:

S. No.	Element Name	Owner	Date	Reason / Remarks
1	400/220 kV 315 MVA ICT 1 at Muradnagar_1(UP)	UPPTCL	13-03-2020	Buccholz relay alarm and Local Breaker Backup protection operated.
2	220 KV SHAHJAHANPUR(PG)-HARDOI(UP) (UP) CKT-1	UPPTCL	05-06-2024	Tower collapse at loc no. 86 & 87
3	400/220 kV 240 MVA ICT 3 at Moradabad(UP)	UPPTCL	13-12-2021	Due to high DGA values, Hydrogen gas is above permissible limit.
4	400 KV Noida Sec 148-Noida Sec 123 (UP) Ckt-2	UPPTCL	09-03-2023	Flashover Y-phase earth switch compartment at Noida Sector-148.
5	400/220 kV 500 MVA ICT 1 at Rasra (UP)	UPPTCL	26-10-2023	Y-phase bushing has got damaged.
6	400/220 kV 315 MVA ICT 1 at Kabulpur(HV)	HVPNL	11-08-2024	Operation of transformer protection . Differential protection trip.

Number of Fixed Series capacitors (FSCs) are also under prolonged outage such as:

Name of Elements (Owner: POWERGRID)	Outage time/date	Reason of tripping
FSC of 400 KV Fatehpur-Mainpuri (PG) Ckt-1 at Mainpuri (PG)	21:07 / 24.10.21	BHEL breaker hydraulic pressure could not be developed in B phase and (loss of N2 pressure) doesn't allow the FSC-1 taken into service as reported by CPCC3. OEM support stopped
FSC of 400 KV Fatehpur-Mainpuri (PG) Ckt-2 at Mainpuri (PG)	08:25 / 29.10.21	VME protection system was blocking the FSC back in service as reported by CPCC3. OEM support stopped
FSC(40%) of 400 KV Kanpur-Ballabhgarh (PG) Ckt-2 at Ballabhgarh (PG)	10:25 / 23.09.22	DC earth fault in main power supply. Safety clearance required.
FSC(45%) of 400 KV Bareilly-Unnao (UP) Ckt-1 at Unnao(UP)	19:50 / 03.01.24	Problem in GTE card of R phase and also unbalancing of one capacitor of B phase.

FSC (40%) of 400 KV Kanpur-Ballabhgarh (PG) Ckt-3 at Ballabhgarh (PG)	11:58 / 14.02.25	For attending the capacitor unbalance alarm

OCC forum asked all utilities to provide update regarding the likely revival date for these in the NRLDC outage portal and expedite revival of these transmission elements.

B.12 Multiple element tripping events in Northern region in the month of June 2025:

A total of 21 grid events occurred in the month of June 2025 of which 09 are of GD-1 category 07 are of GI-2 Category and 05 are of GI-1 Category. The tripping report of all the events have been issued from NRLDC. A list of all these events along with the status of DR/EL & tripping detail submission is attached at Annexure-B.VI of agenda.

Maximum delayed clearance of fault observed in event of multiple elements tripping at 220/132kV Kaithal(HR) at 00:20 hrs on 10th June 2025, 2025 (As per PMU at Kaithal(PG), B-N phase to earth fault with fault clearing time of 120ms followed by Y-B phase to phase fault with delayed fault clearing time of 560ms is observed).

Delayed clearance of fault (more than 100ms for 400kV and 160ms for 220kV system) observed in total 05 events out of 21 grid events occurred in the month. In 04 (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 June 2025. It was highlighted that detailed reports of majority of the tripping events have not been received. In some of the grid events, complete DR & EL have also been not received.

Members agreed to share the tripping details at the earliest and assured to submit the tripping details as per timeline specified in IEGC.

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 detailed 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.13 Status of submission of DR/EL and tripping report of utilities for the month of June 2025:

The status of receipt of DR/EL and tripping report of utilities for the month of **June 2025** is attached at Annexure-B.VII of agenda. It is to be noted that as per the IEGC provision under clause 37.2 (c), the tripping report along with DR/EL has to be furnished within 24 hrs of the occurrence of the event.

NRLDC representative stated that on the basis of status of February month it is evident that reporting status of some of the constituents i.e., RE stations, SLDC-HR, SLDC-PS, SLDC-J&K, SLDC-HP, BBMB, POWERGRID(NR-1) and RAPS are not satisfactory and need improvement. Further, persistent unsatisfactory reporting status of Punjab & J&K was also highlighted.

NRLDC representative requested utilities to improve the status of submission of DR/EL & tripping reports. Timely submission of tripping details (DR, EL, tripping report etc.) helps in detailed analysis of the grid event and further remedial actions.

Members from SLDCs and transmission licensees stated that continuous follow-up are being done for timely submission of DR/EL of tripping events. Further efforts will be made to improve the DR/EL reporting status.

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 (TMS) "https://postda.nrldc.in/Default.aspx" within 24 hours of the events as per IEGC clause 37.2(c) and clause 15.3 of CEA grid standard.

B.14 Frequency response performance for the reportable events of month of June 2025:

In the month of June 2025, 2 no. of reportable events were 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	12-June-25	13:34 hrs	As reported, at 13:34 hrs on 12th June 2025, generation loss event of 1633MW occurred in NR RE complex in Rajasthan. Hence generation loss of 1633 MW is considered for FRC/FRP Calculation.	50.006	49.822	49.944	-0.062	0.83
2	16-June-25	11:51 hrs	As reported, at 11:51 hrs on 16th June 2025, generation loss event of 1322MW occurred	49.963	49.863	49.920	-0.043	0.83

			in Bhutan. Hence, generation loss of 1322 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 07th July 2025 is:

FRC computation and data submission status			
S. No	Control Area		
		12-06-2025	16-06-2025
1	Punjab	Received	Received
2	Haryana	Received	Received
3	Rajasthan	Received	Received
4	Delhi	Received	Not Received
5	Uttar Pradesh	Received	Received
6	Uttarakhand	Received	Received
7	Chandigarh*	NA	NA
8	Himachal Pradesh	Received	Received

9	J&K(UT) and Ladakh(UT)	Not Received	Not Received
10	Dadri -1 (TH)	Received	Received
11	Dadri -2 (TH)	Received	Received
12	Jhajjar (TH)	Received	Received
13	Rihand-1 (TH)	Received	Received
14	Rihand-2 (TH)	Received	Received
15	Rihand-3 (TH)	Received	Received
16	Shree Cement (TH)	Not Received	Not Received
17	Singrauli (TH)	Not Received	Not Received
18	Tanda-2 (TH)	Received	Received
19	Unchahar-I (TH)	Received	Received
20	Unchahar-II (TH)	Received	Received
21	Unchahar-III (TH)	Received	Received
22	Unchahar-IV (TH)	Received	Received
23	Anta (G)	Not Received	Not Received
24	Auraiya (G)	Not Received	Not Received
25	Dadri (G)	Not Received	Not Received
26	AD Hydro (H)	Received	Received
27	Bairasiul (H)	Received	Received
28	Bhakra (H)	Received	Received
29	Budhil (H)	Not Received	Not Received
30	Chamera-1 (H)	Received	Received
31	Chamera-2 (H)	Received	Received
32	Chamera-3 (H)	Received	Received
33	Dehar (H)	Received	Received
34	Dhauliganga (H)	Received	Received
35	Dulhasti (H)	Received	Received
36	Karcham (H)	Received	Received
37	Kishenganga	Received	Received
38	Koldam (H)	Received	Received
39	Koteshwar (H)	Received	Received
40	Malana-2 (H)	NA	NA
41	Nathpa Jhakri (H)	Received	Received
42	Parbati-2 (H)	Received	Received
43	Parbati-3 (H)	Received	Received
44	Pong (H)	Received	Received
45	Rampur (H)	Received	Received
46	Sainj (H)	Not Received	Not Received
47	Salal (H)	Received	Received
48	Sewa-II (H)	Received	Received
49	Singoli Bhatwari (H)	Not Received	Not Received
50	Sorang (H)	Not Received	Not Received
51	Tanakpur (H)	Received	Received
52	Tehri (H)	Received	Received
53	Uri-1 (H)	Received	Received

54	Uri-2 (H)	Not Received	Not Received

NRLDC representaitve higlighted the list of generating stations and control area who haven't shared the FRC/FRP computation details. Details are pending from Shree Cement TPS, Singrauli TPS, Anta GPS, Auraiya GPS, Dadri GPS, Budhil HEP, Sainj HEP, Singoli Bhatwari HEP, Sorang HEP and Uri-2 HEP generating stations. Members were requested to share the FRC/FRP computation as per timeline.

Details from Delhi have received today only (15.07.2025) and nod etails received from SLDC-J&K. NRLDC requested SLDCs to share the FRC compuation of their respecive control area as per stipulated timeline.

NRLDC member also highlighted the persistent issue of partial data submission from Singrauli TPS. NTPS was requested to share the complete plant data of Singrauli TPS otherwise it can't be consisdered for FRP computatuion. Presently, data of only 2 units are being submitted by Singrauli TPS.
NTPC representaitve assured to submit the complete generation data of Singrauli TPS.

NRLDC requested members to share the FRC/FRP computation of their resepctive control area as per timeline specified in IEGC.

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 06th June 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 June 2025 is as follows:

Frequency response Performance			
S. No	Control Area		
		12-06-2025	16-06-2025
1	Punjab	0.68	-0.25
2	Haryana	0.07	0.07
3	Rajasthan	0.05	0.83
4	Delhi	1.55	-1.01
5	Uttar Pradesh	0.56	0.00
6	Uttarakhand	3.31	-1.21
7	Chandigarh*	NA	NA
8	Himachal Pradesh	2.67	1.62
9	J&K(UT) and Ladakh(UT)	0.81	0.26
10	Dadri -1 (TH)	8.78	15.81
11	Dadri -2 (TH)	0.11	7.10

12	Jhajjar (TH)	2.59	15.06
13	Rihand-1 (TH)	2.88	8.85
14	Rihand-2 (TH)	6.52	12.32
15	Rihand-3 (TH)	3.69	11.09
16	Shree Cement (TH)	4.06	-0.01
17	Singrauli (TH)	2.75	0.78
18	Tanda-2 (TH)	5.02	9.35
19	Unchahar-I (TH)	4.00	5.90
20	Unchahar-II (TH)	8.98	14.77
21	Unchahar-III (TH)	7.75	12.53
22	Unchahar-IV (TH)	2.86	3.73
23	Anta (G)	1.09	No Gen
24	Auraiya (G)	3.79	No Gen
25	Dadri (G)	22.37	No Gen
26	AD Hydro (H)	-0.97	0.27
27	Bairasiul (H)	2.26	0.36
28	Bhakra (H)	0.02	0.02
29	Budhil (H)	0.20	0.00
30	Chamera-1 (H)	1.78	No Gen
31	Chamera-2 (H)	1.55	0.37
32	Chamera-3 (H)	0.00	0.00
33	Dehar (H)	0.04	0.01
34	Dhauliganga (H)	3.48	0.33
35	Dulhasti (H)	2.04	-0.20
36	Karcham (H)	4.45	0.49
37	Kishenganga	0.30	0.14
38	Koldam (H)	0.55	-0.45
39	Koteshwar (H)	3.27	1.91
40	Malana-2 (H)	NA	NA
41	Nathpa Jhakri (H)	0.41	0.41
42	Parbati-2 (H)	0.91	1.37
43	Parbati-3 (H)	13.75	1.72
44	Pong (H)	0.03	0.07
45	Rampur (H)	-4.33	-1.15
46	Sainj (H)	0.26	0.37
47	Salal (H)	-1.22	-0.43
48	Sewa-II (H)	No Gen	No Gen
49	Singoli Bhatwari (H)	0.21	0.31
50	Sorang (H)	0.07	0.28
51	Tanakpur (H)	-1.32	27.57
52	Tehri (H)	No Gen	No Gen
53	Uri-1 (H)	-3.04	-0.36
54	Uri-2 (H)	0.00	-2.33

Memebers 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.

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

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 receicved 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
6	Rihand-3 (TH)	2*500	Yes	5.0	Under Implementation
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 * 31.4)	Yes	4.0	
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	

NRLDC requested generating stations 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.

Further, memebers 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 anaysis of FRC response for the aforementioned event.

OCC forum requested members to share the FRC/FRP compuation data as per timeline and also analyse the FRC response of their respective control

area. Necessary action for imporvement in governor respeonse need be taken to ensure the propoer frequency response in complaince w.r.t. IEGC 2023.

B.15 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.nrldc.in/documents/Documents.

NRLDC representative stated that in this regard, communication has already been sent to constituents through NRLDC letter dated 01.05.2024, 21.02.2025 & 05.03.2025 for conducting mock testing of SPS in their control area and continuous follow up is also being done in OCC & PSC meeting since May 2024.

Further it was stated that during 2024-25, mock testing of 14 SPS out of total 55 SPS were not conducted. In view of high demand scenario during summer 2025-26, NLRDC vide letter dated 04.04.2025 requested all the concerned utility to conduct the mock testing of pending SPS by the end of April 2025. However, as reported, mock testing of 03 SPS out of pending 14 SPS have been done. In this regard, discussion was also held in 60th & 61st PSC meeting. PSC forum requested all the members to conduct the mock testing of all the SPS in their respective control area at the earliest.

Status of mock testing of all the SPS in NR is attached as Annexure-B.VIII of agenda.

NRLDC requested POWERGRID(NR-3) to share the schedule of mock testing of 400kV Gorakhpur-Muzaffarpur D/C (NR-ER inter-regional link). POWERGRID(NR-3) representative agreed to share at the earliest.

SLDC-UP representative informed following w.r.t. SPS in their control area:

i. *SPS at Sultanpur has been made healthy & operational on 05.05.2025.*
ii. *As telephonically confirmed from NAPS, no SPS is in service at NAPS. Written confirmation shall be taken and shared.*
iii. *Case of SPS at 400/220kV Bareilly(UP) has been put up with transmission wing. Further update will be shared.*

DTL representative stated that SPS of 400/220kV Bamnauli which was taken out after charging of 4th ICT, will be rewired and taken into service at the earliest.

SLDC-HP representative stated that they will confirm and share the status of corrective actions at Wangtoo(HP) w.r.t. SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wangtoo HEP.

Regarding SPS of Ropar TPS, SLDC-Punjab representative stated that the requirement of this SPS needs to be reviewed whether it is required or not. Accordingly, further actions for its revival shall be taken.

NRLDC requested concerned members to conduct the mock testing SPS in their respective control area and share the mock test report if mock test exercise has been conducted.

NRLDC also highlighted the following points related to SPS schemes in NR:

i. During mock testing of SPS of HVDC Rihand-Dadri on 20.03.2025, some issues were identified. SPS of HVDC Rihand-Dadri operated recently on 21.05.2025 during incident of outage of both poles. Desired SPS actions were not observed at some of the stations. NRLDC vide letter dated 02.07.2025, requested POWERGRID to take necessary remedial measure and make complete SPS system healthy. POWERGRID may share the details of action taken and present status.

   POWERGRID representative stated that the equipment's at Singrauli TPS end is owned by NTPC and need to be revived by them. SPS system at Rihand is healthy and operational. NTPC representative stated that as per details received from site, NTPC Singrauli team have initiated necessary actions in coordination with the POWERGRID.

   NRLDC representative requested NTPC Singrauli and POWERGRID to coordinate and make SPS system healthy at Singrauli TPS.

ii. In one of the SPS cases i.e., N-1-1/ N-2 of 765kV Anta-Phagi 1 & 2, instantaneous generation backdown of ~2100 MW is designed as SPS action. In such scenario, to avoid overloading of WR-NR corridor and over drawl by Rajasthan, it was agreed that RVPNL shall implement the automatic load shedding of ~750 MW by 28.02.2018. However, as per details available, implementation of automatic load shedding as per SPS hasn't been done yet. This matter has already been discussed in PSC as well as OCC meetings on regular basis. The concern of grid security and reliability was also raised during request of shutdown of 765kV Anta-Phagi line. is requested to expedite implementation of the automatic load shedding of ~750 MW as per SPS (N-1-1/ N-2 contingency of 765kV Anta-Phagi-1 & 2). RVPNL may share the updates in this regard.

SLDC-Rajasthan representative informed that study has been conducted in this regard and the case shall be put up in next OCC meeting for approval.

Further, Clause 16.2 of IEGC 2023 also mandates the mock testing of SPS for reviewing SPS parameters & functions, at least once a year. Mock testing of all the SPS needs to be conducted in 2025-26. In view of this NRLDC representative requested the following to the members:

i. Concerned constituents / utility are requested to conduct the mock testing of pending SPS (whose mock testing was not conducted in 2024-25) at the earliest.

ii. Utilities are also requested to conduct the mock testing of SPS schemes in their respective control area w.r.t. year 2025-26.

iii. In compliance with IEGC clause 16.2, users shall ensure that mock testing along with the review of SPS logic of all the SPS is conducted at least once a year.

iv. Further In compliance with IEGC clause 16.3, users shall also share the detailed report of SPS operation in their respective control area within 3 days of its operation. Presently, no such report is being received.

