



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 225^{वीं} बैठक का कार्यवृत्त |

Subject: Minutes of the 225th OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 225^{वीं} बैठक दिनांक 12.11.2024 को आयोजित की गयी थी। उक्त बैठक का कार्यवृत्त उत्तर क्षेत्रीय विद्युत समिति की वेबसाइट <http://164.100.60.165> पर उपलब्ध है। यदि कार्यवृत्त पर कोई टिप्पणी हो तो कार्यवृत्त जारी करने के एक सप्ताह के अन्दर इस कार्यालय को भेजें |

The 225th meeting of the Operation Co-ordination Sub-Committee (OCC) of NRPC was held on 12.11.2024. 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: 23-11-2024 11:59:15

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

सेवा में,

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

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List of addressee (via mail)

| OCC Members for FY 2024-25 | | | |
|----------------------------|-----------------------|---|--|
| S. No | OCC Member | Category | E-mail |
| 1 | NLDC | National Load Despatch Centre | nomination awaited |
| 2 | NRLDC | Northern Regional Load Despatch Centre | somara.lakra@grid-india.in |
| 3 | CTUIL | Central Transmission Utility | kashish@powergrid.in |
| 4 | PGCIL | Central Government owned Transmission Company | rtamc.nr1@powergrid.in rtamcjammu@powergrid.in cpcc.nr3@powergrid.in |
| 5 | NTPC | Central Generating Company | hastogi@ntpc.co.in |
| 6 | BBMB | | powerc@bbmb.nic.in |
| 7 | THDC | | ravindrasrana@thdc.co.in |
| 8 | SJVN | | sjvn.cso@sjvn.nic.in |
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| 11 | Delhi SLDC | State Load Despatch Centre | gmsldc@delhisldc.org |
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| 14 | Uttar Pradesh SLDC | | cepso@upsldc.org |
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| 17 | Himachal Pradesh SLDC | | cehpsldc@gmail.com |
| 18 | DTL | State Transmission Utility | bl.gujar@dtl.gov.in |
| 19 | HVPNL | | cetspk1@hvpn.org.in |
| 20 | RRVNL | | 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 owned Distribution Company | ce-ppr@pspcl.in |
| 32 | UHBVN | State owned Distribution Company (alphabetical rotational basis/nominated by state govt.) | nomination awaited (md@uhbvn.org.in) |
| 33 | Jodhpur Vidyut Vitran Nigam Ltd. | | addlcehqjdvvn@gmail.com |
| 34 | Paschimanchal Vidyut Vitaran Nigam Ltd. | | nomination awaited (md@pvvn.org) |
| 35 | UPCL | | cgmupcl@yahoo.com |
| 36 | HPSEB | | cesysophpsebl@gmail.com |
| 37 | Prayagraj Power Generation Co. Ltd. | IPP having more than 1000 MW installed capacity | sanjay.bhargava@tatapower.com |
| 38 | Aravali Power Company Pvt. Ltd | | amit.hooda01@gmail.com |
| 39 | Apraave Energy Ltd., | | rajneesh.setia@apraava.com |
| 40 | Talwandi Sabo Power Ltd. | | ravinder.thakur@vedanta.co.in |
| 41 | Nabha Power Limited | | Durvesh.Yadav@larsentoubro.com |
| 42 | MEIL Anpara Energy Limited | | arun.tholia@meilanparapower.com |
| 43 | Rosa Power Supply Company Ltd | | Suvendu.Dey@relianceada.com |
| 44 | Lalitpur Power Generation Company Ltd | | avinashkumar.ltp@lpgcl.com |
| 45 | MEJA Urja Nigam Ltd. | | rsjuneja@ntpc.co.in |
| 46 | Adani Power Rajasthan Limited | | manoj.taunk@adani.com |
| 47 | JSW Energy Ltd. (KWHEP) | | roshan.zipta@jsw.in |
| 48 | TATA POWER RENEWABLE | IPP having less than 1000 MW installed capacity (alphabetical rotational basis) | nomination awaited (dhmahabale@tatapower.com) |
| 49 | UT of J&K | From each of the Union Territories in the region, | sojpdd@gmail.com |

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

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की 225^{वीं} बैठक का कार्यवृत्त

The 225th OCC meeting of NRPC was held on 12.11.2024 through video conferencing (VC). MS, NRPC welcomed all the participants connected through VC.