Further, during 60th PSC meeting, forum also decided to not disable the SPS where ICTs are now N-1 compliant after augmentation. It was decided that SPS may be kept enabled with logic based on loading instead of ICT tripping. In view of this, NRLDC requested members to take necessary actions at their end and share the confirmation.

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.

Meeting ended with vote of thanks to the chair.

Status of action taken on decision of 232nd OCC meeting of NRPC

S.N.	Agenda	Decision of 232nd OCC meeting of NRPC	Status of action taken
1	Agenda. Rectification of the breaker and charging of the 220kV Sunam (PS)-Patran (IndiGrid) Circuit (Agenda by Punjab SLDC)	IndiGrid representative apprised that a specific power card is to be replaced and order for the same has been placed and OEM is in process to replace it. Expected timeline mentioned by IndiGrid in the meeting for this work is one month as OEM is in process to manufacture this specific power card.	IndiGrid representative apprised that replacement is in process and expected to be done shortly. MS, NRPC mentioned that owner of the asset may give application to electrical inspector for permission to commence or recommence supply after such installation has been disconnected for six months as per Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023.

Follow up issues from previous OCC meetings

Annexure-A.II

<table>
<tr><td>1</td><td>Down Stream network by State utilities from ISTS Station</td><td>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.</td><td colspan="2">List of downstream networks is enclosed in Annexure-A.II.I.</td></tr>
<tr><td>2</td><td>Progress of installing new capacitors and repair of defective capacitors</td><td>Information regarding installation of new capacitors and repair of defective capacitors is to be submitted to NRPC Secretariat.</td><td colspan="2">Data upto following months, received from various states / UTs:
◎ CHANDIGARH — Sep-2019
◎ DELHI — May-2025
◎ HARYANA — Apr-2025
◎ HP — Mar-2025
◎ J&K and LADAKH — Not Available
◎ PUNJAB — Apr-2025
◎ RAJASTHAN — Jun-2025
◎ UP — Jun-2025
◎ UTTARAKHAND — Jun-2025
All States/UTs are requested to update status on monthly basis.</td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">Healthiness of defence mechanism: Self-certification</td><td>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”.</td><td colspan="2">Data upto following months, received from various states / UTs:
◎ CHANDIGARH — Not Available
◎ DELHI — Jul-2025
◎ HARYANA — Jun-2025
◎ HP — Jun-2025
◎ J&K and LADAKH — Not Available
◎ PUNJAB — Jun-2025
◎ RAJASTHAN — Dec-2024
◎ UP — Jun-2025
◎ UTTARAKHAND — Jul-2025
◎ BBMB — Jun-2025
All States/UTs are requested to update status for healthiness of UFRs on monthly basis for islanding schemes and on quartely basis for the rest.</td></tr>
<tr><td>In compliance of NPC decision, NR states/constituents agreed to raise the AUFR settings by 0.2 Hz in 47th TCC/49th NRPC meetings.</td><td colspan="2">Status:
◎ CHANDIGARH — Not Available
◎ DELHI — Increased
◎ HARYANA — Increased
◎ HP — Increased
◎ J&K and LADAKH — Increased
◎ PUNJAB — Increased
◎ RAJASTHAN — Increased
◎ UP — Increased
◎ UTTARAKHAND — Increased
◎ BBMB — Increased</td></tr>
</table>

<table>
<tr><td>4</td><td>Status of Automatic Demand Management System in NR states/UT's</td><td>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:</td><td>The status of ADMS implementation in NR is enclosed in Annexure-A.II.II.
<table><tr><td>◎</td><td>DELHI</td><td>Scheme Implemented but operated in manual mode.</td></tr><tr><td>◎</td><td>HARYANA</td><td>Scheme not implemented</td></tr><tr><td>◎</td><td>HP</td><td>Scheme not implemented</td></tr><tr><td>◎</td><td>PUNJAB</td><td>Scheme not implemented</td></tr><tr><td>◎</td><td>RAJASTHAN</td><td>Under implementation.</td></tr><tr><td>◎</td><td>UP</td><td>Scheme implemented by NPCIL only</td></tr><tr><td>◎</td><td>UTTARAKHAND</td><td>Scheme not implemented</td></tr></table></td></tr>
<tr><td>5</td><td>Status of availability of ERS towers in NR</td><td>As per the decesion 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.</td><td>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.II.III.</td></tr>
<tr><td>6</td><td>Submission of breakup of Energy Consumption by the states</td><td>All states/UTs are requested to submit the requisite data as per the billed data information in the format given as under:
<table><tr><td>Category→</td><td>Consumption by Domestic Loads</td><td>Consumption by Commercial Loads</td><td>Consumption by Agricultural Loads</td><td>Consumption by Industrial Loads</td><td>Traction supply load</td><td>Miscellaneous / Others</td></tr><tr><td><Month></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table></td><td>Status of the information submission (month) from states / utilities is as under:
<table><tr><td></td><td>State / UT</td><td>Upto</td></tr><tr><td>◎</td><td>CHANDIGARH</td><td>Not Submitted</td></tr><tr><td>◎</td><td>DELHI</td><td>May-25</td></tr><tr><td>◎</td><td>HARYANA</td><td>May-25</td></tr><tr><td>◎</td><td>HP</td><td>May-25</td></tr><tr><td>◎</td><td>J&K and LADAKH</td><td>JPDCL- Mar'24
KPDCL- Not Submitted</td></tr><tr><td>◎</td><td>PUNJAB</td><td>Apr-25</td></tr><tr><td>◎</td><td>RAJASTHAN</td><td>Apr-25</td></tr><tr><td>◎</td><td>UP</td><td>Feb-25</td></tr><tr><td>◎</td><td>UTTARAKHAND</td><td>Jan-25</td></tr></table>Chandigarh is requested to submit the requisite data w.e.f. April 2018 as per the billed data information in the given format</td></tr>
<tr><td>7</td><td>Status of FGD installation vis-à-vis installation plan at identified TPS</td><td>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 meetings.</td><td>Status of the information submission (month) from states / utilities is as under:
<table><tr><td>◎</td><td>HARYANA</td><td>Jun-2024</td></tr><tr><td>◎</td><td>PUNJAB</td><td>Feb-2025</td></tr><tr><td>◎</td><td>RAJASTHAN</td><td>Feb-2025</td></tr><tr><td>◎</td><td>UP</td><td>Jan-2024</td></tr><tr><td>◎</td><td>NTPC</td><td>Mar-2025</td></tr></table>FGD status details are enclosed as Annexure-A.II.IV.
All States/utilities are requested to update status of FGD installation progress on monthly basis.</td></tr>
<tr><td>8</td><td>Information about variable charges of all generating units in the Region</td><td>The variable charges detail for different generating units are available on the MERIT Order Portal.</td><td>All states/UTs are requested to submit daily data on MERIT Order Portal timely.</td></tr>
</table>

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	The Letter of Award for "Procurement of 125 MVAR Reactor, Online DGA, ODS, NIFPS along with its accessories at 400 KV Sub-station Kashipur" against Tender Specification no. PTCUL/E-Tender/C&P-II/SS-12/2024-25 has been issued to M/s Bharat Heavy Electricals Limited, New Delhi on 26.06.2025.

Annexure-A-II.I

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.	-	02 No. of bays shall be utilized for LILO-II of 220kV Jatwal-Bishnah Transmission Line, the work of which is expected to begin on 16th July 2025. Updated in 233rd 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-wampoh-mirbazar 5km and harwan-alstung 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	Contractual completion date on 04.08.2025.	Under construction.Updated in 230rd 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 Shahajahanpur (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.Commisioned 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.	-	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 31.03.2025. 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 Pardesh 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	Oct'25	Erection and stringing work completed.The signing of Connection agreement amongst the Utilities is pending. Updated in 230th 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	Commissioned	Updated in 232nd OCC by HVPNL **Status:-** A-formats for FTC of line submitted on FTC portal of NRLDC on dated 09.04.25.

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	Oct'25	Line work completed, but commissioning of 220kV substation Roj ka Meo is pending till now.. However, this arrangement will not lead to usage of additional bays i.e. no of utilitsed bays at Sohna road will remain same.Updated in 230th 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 Aprroved: 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	Dec'25	Contract awarded on 08.08.23 to M/s Skipper with completion in December 25.Updated in 230th 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	31.07.2025	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	The work for construction of 220kV D/C Prithla-Sector-78 Faridabad line on multi circuit towers is delayed mainly due to severe resistance by local villagers & ROW problem at site during construction. Due to delay in construction of 220kV D/C Prithla-Sector-78 Faridabad line, the work for construction of 220kV D/C Prithla-Sector 89 Faridabad line might delay..Updated in 230th 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	Commissioned	Commissioned as updated by HVPNL in 233rd OCC
				• 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	31.07.2025	Updated in 232nd 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 Jallandhar Sub-station	Commissioned: 10 Total: 10	Utilized: 8 Unutilized: 2	• LILO of 220 kV BBMB Jalandhar - Butari line at 400 kV PGCIL Jalandhar	-	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 upated 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 Pachkula 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	Jun'25	Revised target date as confirmed by concerned XEN TS, Panchkula.Updated in 230th 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	-	Draft connectivity agreements for 220kV Rashiana-Amritsar has been received from CTU and the same under processing. Draft connectivity agreements for 220kV Patti-Amritsar line is under consideration by CTU. CTU is processing the agreement and PSTCL has provided with the requisite inputs/data to CTU. Updated in 232nd 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)	-	Draft connectivity agreements for 220kV Rashiana-Amritsar & 220kV Patti-Amritsar lines are under consideration by CTU. CTU is processing the agreement and PSTCL has provided with the requisite inputs/data to CTU. Updated in 232nd 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 Bahardurgarh 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	-	Proposal turned down by CEA.Updated in 230th OCC by HVPNL.
				• Bahadurgarh - METL 220kV D/c line (Deposit work of M/s METL)	15.06.2026	Updated in 230th OCC by HVPNL. **Status:** The work stands awarded to the M/s KRR and the execution work has been started at site. Partial route stands approved by the competant authority of the HVPNL. Further, 06 no. Foundation has been casted.
				• Bahadurgarh - Kharkhoda Pocket B 220kV D/c line	30.06.2025	Updated in 230th OCC by HVPNL. **Status:** RoW issues which are being resolved with the help of Duty Magistrate.
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 RVPN in 222nd OCC.
32	400/220kV, Manesar	Commissioned: 8 Total: 8	Utilized: 4 Unutilized: 4	• Network to be planned for 2 bays	-	Status:- A proposal is being prepared for the creation of another 220kV D/C line from the 400kV substation Panchgaon (PG) to the 220kV substation Panchgaon (HVPNL), along with the LILO of one circuit of the 220kV D/C Panchgaon (PG) – Mau line at the 220kV substation Panchgaon to utilize two bays at the 400kV substation Panchgaon. The load flow study for this has already been completed.
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 Tansmission 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.

Sl. No.	Substation	Downstream network bays	Status of bays	Planned 220 kV system and Implementation status	Revised Target	Remarks
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	• 400 kV PGCIL Patiala - 220 kV Bhadson (D/C)	-	2 Nos. bays for 400 kV PGCIL Patiala - 220 kV Bhadson (D/C) line being planned. Construction of boundary wall has started at 220 kv ss bhadson.yard work could not be started as approval for dismantaling existing 517 no tress is pending at district level committee which is competent for giving approval of dismantling of trees. Chairman of committee is DC pataiala.. as updated by PSTCL in 233th OCC meeting

Status of ADMS implementation in NR:

Sl. No.	State / UT	Status	Remarks
1	DELHI	Scheme Implemented but operated in manual mode.	Revised Standard Operating Procedure (SOP) of Automatic Demand Management Scheme (ADMS) in NCT of Delhi has been approved in 51st TCC and 76th NRPC meeting. In OCC meeting, 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. 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.
2	HARYANA	Scheme not implemented	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: PART-I: Control with Transmission Utility PART-II: Control with Distribution Utility 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. Hence, there is no need to acquire a separate ADMS application & associated hardware for data centre for implementation of PART-I. 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.
3	HP	Scheme not implemented	HPSDLC has kept the provision of ADMS in upgradation/replacement of SCADA system under ULDC Phase-III scheme for operating the feeders automatically through ADMS functionality. HP SLDC mentioned that logic regarding implementation of Automatic Demand Management System in HP Control Area has been finalized and finalization of feeders to give this load relief is pending. 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 from HPSEBL is awaited as intimated by HPSLDC.
4	PUNJAB	Scheme not implemented	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: 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. ii. In 222nd OCC, MS NRPC asked Punjab to co-ordiante with Powergrid for integration of their propsoed logic with the ULDC phase-III SCADA system for timely implementation.

5	RAJASTHAN	Under implementation	RVPN has pilot tested the logic of ADMS which is to be implemented for Rajasthan. In 232th OCC meeting, RVPN informed that 286 nos. of circuit breakers have been mapped to ADMS, all 286 circuit breakers tested upto yard individually. Total 650CBs are to be mapped in phased manner.
6	UP	Scheme implemented by NPCIL only	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.(it is delayed) 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. vi. MS, NRPC apprised forum that a letter has been written to Director, SLDC for co-odinatng with Director (Distribution), UPPCL for expediting the finalization of feeder list at 33kV for ADMS implementation. vii. Response from UPPCL regarding the finalization of feeder list at 33kV for ADMS implementation is awaited. ix. In 230th OCC meeting UP SLDC representative informed that feeder list at 33kV level for ADMS is awaited from UPPCL.
7	UTTARAKHAND	Scheme not implemented	i. UPCL has prepared a system architecture in which all the non-monitored sub-stions 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. v. First Phase- Data Acquisition of 32 interstate points completed. vi. Second Phase-95 distribution side Substation work is on progress. vii In 230th OCC meeting Uttarakhand SLDC representative informed that Harbour installation and communication establishment has been done on 35 11kV feeders out of total 195 11kV feeders. The work is expected to be completed by December, 2025.

Annexure-A.II.III.

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 bidder.
		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 Ballabhgarh	make-Lindsey
		765 KV	4721.85	15 Towers	1	All 765kV ERS at Meerut	Make-SBB
		500 KV HVDC	653.88	NIL	1		
		800 KV HVDC	416.58	NIL	1		
3	Powergrid NR-2	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 Ajmer
		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	1666.43	2	2		
		220 kV	7921.991				
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		Tied up with M/s INDIGRID for providing ERS on need basis.
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)

Annexure-A.II.IV

FGD COMMISSIONING STATUS						
S.No.	Utility	Plant Name	Unit	Target Commissioning Date (As updated by utility in OCC)	If commissioned , Actual Date of Commissioning	If not commissioned , Target Date of Commissioning
1	Adani Power Ltd.	KAWAI TPS	1	31-Dec-24		31-Dec-29
2			2	31-Dec-24		31-Dec-29
3	APCPL	INDIRA GANDHI STPP	1		3-May-24	
4			2	30-Sep-23	27-Jan-25	
5			3	30-Jun-23		31-May-25
6	GVK	GOINDWAL SAHIB	1	30-Apr-20	INFO NOT RECEIVED	
7			2	29-Feb-20		
8	NTPC	DADRI NCTPP	1	31-Dec-20	31.12.2019,(DSI - Dry FGD)	
9			2	31-Oct-20	27.12.2019,(DSI - Dry FGD)	
10			3	31-Aug-20	27.07.2020,(DSI - Dry FGD)	
11			4	30-Jun-20	14.07.2020,(DSI - Dry FGD)	
12			5	30-Jun-22	15-Jun-22	
13			6	31-Mar-23	8-Feb-24	
14		RIHAND STPS	1	31-Dec-24		30-Nov-26
			2	30-Jun-26		31-Aug-26
			3	31-Dec-24		31-Dec-26
			4	31-Mar-25		30-Sep-26
			5	30-Jun-25		30-Jun-26
15			6	31-Mar-25		31-Mar-25
16		SINGRAULI STPS	1	31-Dec-24		30-Sep-25
17			2	31-Dec-24		30-Sep-25
18			3	31-Dec-24		30-Sep-25
19			4	31-Dec-24		31-Dec-25
20			5	31-Mar-25		31-Dec-25
21			6	30-Jun-24		31-Aug-25
22			7	31-Mar-24	Hot Gas In completed on 26.03.2025	30-Jun-25
23		UNCHAHAR TPS	1	31-Dec-23	22-Feb-25	
24			2	31-Dec-23	22-Feb-25	
25			3	30-Sep-23		30-May-25
26			4	30-Sep-23		30-May-25
27			5	30-Sep-23		30-May-25
28			6	31-Aug-22	11-Oct-22	
29		MEJA STAGE- 1	1	31-Oct-23	16-Jan-25	
30			2	30-Jun-23	28-Feb-25	
31		TANDA STAGE -1	1	No FGD		
			2	No FGD		
			3	No FGD		
32			4	No FGD		
33		TANDA STAGE -2	5	31-Mar-23	28-Nov-24	
34			6	30-Sep-23		30-May-25
35	L&T POWER DEVELOPMENT	NABHA TPP (RAJPURA TPP)	1	30-Apr-21	NPL has completed construction of FGD units for	
36			2	28-Feb-21	both of its units, which have been ready for	
37	TALWANDI SABO POWER LTD.	TALWANDI SABO TPP	1	28-Feb-21	INFO NOT RECEIVED	
38			2	31-Dec-20		
39			3	31-Oct-20		
40	HGPCL	PANIPAT TPS	6	31-Dec-25		
41			7	31-Dec-25		
42			8	31-Dec-25		
43		RAJIV GANDHI TPS	1	31-Aug-27		
44			2	31-Aug-27		
45		YAMUNA NAGAR TPS	1	31-Aug-27		
46			2	31-Aug-27		
47	Lalitpur Power Gen. Company Ltd.	LALITPUR TPS	1	31-Dec-26		
48			2	30-Sep-26		
49			3	30-Jun-26		
50	Lanco Anpara Power Ltd.	ANPARA C TPS	1	31-Dec-25		
51			2	31-Dec-25		
52	Prayagraj Power Generation Company Ltd.	PRAYAGRAJ TPP	1	31-Dec-26		
53			2	31-Dec-26		
54			3	31-Dec-26		
55	PSPCL	GH TPS (LEH.MOH.)	1	31-Dec-26		
56			2	31-Dec-26		
57			3	31-Dec-26		
58			4	31-Dec-26		
59		GGSSTP, Ropar	3	31-Dec-26		
60			4	31-Dec-26		
61			5	31-Dec-26		
62			6	30-Dec-26		
63	Rosa Power Supply Company	ROSA TPP PH-I	1	31-Dec-26		
64			2	31-Dec-26		
65			3	31-Dec-26		
66			4	31-Dec-26		
67			5	30-Nov-25		

68	RRVUNL	KOTA TPS	6	30-Nov-25		
69			7	30-Nov-25		
70		SURATGARH TPS	1	31-Dec-29		
71			2	31-Dec-29		
72			3	31-Dec-29		
73			4	31-Dec-29		
74			5	31-Dec-29		
75			6	31-Dec-29		
76		SURATGARH SCTPS	7	28-Feb-26		
77			8	28-Feb-26		
78		CHHABRA TPP	1	31-Dec-29		
79			2	31-Dec-29		
80			3	31-Dec-29		
81			4	31-Dec-29		
82		CHHABRA SCPP	5	28-Feb-26		
83			6	28-Feb-26		
84		KALISINDH TPS	1	28-Feb-26		
85			2	28-Feb-26		
86	UPRVUNL	ANPARA TPS	1	31-Dec-25		
87			2	31-Dec-25		
88			3	31-Dec-25		
89			4	31-Dec-25		
90			5	31-Dec-25		
91			6	31-Dec-25		
92			7	31-Dec-25		
93		HARDUAGANJ TPS	8	31-Dec-26		
94			9	31-Dec-26		
95		OBRA TPS	9	31-Dec-26		
96			10	31-Dec-26		
97			11	31-Dec-26		
98			12	31-Dec-26		
99			13	31-Dec-26		
100		PARICHHA TPS	3	31-Dec-26		
101			4	31-Dec-26		
102			5	31-Dec-26		
103			6	31-Dec-26		

Thermal Generators

Annexure-A.III

S. No.	Name of Plant	Unit	Installed Capacity	MVA Rating	Make of Units	COD	GT Details			Mode of Fuel Transport (Pit Head/Non Pit-head)	Name of Utility	Sector	Control Area	Type	Real and Reactive Power Capability assessment.			Assessment of Reactive Power Control Capability as per CEA Technical Standards for connectivity			Model Validation and verification test for the complete Generator and Excitation System model including PSS.			Model Validation and verification of Turbine/Governor and Load Control or Active Power/frequency Control Functions.			Testing of Governor performance and Automatic Generation Control			Revised Simulation Models		
							Voltage Ratio	GT MVA Capacity	Tap Ratio of GT (Present Tap/Total Taps)						Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks	
1																																
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																

Hydro Generators

S. No.	Name of Plant	Unit	Installed Capacity	MVA Rating	Make of Units	COD	GT Details			Type (Pondage/RoR etc.)	Name of Utility	Sector	Control Area	Real and Reactive Power Capability assessment.			Assessment of Reactive Power Control Capability as per CEA Technical Standards for connectivity			Model Validation and verification test for the complete Generator and Excitation System model including PSS.			Model Validation and verification of Turbine/Governor and Load Control or Active Power/frequency Control Functions.			Testing of Governor performance			Automatic Generation Control			Revised Simulation Models	
							Voltage Ratio	GT MVA Capacity	Tap Ratio of GT (Present Tap/Total Taps)					Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks
1	Bairasiul	UNIT-I	60 MW	67 MVA	M/S BHEL	18.05.1980	11kV/220kV	25 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
2	Bairasiul	UNIT-II	60 MW	67 MVA	M/S BHEL	19.05.1980	11kV/220kV	25 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
3	Bairasiul	UNIT-III	60 MW	67 MVA	M/S BHEL	13.09.1981	11kV/220kV	25 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
4	Salal	UNIT-I	115 MW	127.8 MVA	M/S BHEL	November'87	11kV/220kV	43.33 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
5	Salal	UNIT-II	115 MW	127.8 MVA	M/S BHEL	November'87	11kV/220kV	43.33 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
6	Salal	UNIT-III	115 MW	127.8 MVA	M/S BHEL	November'87	11kV/220kV	43.33 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
7	Salal	UNIT-IV	115 MW	127.8 MVA	M/S BHEL	March'93	11kV/220kV	43.33 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
8	Salal	UNIT-V	115 MW	127.8 MVA	M/S BHEL	May'94	11kV/220kV	43.33 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
9	Salal	UNIT-VI	115 MW	127.8 MVA	M/S BHEL	February'95	11kV/220kV	43.33 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
10	Tanakpur	UNIT-I	31.4 MW	45 MVA	M/S BHEL	31.03.1992	11kV/220kV	49.5 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
11	Tanakpur	UNIT-II	31.4 MW	45 MVA	M/S BHEL	06.04.1992	11kV/220kV	49.5 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
12	Tanakpur	UNIT-III	31.4 MW	45 MVA	M/S BHEL	04.04.1992	11kV/220kV	49.5 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
13	Chamera-I	UNIT-I	180 MW	200 MVA	GE, Canada	28.04.1992	13.8KV/400 KV	75 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
14	Chamera-I	UNIT-II	180 MW	200 MVA	GE, Canada	25.04.1993	13.8KV/400 KV	75 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
15	Chamera-I	UNIT-III	180 MW	200 MVA	GE, Canada	22.04.1994	13.8KV/400 KV	75 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
16	Uri-I	UNIT-I	120 MW	136 MVA	ABB	10.04.1997	13.8KV/400 KV	50 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
17	Uri-I	UNIT-II	120 MW	136 MVA	ABB	27.01.1997	13.8KV/400 KV	50 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
18	Uri-I	UNIT-III	120 MW	136 MVA	ABB	03.03.1997	13.8KV/400 KV	50 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
19	Uri-I	UNIT-IV	120 MW	136 MVA	ABB	13.03.1997	13.8KV/400 KV	50 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
20	Chamera-II	UNIT-I	100 MW	111.1 MVA	GE	04.10.2003	11KV/400 KV	41 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
21	Chamera-II	UNIT-II	100 MW	111.1 MVA	GE	05.12.2003	11KV/400 KV	41 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
22	Chamera-II	UNIT-III	100 MW	111.1 MVA	GE	26.02.2004	11KV/400 KV	41 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
23	Dulhasti	UNIT-I	130 MW	145 MVA	GEC ALSTHOM	28.03.2007	11KV/400 KV	48.33 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
24	Dulhasti	UNIT-II	130 MW	145 MVA	GEC ALSTHOM	28.02.2007	11KV/400 KV	48.33 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
25	Dulhasti	UNIT-III	130 MW	145 MVA	GEC ALSTHOM	18.03.2007	11KV/400 KV	48.33 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
26	Dhauliganga	UNIT-I	70 MW	78 MVA	Alstom/GE	14.10.2005	11kV/220kV	29 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
27	Dhauliganga	UNIT-II	70 MW	78 MVA	Alstom/GE	01.09.2005	11kV/220kV	29 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
28	Dhauliganga	UNIT-III	70 MW	78 MVA	Alstom/GE	28.07.2005	11kV/220kV	29 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
29	Dhauliganga	UNIT-IV	70 MW	78 MVA	Alstom/GE	26.07.2005	11kV/220kV	29 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
30	Sewa-II	UNIT-I	40 MW	50 MVA	M/S BHEL	27.06.2010	11kV/132kV	50 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
31	Sewa-II	UNIT-II	40 MW	50 MVA	M/S BHEL	10.07.2010	11kV/132kV	50 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
32	Sewa-II	UNIT-III	40 MW	50 MVA	M/S BHEL	27.07.2010	11kV/132kV	50 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
33	Uri-II	UNIT-I	60 MW	67 MVA	Alstom	25.09.2013	11KV/400 KV	25 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
34	Uri-II	UNIT-II	60 MW	67 MVA	Alstom	25.11.2013	11KV/400 KV	25 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
35	Uri-II	UNIT-III	60 MW	67 MVA	Alstom	27.09.2013	11KV/400 KV	25 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
36	Uri-II	UNIT-IV	60 MW	67 MVA	Alstom	02.02.2014	11KV/400 KV	25 MVA		RoR	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				
37	Chamera-III	UNIT-I	77 MW	85.56 MVA	Alstom	27.06.2012	11kV/220kV	32 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026				

38	Chamera-III	UNIT-II	77 MW	85.56 MVA	Alstom	10.06.2012	11kV/220kV	32 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
39	Chamera-III	UNIT-III	77 MW	85.56 MVA	Alstom	07.06.2012	11kV/220kV	32 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
40	Parbati-III	UNIT-I	130 MW	145 MVA	M/S BHEL	17.02.2014	13.8KV/400 KV	53 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
41	Parbati-III	UNIT-II	130 MW	145 MVA	M/S BHEL	27.02.2014	13.8KV/400 KV	53 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
42	Parbati-III	UNIT-III	130 MW	145 MVA	M/S BHEL	15.03.2014	13.8KV/400 KV	53 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
43	Parbati-III	UNIT-IV	130 MW	145 MVA	M/S BHEL	22.05.2014	13.8KV/400 KV	53 MVA		Pondage	NHPC	Power/Energy	Northern		Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
44	Kishanganga	UNIT-I	110 MW	122.22 MVA	M/S BHEL	13.03.2018	13.8KV/220 KV	45 MVA		Pondage	NHPC	Power/Energy	Northern	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
45	Kishanganga	UNIT-II	110 MW	122.22 MVA	M/S BHEL	21.03.2018	13.8KV/220 KV	45 MVA		Pondage	NHPC	Power/Energy	Northern	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
46	Kishanganga	UNIT-III	110 MW	122.22 MVA	M/S BHEL	30.03.2018	13.8KV/220 KV	45 MVA		Pondage	NHPC	Power/Energy	Northern	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026	01-03-2018	Yes	Jan-Feb 2026			Jan-Feb 2026			Jan-Feb 2026
47	Parbati-II	UNIT-I	200 MW	222.22 MVA	M/S BHEL	01.04.2025	13.8KV/400 KV	82 MVA		Pondage	NHPC	Power/Energy	Northern	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030
48	Parbati-II	UNIT-II	200 MW	222.22 MVA	M/S BHEL	01.04.2025	13.8KV/400 KV	82 MVA		Pondage	NHPC	Power/Energy	Northern	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030
49	Parbati-II	UNIT-III	200 MW	222.22 MVA	M/S BHEL	01.04.2025	13.8KV/400 KV	82 MVA		Pondage	NHPC	Power/Energy	Northern	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030
50	Parbati-II	UNIT-IV	200 MW	222.22 MVA	M/S BHEL	16.04.2025	13.8KV/400 KV	82 MVA		Pondage	NHPC	Power/Energy	Northern	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030	March/April 2025	No	2030
51	Tehri HPP(4*250 MW)	1	250 MW	278 MVA	Power Machine	09.07.2007	420/15.75 kV	306	0.4 (2/5)		THDC India Limited	Power Generation	Northern	-	Yes	Mar-26	-	Yes	Mar-26	-	Yes	Mar-26	Apr-23	No	Mar-28	Apr-23	No	Mar-28	Mar-2021	Yes	Mar-26
52		2	250 MW	278 MVA		30.03.2007	420/15.75 kV	306	0.4 (2/5)																						
53		3	250 MW	278 MVA		09.11.2006	420/15.75 kV	306	0.4 (2/5)																						
54		4	250 MW	278 MVA		22.09.2006	420/15.75 kV	306	0.4 (2/5)																						
55	NJHPS	1	250 MW	278 MVA	EUCONA (Voith Siemens(Germany), GE Hydro (Oslo/Norway), Alstom(Germany), VA Tech(Italy), BHEL(India))	18.05.2004	15.75kV/ 400kV	3 x 102 MVA	Tap Ratio - 2/5	RoR	SJVN	Power/Energy	NRLDC	18.02.2023	No	-	18.02.2023	No	-	18.02.2023	No	-	05.05.2022	No	-	09.02.2021	Yes	08.02.2026	09.02.2021	Yes	08.02.2026
56	NJHPS	2	250 MW	278 MVA		06.05.2004					SJVN		NRLDC	28.02.2023	No	-	28.02.2023	No	-	28.02.2023	No	-	05.05.2022	No	-	09.02.2021	Yes	08.02.2026	09.02.2021	Yes	08.02.2026
57	NJHPS	3	250 MW	278 MVA		31.03.2004					SJVN		NRLDC	20.02.2023	No	-	20.02.2023	No	-	20.02.2023	No	-	05.05.2022	No	-	09.02.2021	Yes	08.02.2026	09.02.2021	Yes	08.02.2026
58	NJHPS	4	250 MW	278 MVA		30.03.2004					SJVN		NRLDC	19.02.2023	No	-	19.02.2023	No	-	19.02.2023	No	-	05.05.2022	No	-	09.02.2021	Yes	08.02.2026	09.02.2021	Yes	08.02.2026
59	NJHPS	5	250 MW	278 MVA		06.10.2003					SJVN		NRLDC	10.02.2023	No	-	10.02.2023	No	-	10.02.2023	No	-	05.05.2022	No	-	09.02.2021	Yes	08.02.2026	09.02.2021	Yes	08.02.2026
60	NJHPS	6	250 MW	278 MVA		02.01.2004					SJVN		NRLDC	11.02.2023	No	-	11.02.2023	No	-	11.02.2023	No	-	03.11.2023	No	-	09.02.2021	Yes	08.02.2026	09.02.2021	Yes	08.02.2026

Nuclear Generators

S. No.	Name of Plant	Unit	Installed Capacity	MVA Rating	Make of Units	COD	GT Details			Type	Name of Utility	Sector	Control Area	Type	Real and Reactive Power Capability assessment.			Assessment of Reactive Power Control Capability as per CEA Technical Standards for connectivity			Model Validation and verification test for the complete Generator and Excitation System model including PSS.			Model Validation and verification of Turbine/Governor and Load Control or Active Power/frequency Control Functions.			Testing of Governor performance and Automatic Generation Control			Revised Simulation Models		
							Voltage Ratio	GT MVA Capacity	Tap Ratio of GT (Present Tap/Total Taps)						Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks	

Gas Based Generators

S. No.	Name of Plant	Unit	Installed Capacity	MVA Rating	Make of Units	COD	GT Details			Name of Utility	Sector	Control Area	Type	Real and Reactive Power Capability assessment.			Assessment of Reactive Power Control Capability as per CEA Technical Standards for connectivity			Model Validation and verification test for the complete Generator and Excitation System model including PSS.			Model Validation and verification of Turbine/Governor and Load Control or Active Power/frequency Control Functions.			Testing of Governor performance and Automatic Generation Control			Revised Simulation Models	
							Voltage Ratio	GT MVA Capacity	Tap Ratio of GT (Present Tap/Total Taps)					Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks

Renewable Energy Plants

S. No.	Name of Plant	Pooling Station Name	Installed Capacity	Type (Solar/Wind)	COD	Owner	Sector	Control Area	Inverter/ WTG Make	Inverter/ WTG Model	PPC Make	Real and Reactive Power Capability for Generator			Power Plant Controller Function Test			Frequency Response Test			Active Power Set Point change test			Reactive Power (Voltage / Power Factor / Q) Set Point change test			Revised Simulation Models		
												Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks	