खण्ड-क:उ.क्षे.वि.स.

PART-A:NRPC

A.1. Confirmation of Minutes

Minutes of the 224th OCC meeting was issued on 04.11.2024. OCC confirmed the minutes of the meeting.

A.2. Status of action taken on decisions of 224th 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 OCC meeting. Accordingly, issues may be resolved at the earliest.

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

Decision of OCC Forum:

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

A.3. Review of Grid operations of October 2024

Anticipated vis-à-vis Actual Power Supply Position (Provisional) for October 2024

Reasons submitted by States for significant deviation of actual demand from anticipated figures during the month of October 2024 are as under:

- **Delhi**

In the month of Oct-2024, Delhi experienced its warmest October in 74 years so the peak demand and energy consumption was very high than anticipated.

- **Rajasthan**

The Actual Energy Requirement and Peak Demand w.r.t. Anticipated Energy requirement and Peak Demand increased by 4.1% and 5.9% respectively for

October' 2024 due to delay in commencement of winter season in the state control area.

- **Haryana**

It is intimated that the increased Actual Energy Requirement and Peak Demand due to relatively warmer weather conditions and less rain compared to the previous years.

- **Punjab**

It is intimated that actual maximum demand is more as compared to anticipated maximum demand because of warm weather and extended paddy season in the month of October 2024 in the state of Punjab.

- **Uttarakhand**

The reason for significant variation in Actual Energy Requirement and Peak Demand for month of Oct'24 against anticipated figures was due to increase in ambient temperature in month of October 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 December 2024 was deliberated in the meeting on 11.11.2024.

A.5. Anticipated Power Supply Position in Northern Region for December 2024

The updated anticipated Power Supply Position for December 2024 is as below:

| State / UT | Availability / Requirement | Revised Energy (MU) | Revised Peak (MW) | Date of revision |
|------------|----------------------------|---------------------|-------------------|-----------------------|
| CHANDIGARH | Availability | 120 | 290 | No Revision submitted |
| | Requirement | 123 | 307 | |
| | Surplus / Shortfall | -3 | -17 | |
| | % Surplus / Shortfall | -2.4% | -5.4% | |
| DELHI | Availability | 3477 | 5573 | 11-Nov-24 |
| | Requirement | 2300 | 5300 | |
| | Surplus / Shortfall | 1177 | 273 | |

| State / UT | Availability / Requirement | Revised Energy (MU) | Revised Peak (MW) | Date of revision |
|------------------|----------------------------|---------------------|-------------------|-----------------------|
| | % Surplus / Shortfall | 51.2% | 5.2% | |
| HARYANA | Availability | 6126 | 9000 | 11-Nov-24 |
| | Requirement | 5933 | 8554 | |
| | Surplus / Shortfall | 193 | 446 | |
| | % Surplus / Shortfall | 3.3% | 5.2% | |
| HIMACHAL PRADESH | Availability | 1127 | 2043 | 08-Nov-24 |
| | Requirement | 1204 | 2158 | |
| | Surplus / Shortfall | -77 | -115 | |
| | % Surplus / Shortfall | -6.4% | -5.3% | |
| J&K and LADAKH | Availability | 1240 | 3130 | No Revision submitted |
| | Requirement | 2062 | 3245 | |
| | Surplus / Shortfall | -822 | -115 | |
| | % Surplus / Shortfall | -39.9% | -3.5% | |
| PUNJAB | Availability | 6100 | 10100 | 11-Nov-24 |
| | Requirement | 4531 | 8991 | |
| | Surplus / Shortfall | 1569 | 1109 | |
| | % Surplus / Shortfall | 34.6% | 12.3% | |
| RAJASTHAN | Availability | 9060 | 18360 | 11-Nov-24 |
| | Requirement | 10260 | 18200 | |
| | Surplus / Shortfall | -1200 | 160 | |
| | % Surplus / Shortfall | -11.7% | 0.9% | |
| UTTAR PRADESH | Availability | 10540 | 21200 | 08-Nov-24 |
| | Requirement | 10385 | 21200 | |
| | Surplus / Shortfall | 155 | 0 | |
| | % Surplus / Shortfall | 1.5% | 0.0% | |
| UTTARAKHAND | Availability | 1333 | 2450 | 05-Nov-24 |
| | Requirement | 1380 | 2490 | |
| | Surplus / Shortfall | -47 | -40 | |

| State / UT | Availability / Requirement | Revised Energy (MU) | Revised Peak (MW) | Date of revision |
|-----------------|----------------------------|---------------------|-------------------|------------------|
| | % Surplus / Shortfall | -3.4% | -1.6% | |
| NORTHERN REGION | Availability | 39123 | 65800 | |
| | Requirement | 38177 | 64200 | |
| | Surplus / Shortfall | 946 | 1600 | |
| | % Surplus / Shortfall | 2.5% | 2.5% | |