HVDC Links

S. No	Name of Link	Type (LCC/VSC/Back-to-Back)	HVDC_Voltage (kV)	Converter-1		Converter-2		Master Converter Station	Pole_number	Length (km)	Capacity (MW)	Owner	Forward Direction			Reverse Direction			Reactive Power Controller (RPC) Capability for HVDC/FACTS			Filter bank adequacy assessment based on present grid condition, in consultation with NLDC.			Revised Simulation Models		
				Station Name	Region	Station Name	Region						Maximum Capacity	Minimum Capacity	Ground_return_capacity	Maximum Capacity	Minimum Capacity	Ground_return_capacity	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks	
1			500	APL-Mundra	WR	Mohindargarh	NR		1	989	1,250	ATIL	150	500	1250					Due			Due			
2			500	APL-Mundra		Mohindargarh			2	989	1,250	ATIL	150	500	1250					Due			Due			
3		LCC	800	Champa_HVDC	WR	Kurukshetra	NR	Champa_HVDC	1	1,306	1,500	POWERGRID	150	1,500	DMR path	NA	NA	NA		Due	Apr-2025		Due			
4		LCC	800	Champa_HVDC	WR	Kurukshetra	NR	Champa_HVDC	2	1,306	1,500	POWERGRID	150	1,500	DMR path	NA	NA	NA		Due	Apr-2025		Due			
5		LCC	800	Champa_HVDC	WR	Kurukshetra	NR	Champa_HVDC	3	1,306	1,500	POWERGRID	150	1,500	DMR path	NA	NA	NA		Due	Apr-2025		Due			
6		LCC	800	Champa_HVDC	WR	Kurukshetra	NR	Champa_HVDC	4	1,306	1,500	POWERGRID	150	1,500	DMR path	NA	NA	NA		Due	Apr-2025		Due			

STATCOMs/SVCs

S.No	Station	Statcom	Capacity (MVAR)	Owner	Make	Reactive Power Controller (RPC) Capability for HVDC/FACTS			Filter bank adequacy assessment based on present grid condition, in consultation with NLDC			Validation of response by FACTS devices as per settings.			Revised Simulation Models	
						Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks
1	Kurukshetra	TCR	500	POWERGRID	GE Vernova T&D	NA	NA	NA	NA	NA	NA	Nov-2023	No	Sep-2028		
2	Fatehgarh-2	STATCOM	.+/-600	POWERGRID	SIEMENS	Oct-2023	No	Sep-2028	NA	NA	NA	Oct-2023	No	Sep-2028		
3	Bhadla-2	STATCOM	.+/-600	POWERGRID	SIEMENS	Jun-2023	No	May-2028	NA	NA	NA	Jun-2023	No	May-2028		
4	Bikaner-2	STATCOM	.+/-300	POWERGRID	SIEMENS	Jul-2023	No	Jun-2028	NA	NA	NA	Jul-2023	No	Jun-2028		

FSCs/TCSCs

S. No	End 1	End 2	Line No.	Compensator Location	Make	Fixed Compensation	Variable Compensation Positive	Variable Compensation Negative	Agency	Reactive Power Controller (RPC) Capability for HVDC/FACTS			Filter bank adequacy assessment based on present grid condition, in consultation with NLDC			Validation of response by FACTS devices as per settings.			Revised Simulation Models	
										Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks

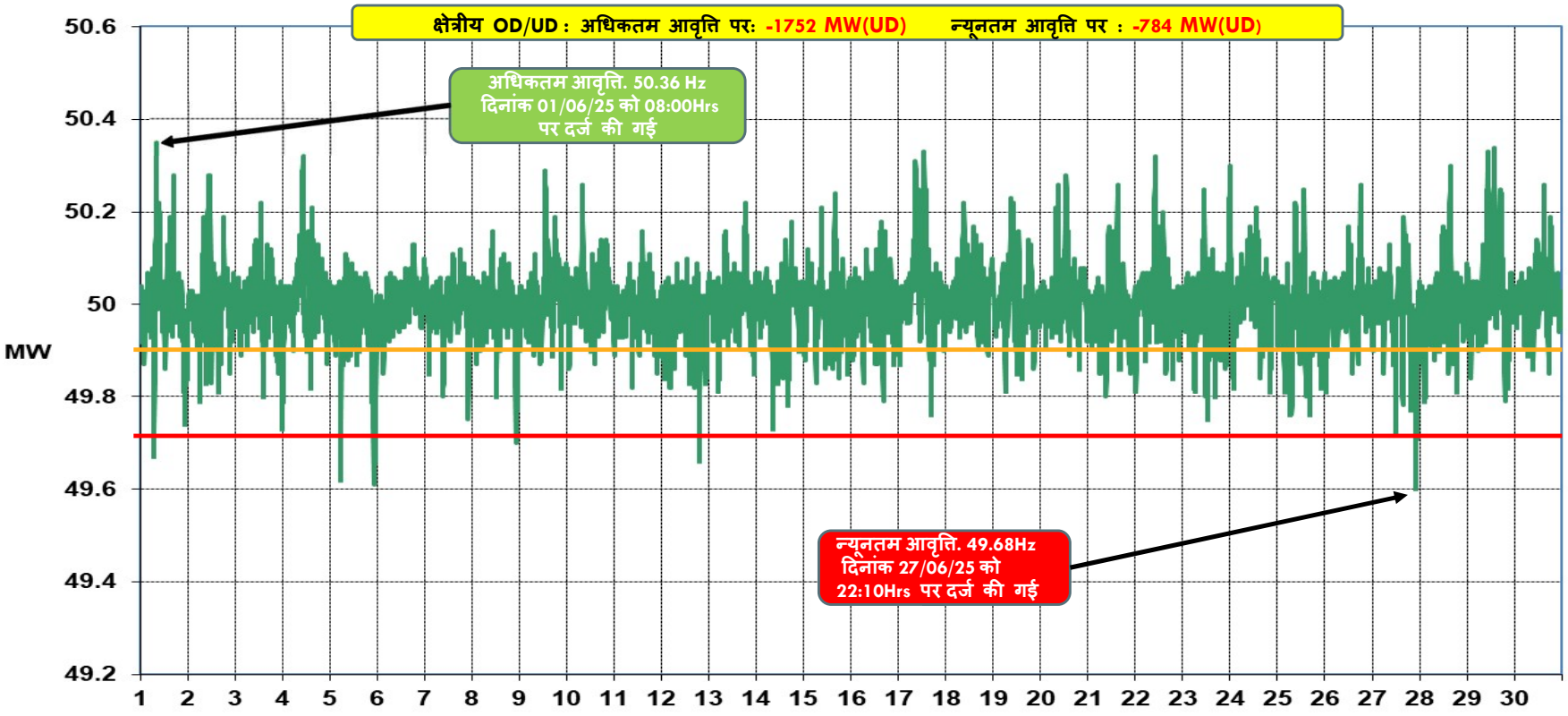
Series Reactor

S.No	End 1	End 2	Line No.	End	Capacity	Make	Reactive Power Controller (RPC) Capability for HVDC/FACTS			Filter bank adequacy assessment based on present grid condition, in consultation with NLDC			Validation of response by FACTS devices as per settings.			Revised Simulation Models	
							Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Last tested on (dd/mm/yyyy)	Whether due?	Tentative Schedule date	Whether Revised Models Submitted?	Remarks
1																	
2																	

प्रचालन समन्वय उपसमिति की बैठक
जून - 2025

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

ग्रिड-इंडिया GRID-INDIA



OD(+)/UD(-) at Max Freq	
UP	- 49
JK	- 17
Chd	- 47
Har	- 18
Pun	-792
Del	- 46
Raj	-827
Utt	-158
HP	+114

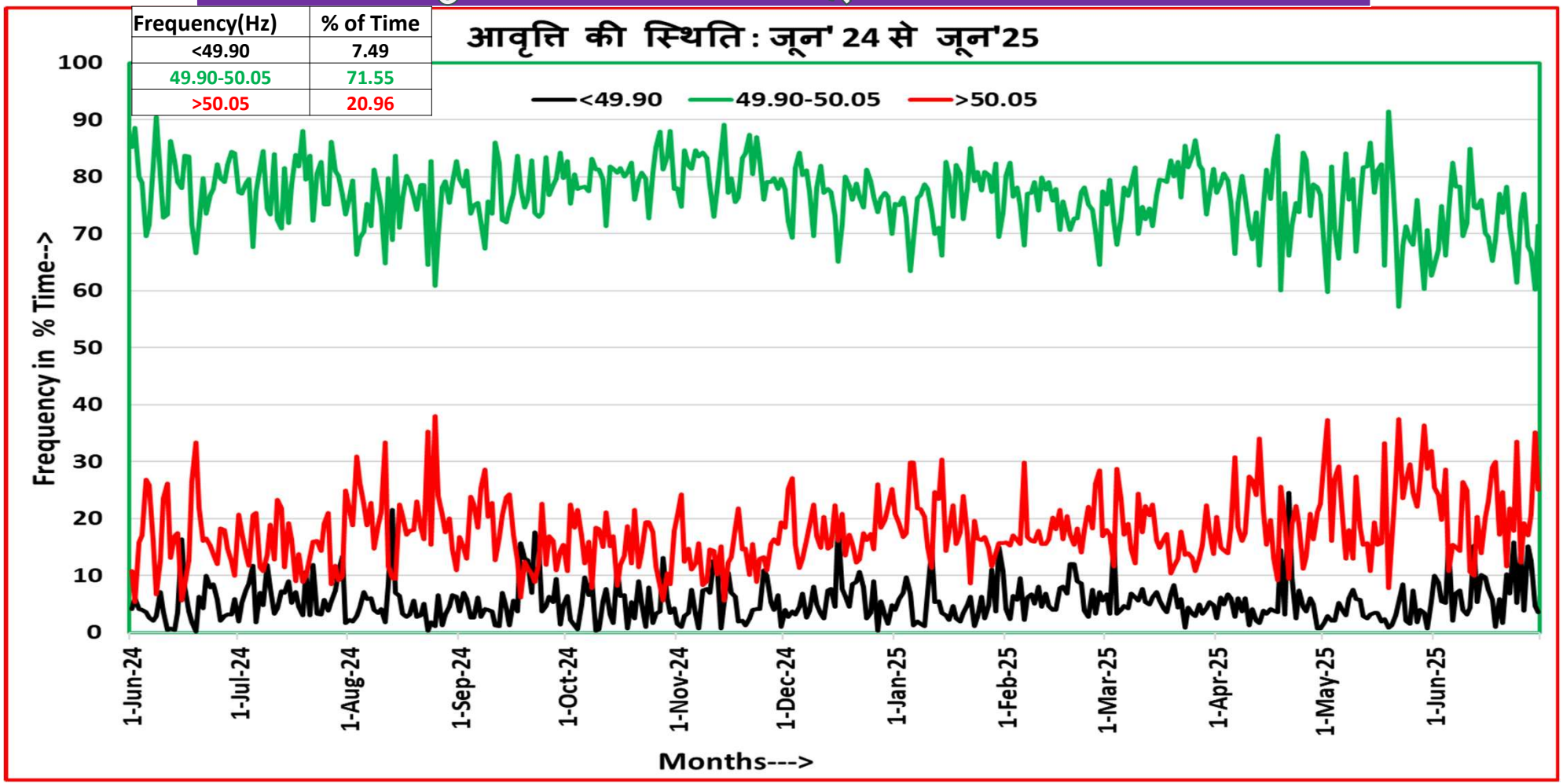
OD(+)/UD(-) at Min Freq	
JK	-101
UP	-835
Utt	-8
Har	-159
Del	-58
Chd	-15
HP	+ 25
Pun	+115
Raj	+302

Max Demand Met = 90851 MW "Min Demand Met=53040MW"Ave Demand Met=72092MW

आवृत्ति की स्थिति: जून-2024 से 2025

ग्रिड-इंडिया
GRID-INDIA

Frequency(Hz)	% of Time
<49.90	7.49
49.90-50.05	71.55
>50.05	20.96



पिछले एक साल मे आवृत्ति की स्थिति

ग्रिड-इंडिया GRID-INDIA

आवृत्ति बैंड	जून 2024	जुलाई 2024	अगस्त 2024	सितम्बर 2024	अक्टूबर 2024	नवम्बर 2024	दिसंबर 2024	जनवरी 2025	फरवरी 2025	मार्च 2025	अप्रैल 2025	मई 2025	जून 2025
< 49.7 Hz(%)	0.02	0.054	0.176	0.18	0.14	0.10	0.29	0.18	0.12	0.05	0.27	0.07	0.15
<49.8 Hz(%)	0.31	0.621	0.631	0.89	0.60	0.66	0.97	0.92	0.73	0.61	0.96	0.29	0.86
<49.9 Hz(%)	4.50	6.406	4.660	6.09	4.86	5.15	5.58	5.23	6.24	5.32	5.16	3.60	7.56
49.90-50.05 Hz(%)	*79.177*	*78.424*	*75.012*	*77.130*	*80.27*	*80.80*	*76.45*	*76.05*	*75.35*	*77.89*	*75.64*	*73.30*	*71.85*
50.05-50.10 Hz(%)	13.34	12.122	13.334	10.36	12.18	10.90	14.59	15.09	14.23	13.12	14.80	15.35	14.11
>50.10 Hz(%)	2.99	3.047	6.992	6.42	2.49	3.15	3.38	3.63	4.18	3.67	4.39	7.76	6.48
>50.20 Hz(%)	0.12	0.280	1.725	1.03	0.20	0.21	0.37	0.33	0.55	0.63	1.09	2.87	1.73
औसत आवृत्ति	50.002	49.997	50.008	50.000	49.998	49.995	49.998	49.998	49.999	50.001	50.004	50.015	50.002

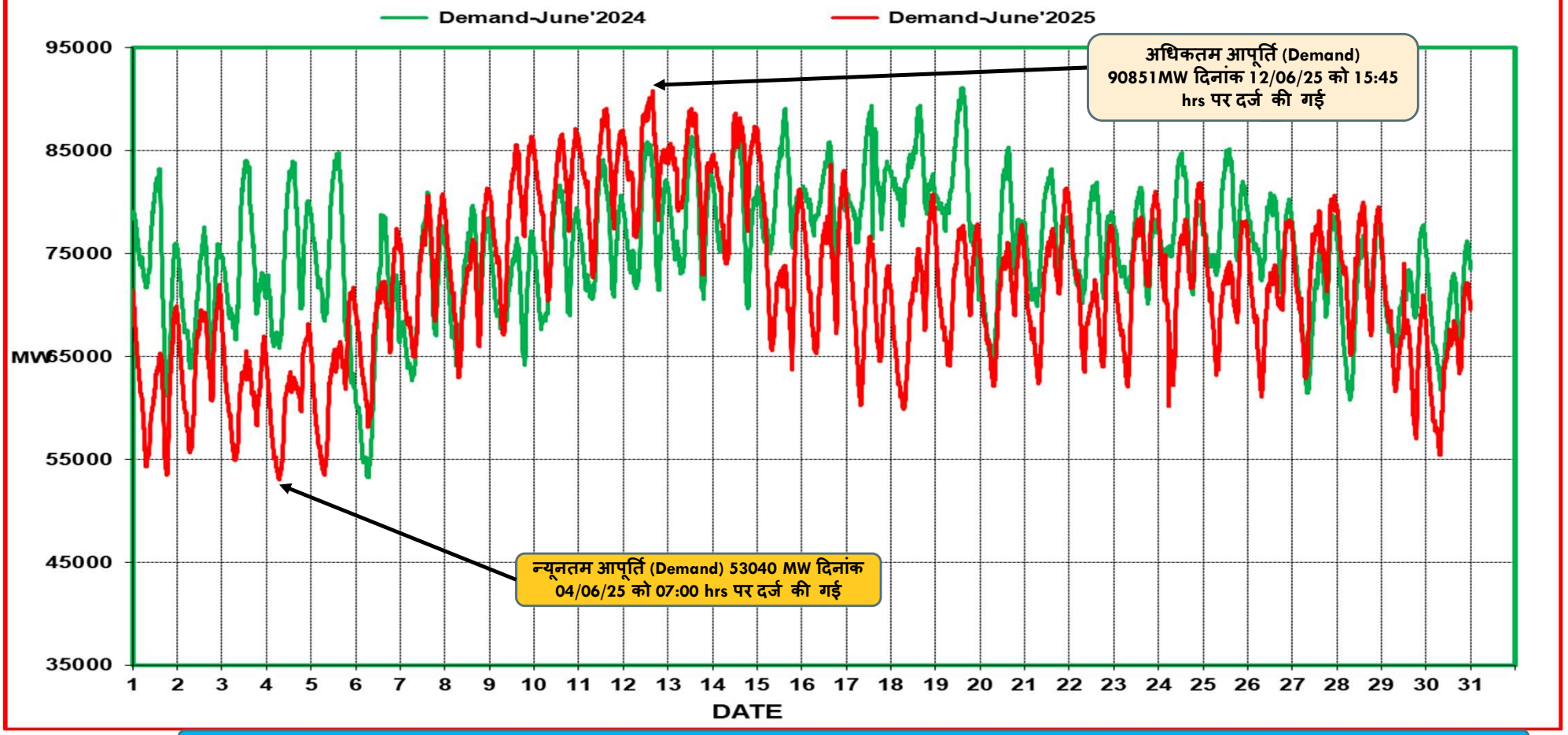
जून-2025 के दौरान अधिकतम मांग (Demand Met), अधिकतम ऊर्जा खपत (Energy consumption) और अब तक का कीर्तिमान (राज्यों द्वारा जमा आंकड़ों के अनुसार)

ग्रिड-इंडिया GRID-INDIA

राज्य	अधिकतम मांग (MW) (in Jun'25)	दिनांक / समय	रिकॉर्ड अधिकतम मांग (in MW) (upto May'25)	दिनांक / समय	अधिकतम ऊर्जा खपत (MU) (in Jun'25)	दिनांक	रिकॉर्ड अधिकतम ऊर्जा खपत (MU) (Upto May'25)	दिनांक
पंजाब	16754	28.06.25 at 15:00	16089	29.06.24 at 12:45	351.56	13.06.25	366.8	21.07.2024
हरियाणा	13499	23.06.25 at 14:00	14662	31.07.24 at 14:30	281.94	13.06.25	293.4	30.07.2024
राजस्थान	18260	13.06.25 at 11:00	19165	12.02.25 at 11:00	388.01	11.06.25	379.1	30.05.2024
दिल्ली	8442	12.06.25 at 23:09	8656	19.06.24 at 15:06	174.03	12.06.25	177.7	18.06.2024
उत्तर प्रदेश	31486	11.06.25 at 00:45	30618	13.06.24 at 22:00	656.26	12.06.25	658.7	17.06.2024
उत्तराखंड	2910	11.06.25 at 22:00	2863	14.06.24 at 22:00	62.41	12.06.25	62.1	14.06.2024
हिमाचल प्रदेश	1943	11.06.25 at 10:00	2273	17.01.25 at 09:00	42.55	11.06.25	41.3	20.12.24
जम्मू और कश्मीर (UT) तथा लद्दाख़ (UT)	2869	13.06.25 at 13:00	3200	07.01.25 at 10:00	61.75	07.06.25	70.3	04.02.25
चंडीगढ़	460	12.06.25 at 14:00	482	18.06.24 at 15:28	9.28	12.06.25	9.1	18.06.2024
उत्तरी क्षेत्र #	90850.3	12.06.25 at 15:45	91234	19.06.24 at 14:37	2022.9	12.06.25	1990.4	18.06.2024

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

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

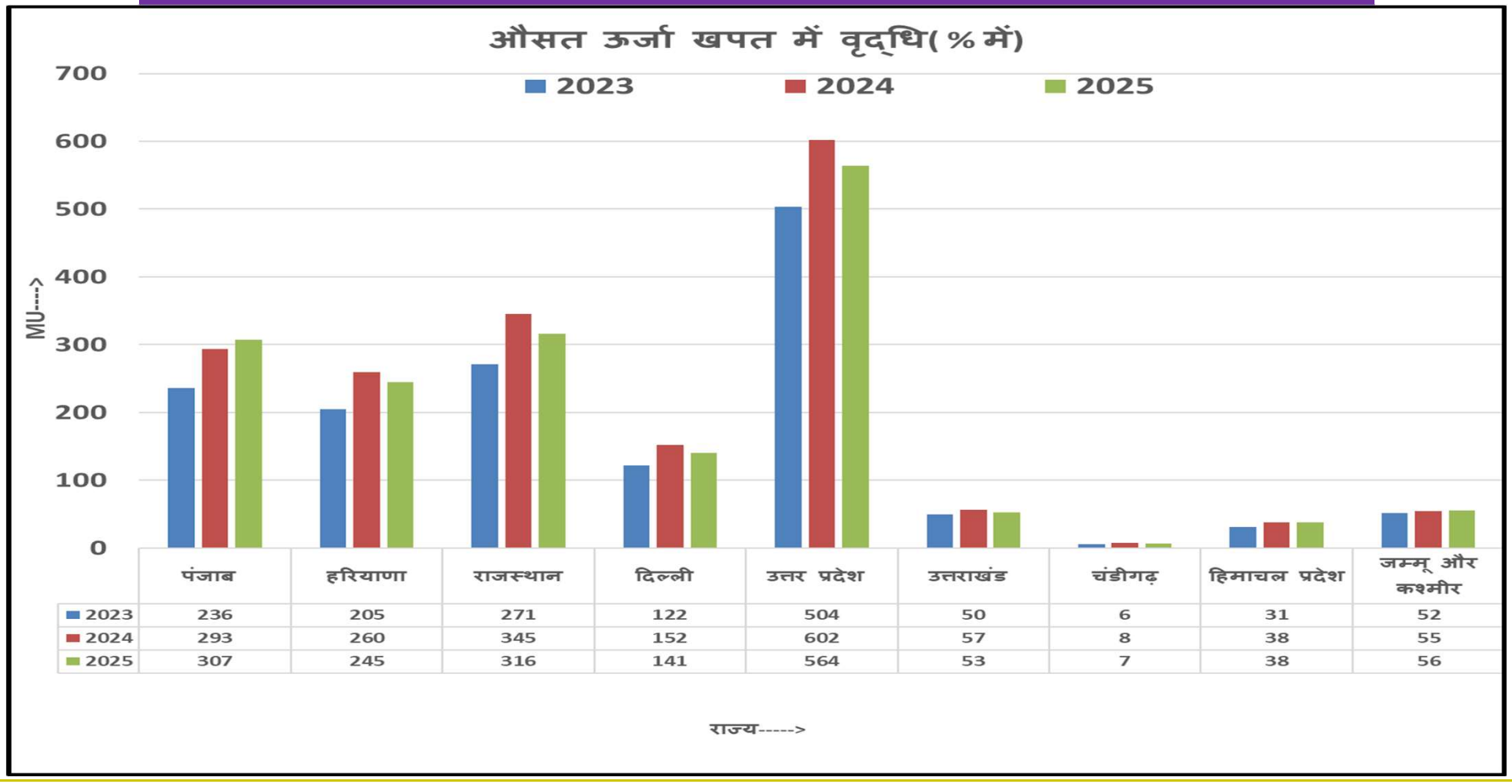


जून -2024 की तुलना में जून -2025 की औसत विद्युत आपूर्ति में 14161 MW कम हुई

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

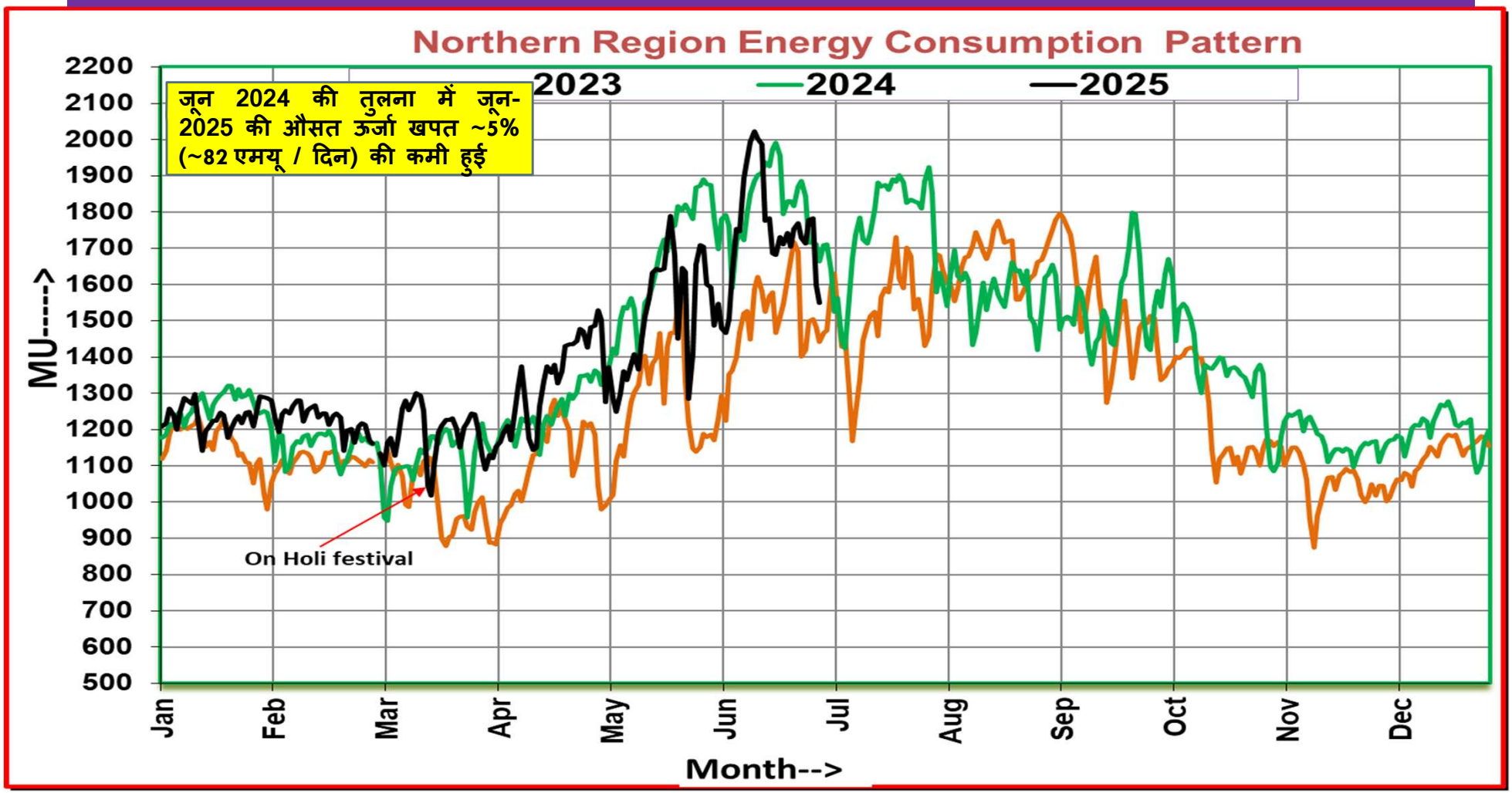
राज्य	जून-2023	जून-2024	जून-2025	% वृद्धि (जून-2024 vs जून-2023)	% वृद्धि (जून-2025 vs जून-2024)
पंजाब	236	293	307	24.3%	4.8%
हरियाणा	205	260	245	26.9%	-5.8%
राजस्थान	271	345	316	27.2%	-8.3%
दिल्ली	122	152	141	24.2%	-7.2%
उत्तर प्रदेश	504	602	564	19.5%	-6.2%
उत्तराखंड	50	57	53	14.3%	-6.8%
चंडीगढ़	6	8	7	30.2%	-9.9%
हिमाचल प्रदेश	31	38	38	23.1%	-0.1%
जम्मू और कश्मीर (UT) तथा लद्दाख़ (UT)	52	55	56	5.0%	1.8%
उत्तरी क्षेत्र	**1481**	**1813**	**1732**	**22.5%**	**-4.5%**

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

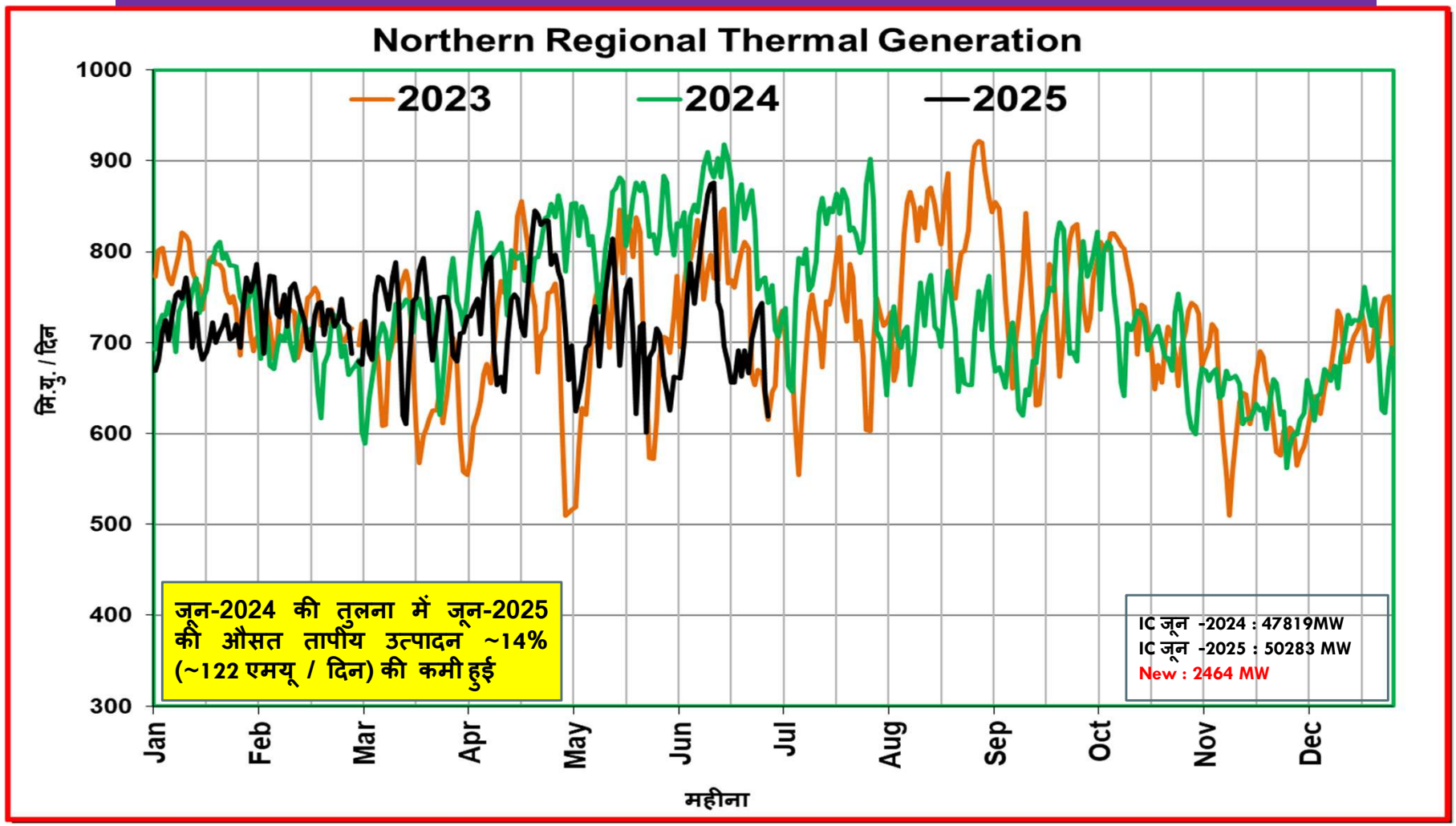


	पंजाब	हरियाणा	राजस्थान	दिल्ली	उत्तर प्रदेश	उत्तराखंड	चंडीगढ़	हिमाचल प्रदेश	जम्मू और कश्मीर
2023	236	205	271	122	504	50	6	31	52
2024	293	260	345	152	602	57	8	38	55
2025	307	245	316	141	564	53	7	38	56

उत्तरी क्षेत्र की ऊर्जा खपत(MUs)