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

A.6.1. The updated status of agenda items is enclosed at **Annexure-A.I.**

A.6.2. In 225th OCC, SLDCs were requested again to coordinate with respective Transmission Utilities of states/UTs and submit details about the updated status of Down Stream network by State Utilities from ISTS Station (enclosed as **Annexure-A-I.I**) before every OCC meeting.

A.7. NR Islanding scheme

A.7.1. In the meeting (225th OCC), UPPTCL representative apprised that Unchahar-Lucknow Islanding scheme has been successfully implemented and same is visible at SCADA of UPSLDC also (except 03 Substation: Namely 132 kV S/s tripula, 132 kV S/s bachhrawan and 132 kV S/s Hussainganj. The data of above 03 substation is not available at UPSLDC due to lack of OPGW. The work of laying OPGW cable is under progress and same shall be completed by end of November.

A.7.2. With regard to Agra islanding scheme, UPPTCL representative apprised forum that their management is of view that procurement of UFRs for the Lalitpur-Agra islanding scheme should be explored through PSDF funding. A proposal for the same has been prepared and will be submitted to the PSDF Secretariat within the next two weeks.

A.7.3. RRVPNL representative stated that they have revised their DPR for Jodhpur-Barmer-Rajwast IS and, instead of using cloud storage, they will be opting for network-attached storage. As a result, there is a price variation, and they will need to obtain approval from their management once again and thereafter they would submit the proposal for PSDF funding.

A.7.4. RRVPNL representative mentioned that DPR for implementation of Suratgarh islanding scheme would be submitted after finalization of DPR for Jodhpur-Barmer-Rajwast islanding scheme.

- A.7.5. With regard to Patiala-Nabha Power Rajpura islanding scheme representative from Punjab SLDC informed that during a meeting with the PSDF Secretariat on 22nd October 2024, they had given a presentation on the DPR submitted to the PSDF Secretariat, and the minutes of the meeting are awaited.
- A.7.6. HPSLDC representative apprised that proposed UFR scheme for Kullu- Manali islanding scheme has been recommended by the Appraisal Committee of the State PSDF for approval of Hon'ble HPERC. The islanding scheme would now be taken up in the Monitoring committee for State PSDF funding approval. Meeting of Monitoring committee is yet to be convened.
- A.7.7. Further, with regard to Shimla-Solan Islanding scheme, a separate meeting was conducted by NRPC Sectt. with HPSLDC, HPSEBL and M/s GE on 18.09.2024) wherein HPSEBL informed that payment to M/s GE would be made within two months and subsequently work regarding the implementation in revised setting of Bhaba HEP would be completed by M/s GE within one month. In the meeting, HPSLDC also informed that they had sent a letter to all concerned generators (a copy of which is attached as **Annexure-A.II**) requesting them to lower the UFR settings of their generators to below 47.5 Hz.

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

- A.8.1. In the meeting, NRPC representative apprised forum about the coal stock position of generating stations in northern region during current month (till 10th October 2024).
- A.8.2. Average coal stock position of generating stations in northern region, having critical stock, during first ten days of October 2024 is as follows:

| Station | Capacity (MW) | PLF % (prev. months) | Normative Stock Req'd. (Days) | Actual Stock (Days) |
|----------------|----------------------|-----------------------------|--------------------------------------|----------------------------|
| SURATGARH STPS | 1320 | 0.67 | 22 | 4.6 |
| CHHABRA-II TPP | 1320 | 0.72 | 22 | 4.9 |

A.9. Status of availability of ERS towers in Northern Region (Agenda by NRPC Sectt.)