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



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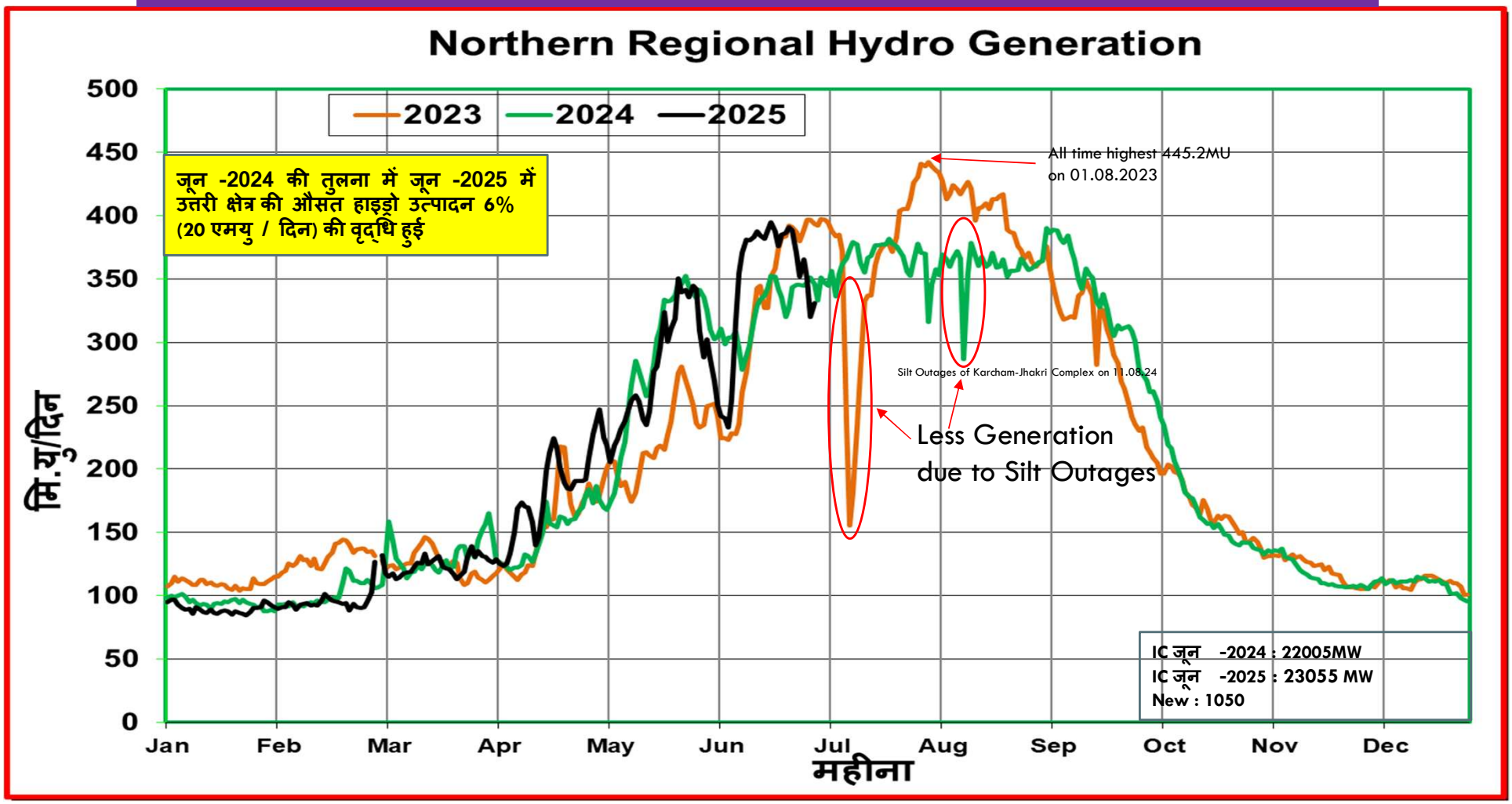

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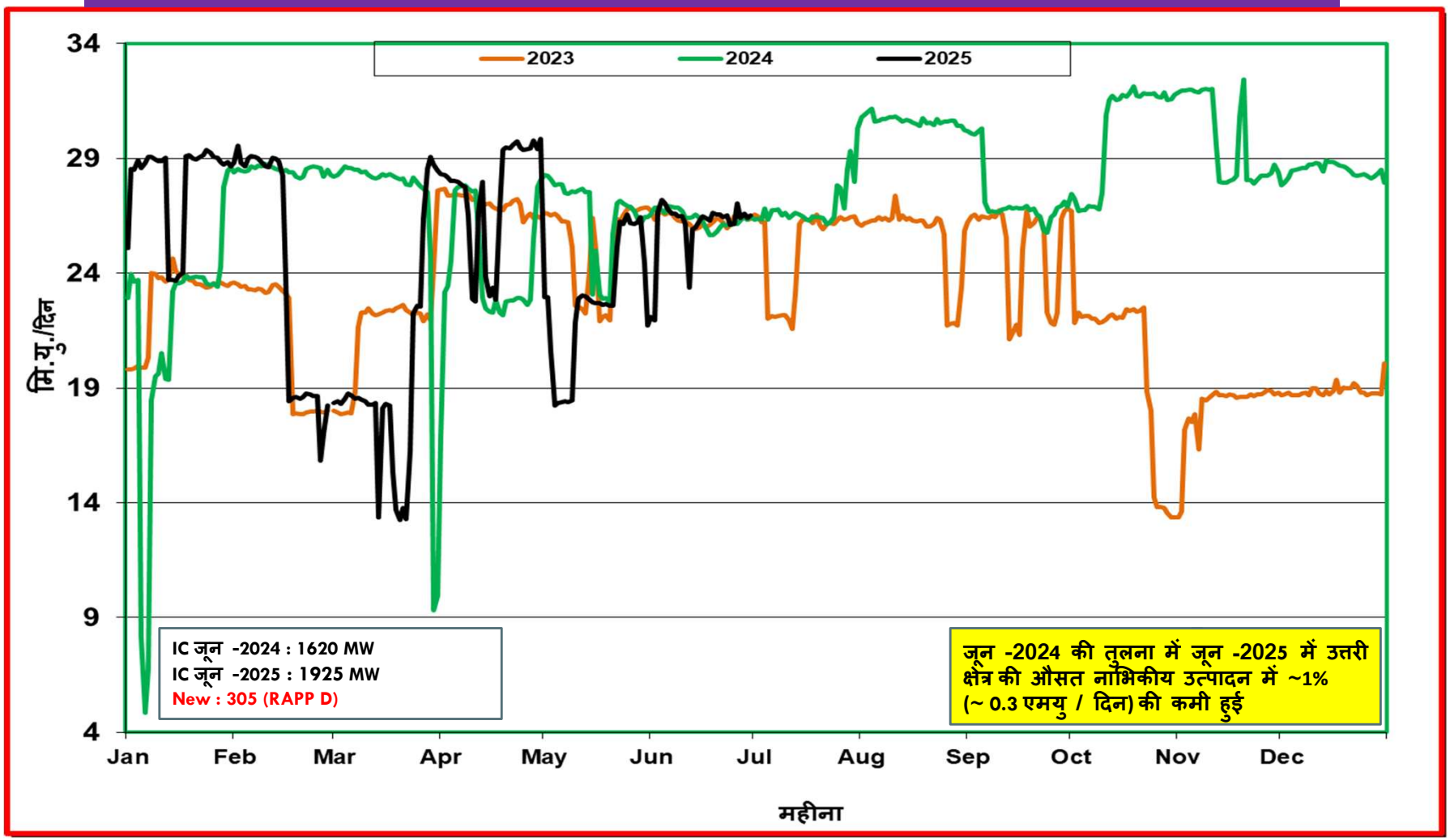

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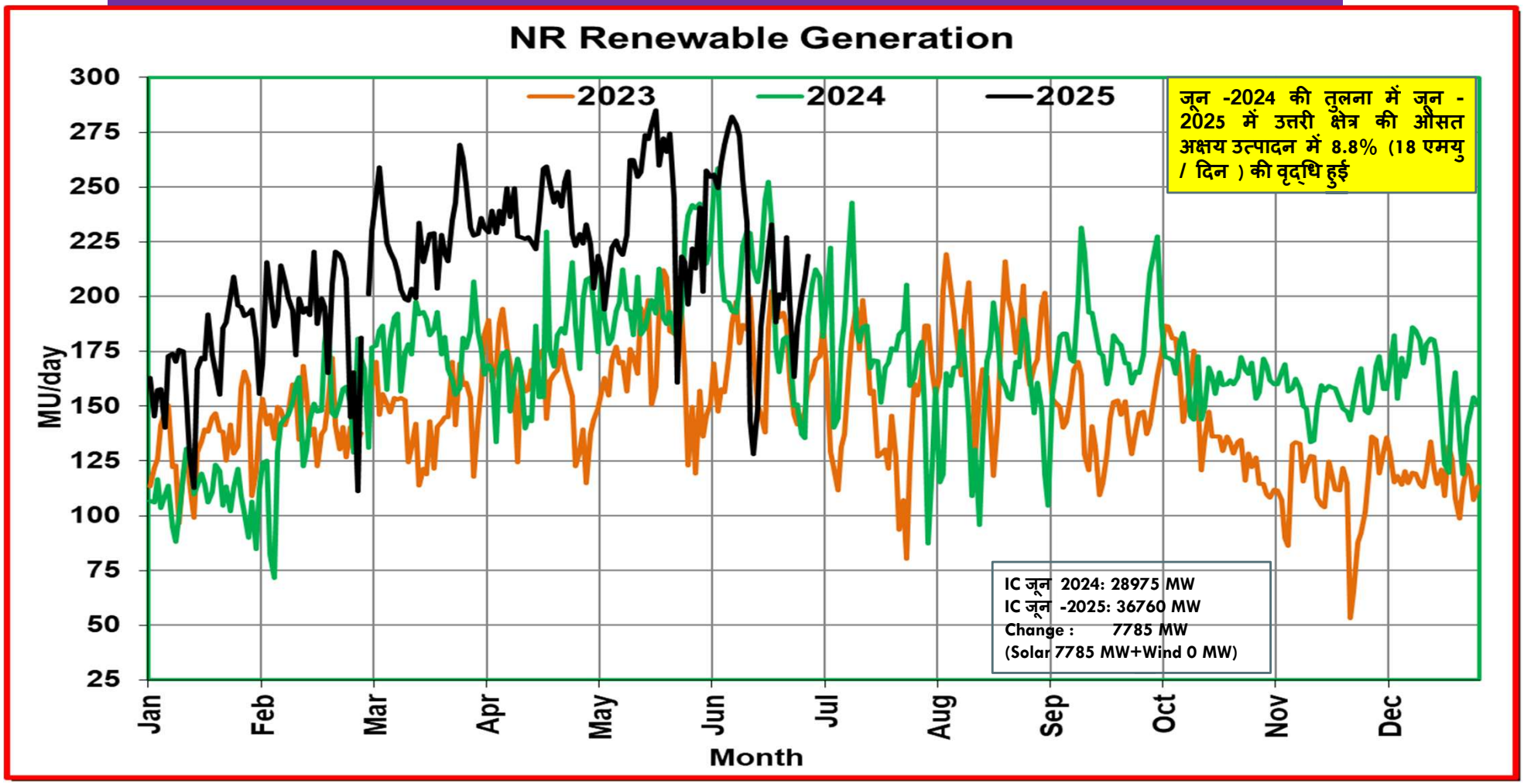
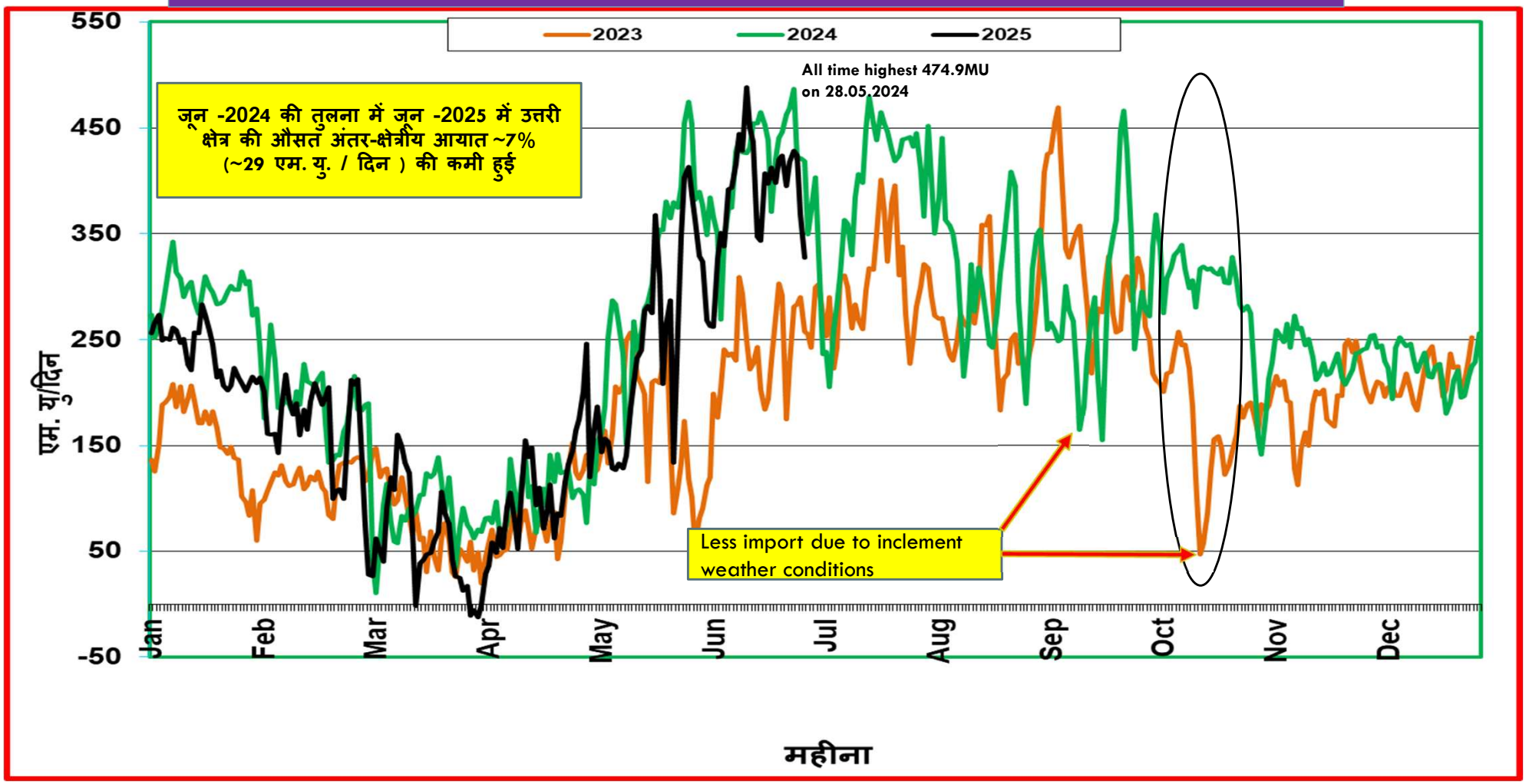


अंतर-क्षेत्रीय आयात(MUs/Day) की स्थिति



वास्तविक सारांश - जून-2024 बनाम जून-2025

	जून-2024 (मि.यु. /दिन)	जून-2025 (मि.यु. /दिन)	जून माह में वृद्धि (मि.यु./दिन)
तापीय (Thermal) उत्पादन	844	722	-122
जलीय (Hydro) उत्पादन	324	343	20
नाभिकीय (Nuclear) उत्पादन	26	26	-0.3
अंतर-क्षेत्रीय (Inter-Regional) कुल आयात	410	381	-29
अक्षय (Renewable) उत्पादन	202	220	18

नवीकरणीय ऊर्जा की क्षमता
(RE PENETRATION)

	अधिकतम दैनिक (MU) क्षमता			
	जून '2025		मई '2025 तक का रिकॉर्ड	
	अधिकतम % क्षमता	दिनांक	अधिकतम % क्षमता	दिनांक
पंजाब	3.75	04-06-2025	12.28	01-04-2020
राजस्थान	29.24	03-06-2025	36.47	22-10-2021
उत्तर प्रदेश	3.14	04-06-2025	6.03	05-03-2025
उत्तर क्षेत्रीय	17.44	04-06-2025	23.00	15-03-2025

OUTAGE SUMMARY FOR JUNE-2025

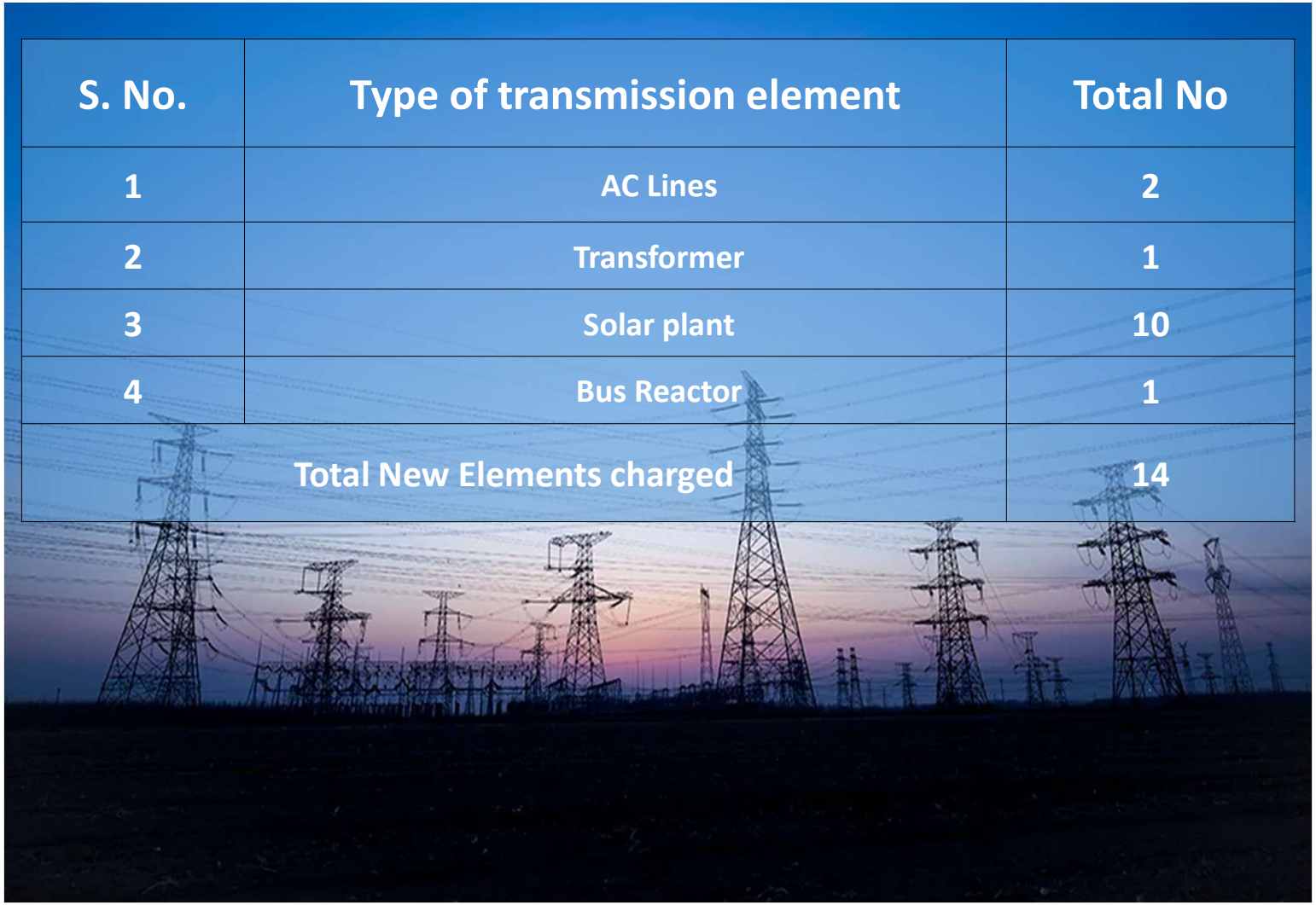
CONSTITUENTS	PLANNED (A)	FORCED OUTAGES (B=C+D)	EMERGENCY SHUTDOWNS (C)	TRIPPING (D)	% PLANNED SHUTDOWNS (A/(A+C))	% EMERGENCY SHUTDOWNS (C/(A+C))	% ESD SHUTDOWNS (C/B)	% TRIPPING (D/B)	TOTAL OUTAGES (A+B)
POWERGRID	216	239	146	93	59.67	40.33	61.09	38.91	455.00
UPPTCL	83	170	77	93	51.88	48.13	45.29	54.71	253.00
RRVPNL	77	126	63	63	55.00	45.00	50.00	50.00	203.00
HVPNL	24	40	18	22	57.14	42.86	45.00	55.00	64.00
BBMB	25	43	24	19	51.02	48.98	55.81	44.19	68.00
PSTCL	15	30	11	19	57.69	42.31	36.67	63.33	45.00
DTL	4	29	10	19	28.57	71.43	34.48	65.52	33.00
PTCUL	7	22	6	16	53.85	46.15	27.27	72.73	29.00
HPPTCL	5	23	1	22	83.33	16.67	4.35	95.65	28.00
NTPC	14	16	5	11	73.68	26.32	31.25	68.75	30.00
PDD JK	4	5	1	4	80.00	20.00	20.00	80.00	9.00
ESUCRL	7	0	0	0	100.00	0.00	0.00	0.00	7.00
GPTL	0	10	4	6	0.00	100.00	40.00	60.00	10.00
THAR SURYA1	0	6	6	0	0.00	100.00	100.00	0.00	6.00
Adani	1	1	1	0	50.00	50.00	100.00	0.00	2.00
NRSS XXIX	4	11	10	1	28.57	71.43	90.91	9.09	15.00
APCPL	0	4	0	4	0.00	0.00	0.00	100.00	4.00
NHPC	0	1	0	1	0.00	0.00	0.00	100.00	1.00
NRSS36	4	14	10	4	28.57	71.43	71.43	28.57	18.00
Renew Power	0	4	3	1	0.00	100.00	75.00	25.00	4.00
Saurya Urja	4	1	0	1	100.00	0.00	0.00	100.00	5.00
PKTCL	0	2	2	0	0.00	100.00	100.00	0.00	2.00
MAHINDRA	4	4	3	1	57.14	42.86	75.00	25.00	8.00
Total	**498**	**801**	**401**	**400**	**55.39**	**44.61**	**50.06**	**49.94**	**1299.00**

OUTAGE SUMMARY OF LAST FOUR 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))	
Mar-25	1104	772	392	380	73.8%	26.2%	1876
Apr-25	923	1003	416	587	68.9%	31.1%	1926
May-25	**729**	**1379**	**482**	**897**	**60.2%**	**39.8%**	**2108**
June-25	**498**	**801**	**401**	**400**	**55.39%**	**44.60%**	**1299**

New Elements First Time Charged During June 2025

S. No.	Type of transmission element	Total No
1	AC Lines	2
2	Transformer	1
3	Solar plant	10
4	Bus Reactor	1
Total New Elements charged		14



New AC Lines

S.No	Name of element	Owner	Voltage Level (in kV)	Circuit No	Line Length(kM)	Conductor Type	Actual date of charging
1	220kV KHIDRAT_REPL_SL_BKN2-Bikaner_2 (PBTSL)-1	KHIDRAT_REPL	220kV	1	14.78	AL59 Moose	04-Jun-2025
2	220kV Eden_RAPL_SL_BHD2_PG-Bhadla_2 (PG)-1	EDEN_RAPL	220kV	1	11.3	AL59 Moose	09-Jun-2025

Transformer

S.No	Name of element	Owner	Voltage Level (HV/LV/Tertiary)	MVA Capacity	HV Station	Transformer Details	OLD MVA Capacity	Actual date of charging
1	220/33kV, 150 MVA, 3-Phase, Power Transformer - 1 at Eden_RAPL_SL_BHD2_PG	EDEN_RAPL	220/33kV	150	Eden_RAPL_SL_BHD2_PG	New	NA	10-Jun-2025

Solar plant

S.No	Plant Name	Pooling Sub-station	Added Capacity (MW)	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	ACME Sikar Solar Private Limited(ASSPL_BKN2)	Bikaner-II	75	300	300	Solar	5	ASSPL_BKN2	17-Jun-2025
2	Serentica Renewables India 5 Pvt Ltd (SRI5PL)	Bikaner-II	44	220	220	Solar	4	SERENTICA_RI5PL_Bik 2	04-Jun-2025
3	KHIDRAT RENEWABLE ENERGY PRIVATE LIMITED(KREPL)	Bikaner-II	300	300	300	Solar	27	KHIDRAT_REPL	08-Jun-2025
4	SJVN Green Energy Ltd	Bikaner-II	80.77	400.77	1000	Solar	11	SJVNGEL_BKN2	09-Jun-2025
5	Nokh- NTPC	Bhadla_2	7.43	490	735	Solar	1	NTPC	13-Jun-2025
6	EDEN RENEWABLE ALMA PRIVATE LIMITED(ERAPL)	Bhadla_2	100	100	300	Solar	9	EDEN_RAPL	13-Jun-2025
7	XL Xergi Power Private Limited(XXPPL)	Fategarh-III	185	400	400	Solar	27	XL_XPPL	23-Jun-2025
8	Karinsar Solar Plant NHPC Ltd(KSP_NHPC)	Bikaner-II	53.57	214.28	300	Solar	5	NHPC	25-Jun-2025
9	SJVN Green Energy Ltd	Bikaner-II	100.25	501.02	1000	Solar	14	SJVNGEL_BKN2	27-Jun-2025
10	ADANI SOLAR ENERGY JODHPUR SIX PRIVATE LIMITED(ASEJ6PL)	Bhadla_2	50	50	50	Solar	4	ASEJ6PL	29-Jun-2025

Bus Reactor

S.No	Name of element	Owner	Voltage LeveL	MVAR Capacity	Bus Reactor Details	OLD MVAR Capacity	Actual date of charging
1	400kV, 125 Bus Reactor 1 at Kadarpur (GPTL)	GPTL	400kV	125	Replacement	125	23-Jun-2025

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 (As on Jul-25)	Week Ahead	Month Ahead (Aug 2025)	Year-Ahead
Punjab	As per Format	Demand and Resource not as per timeline	Not received	Not received
Haryana	Demand and Resource not as per format	Only demand & irregular	Not received	Not received
Delhi	Demand and Resource not as per format	As per Format	As per Format	Only Demand
Rajasthan	As per Format but irregular	As per Format	Not received	Not received
Uttar Pradesh	As per Format	As per Format	As per Format	As per Format
Uttarakhand	Demand and Resource not as per format and irregular	As per Format	As per Format	Not received
Himachal Pradesh	As per Format	As per Format	As per Format	As per Format
J&K and Ladakh (UT)	Demand and Resource not as per format & irregular	Not received	Not received	Not received
Chandigarh (UT)	As per Format	Not received	Not received	Not received

- **All are requested to strictly follow the standard format provided along with the submission timeline.**

FILE UPLOAD PORTAL:

https://fileupload.nrldc.in/

Demand forecast upload portal

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File Upload Portal

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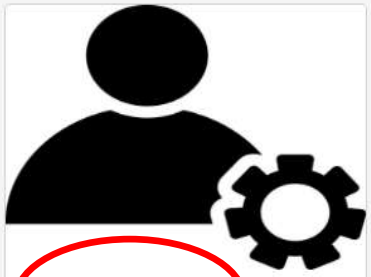

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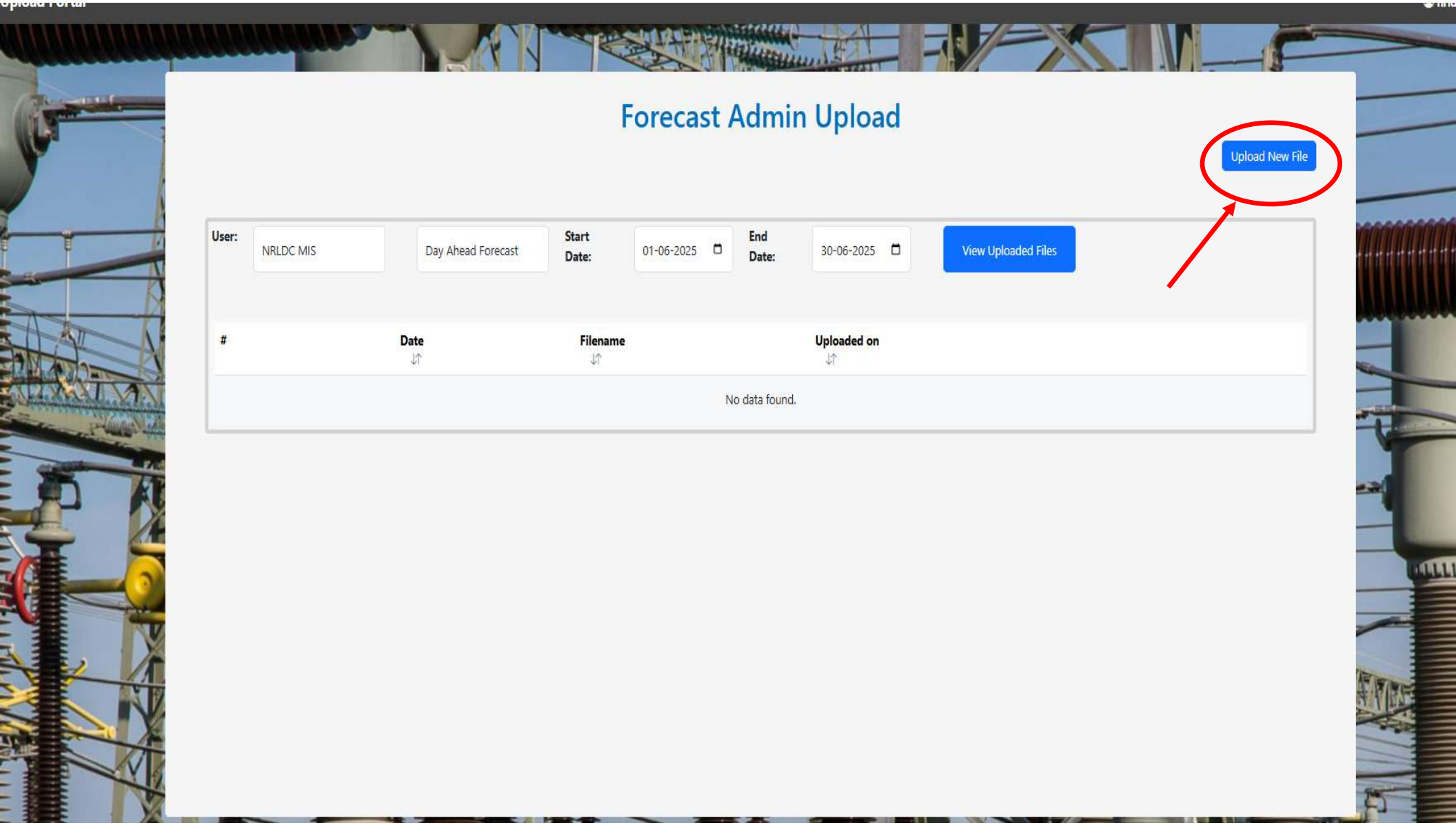
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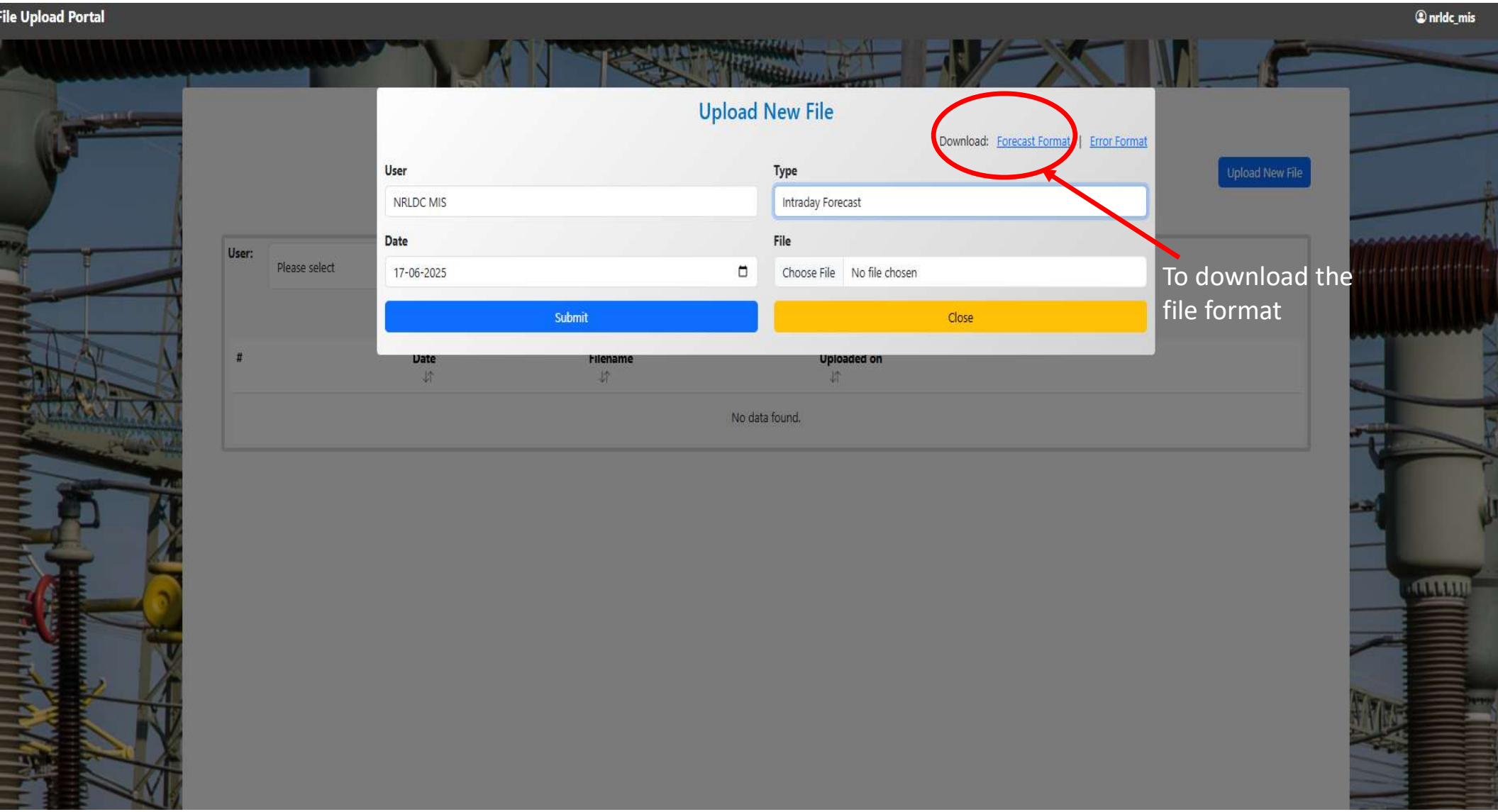
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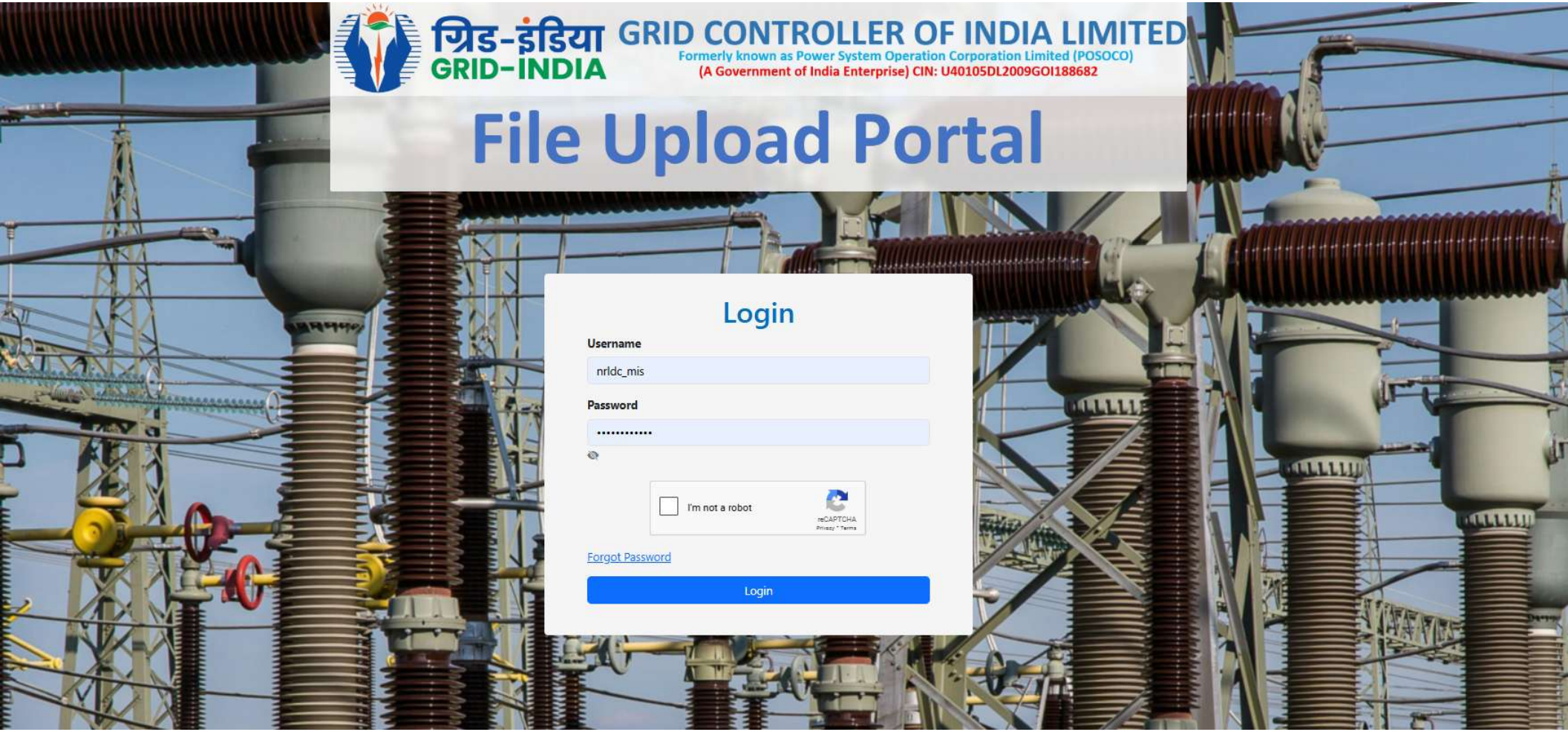
Demand_Raj	LDRVPNL@RVPN.CO.IN	To be provided by SLDC
Demand_Del	dtldata@yahoo.co.in	To be provided by SLDC

ACTION REQUIRED BY CONSTITUENTS: The Forecast vs Actual trend will be displayed on the portal. To proceed with creating login credentials, kindly share the respective email IDs and contact details at : NRLDCMIS@GRID-INDIA.IN.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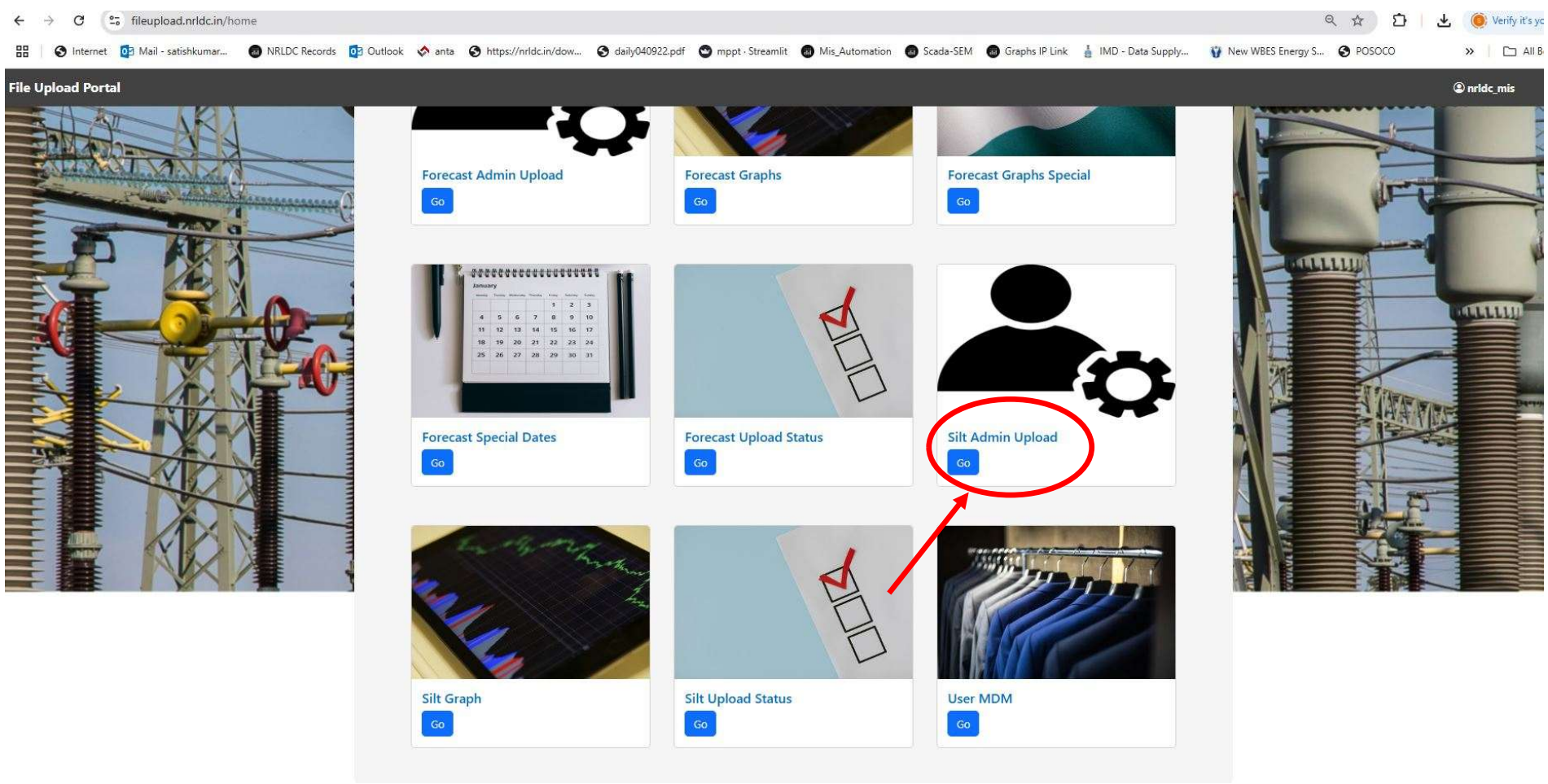
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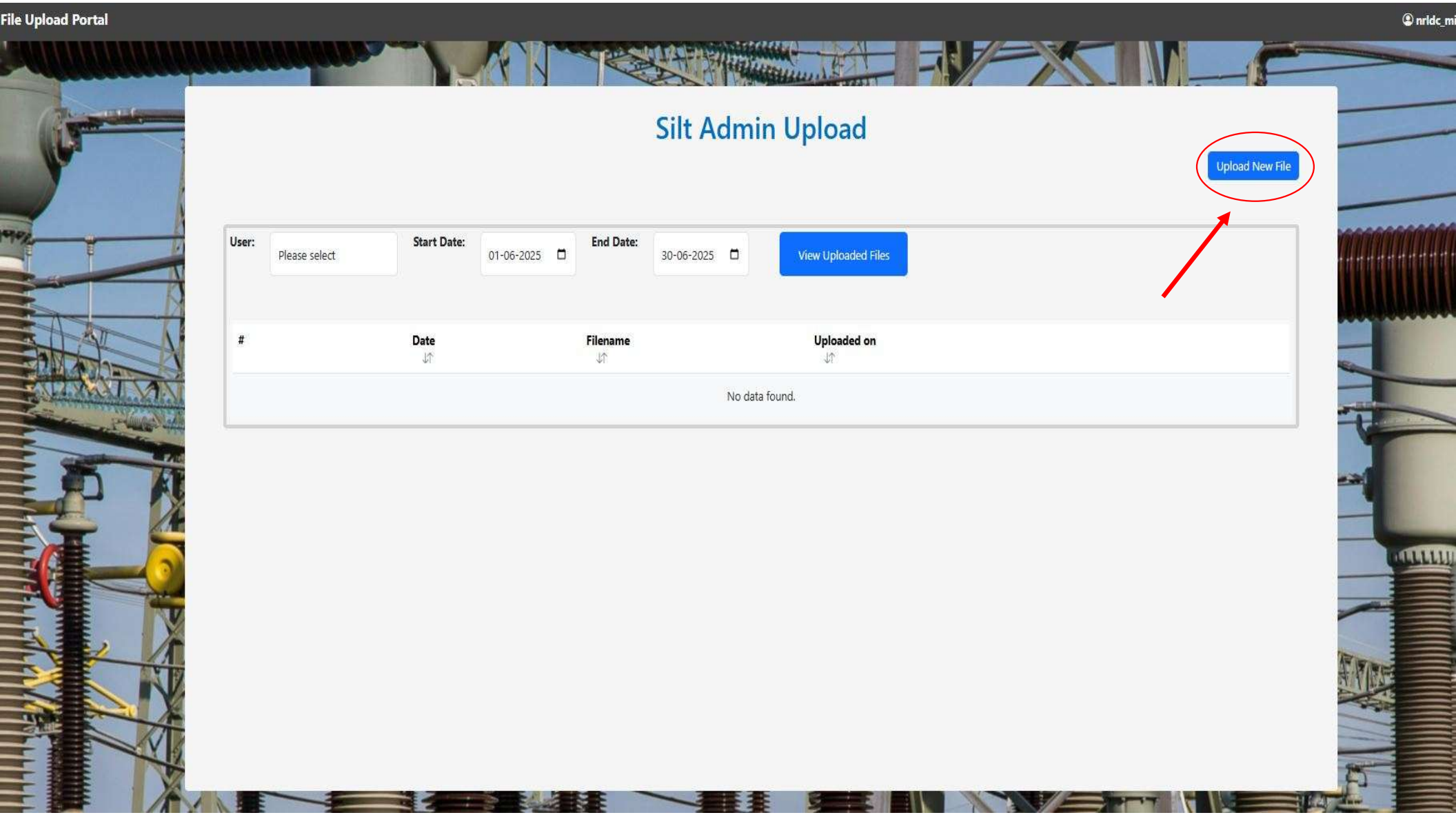
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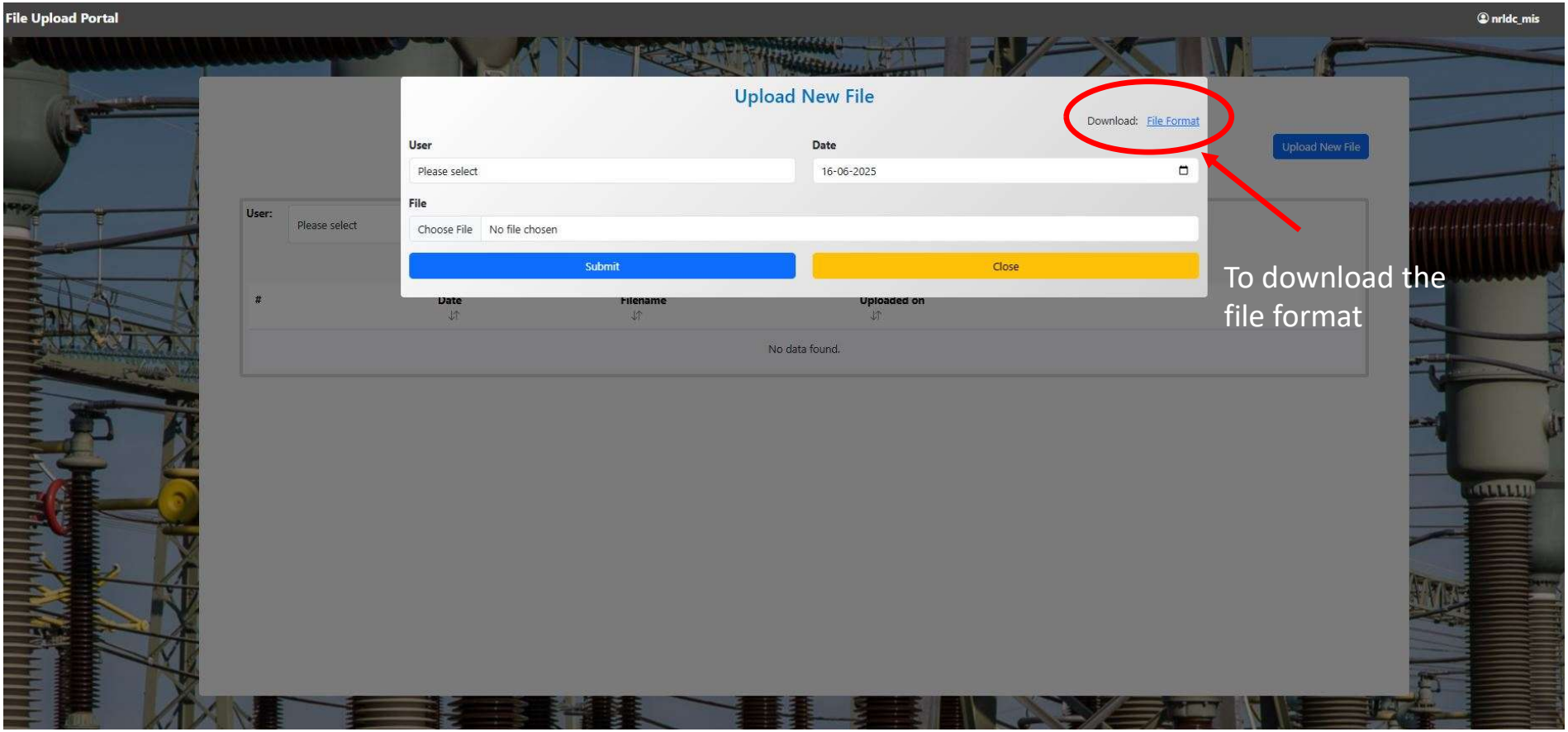
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Category wise Plants details *(as per NRLDC record)*

S No	Agency	Plant name
1	SJVNL	NJHPS
2	HPSEBL	Baspa (300 MW)
3		Bhaba(120 MW)
4		Larji(126 MW)
5		UHL III(100 MW)
6		Bassi(66 MW)
7		Giri(60 MW)
8	HPPCL	Kashang(195 MW)
9		Sawra Kuddu(111 MW)
10	OAG	Bajoli Holi(180 MW)
11		Malana-1 (86 MW)
12		Naitwar Mori (60 MW)
13		IA Hydro(Chanju-1) (36 MW)
14		Goodwill(Kut) (25 MW)
15	NHPC	Bairasiul
16		Chamera1
17		Chamera2
18		Chamera3
19		Dhauliganga
20		Dulhasti
21		Kishanganga
22		Parbati2
23		Parbati3
24		Salal
25		Sewa2
26		Tanakpur
27		Uri1
28		Uri2
29	UK SLDC	Chibro Power Station
30		Dhakrani Power Station
31		Kulhal Power Station
32		Vyasi Power Station
33		Maneri Station
34		Dharasu Power Station
35		Chilla Power Station


धन्यवाद