- A.9.1 In the meeting, EE (O) NRPC apprised forum updated inputs received from utilities are attached as **Annexure-A.III**.
- A.9.2 MS, NRPC asked transmission utilities of NR that have not submitted the status of ERS set/towers available with them to submit the requisite information before next OCC meeting.

Decision of the OCC forum

Forum asked the transmission utilities of NR that have not submitted the status of ERS set/towers available with them to submit the requisite information before next OCC meeting.

A.10. Updating outage Details by Generating Station/Utilities (Agenda by CEA)

A.10.1 NRPC representative apprised forum that to enhance the monitoring of approved Planned Maintenance schedules, CEA has asked that information regarding actual maintenance availed against approved planned maintenance is to be updated on priority by respective RPCs regularly on monthly basis.

A.10.2 In the 221st OCC meeting of NRPC, forum asked generating stations of NR to update the status of Planned Maintenance schedules versus actual maintenance availed for the previous month before every OCC meeting and it was decided that to enhance the monitoring of approved Planned Maintenance schedules the said agenda item shall be taken as rolling/follow-up agenda in OCC meetings.

A.10.3 In this regard, list of Planned Maintenance schedules versus actual maintenance availed for the year 2024-25 for the month of October-2024 attached as Annexure-A.IV of agenda was shared with the relevant generating stations of NR and based on the inputs received from them the updated information is attached as **Annexure-A.IV**.

A.11. Installation of CO₂ injection (seeding) system in HVDC Mundra and Mahendragarh Terminal system (Agenda by ATIL)

A.11.1. ATIL representative mentioned the ± 500 kV HVDC Mundra-Mahendragarh Transmission system, operational for 12 years, is a vital link between the Western and Northern regions. Annually, the system undergoes an outage of 6-8 days primarily to inspect the valve cooling system and check for deposition on the electrode cooling tubes. Regular inspection of these electrodes is crucial to identify and replace those with high levels of deposition.

A.11.2. ATIL representative stated that the converter valve is a crucial component in HVDC transmission systems. During normal operation, the thyristor generates significant heat due to high current flow, causing its temperature to rise sharply. Effective cooling is essential to prevent the thyristor from burning out, with its temperature generally kept below 90°C. Heat dissipation is achieved through aluminum alloy heat sinks in close contact with the thyristor, cooled by an internal water-cooling system.

A.11.3. While this electrode deposition and replacement activity had been carried out once a year, ATIL have observed increased deposition in electrodes in the past 5 years.

| | Location | 201 | 2020 | 202 | 2022 | 2023 | Grand |
|--|----------|-----|------|-----|------|------|-------|
|--|----------|-----|------|-----|------|------|-------|

| | | 9 | | 1 | | | Total |
|----------------------------------|--------------|----|----|----|----|----|-------|
| REPLACEMENT OF GRADING ELECTRODE | Mundra | 15 | 20 | 32 | 44 | 47 | 158 |
| | Mahendragarh | 7 | 9 | 18 | 25 | 28 | 87 |

- A.11.4. Moreover, ATIL has had 5 nos. of emergency outages availed in the past 2 years and failure of 02 nos. value reactors and 07 nos. thyristor. With such failures, ATIL is forced to increase the frequency of electrode deposition checks thereby requiring an additional outage of 84 hrs. every year, over and above annual outage.
- A.11.5. ATIL informed OCC forum that they have taken up the matter with OEM (M/S Siemens) to provide a solution for such deposition. M/S Siemens has proposed installation of CO₂ dosing (injection) system.
- A.11.6. The purpose of the CO₂ dosing system is to inject gaseous CO₂ in the cooling system in order to modify the conditions of the cooling water. According to the CO₂ amount the pH-value of the cooling water and the conductivity changes. Through the conductivity value the injected CO₂ amount is controlled. The CO₂ dosing system is needed to reduce/stop the formation of aluminium coating on the grading electrodes used inside the converter. Thus, the injection system maintains the pH of DM water to 7 which prevents such scaling.
- A.11.7. Further, ATIL apprised that in India, Powergrid has installed the same in their Talcher and Kolar HVDC system. With LCC based HVDC solutions less adopted now, the critical spares for the same have limited availability with long lead times and hence system reliability enhancement is the only solution to run the system for its entire period.
- A.11.8. The estimate cost of supply and installation is Rs 10 crore/pole/terminal (total Rs 40 crore for both Mundra and Mahendragarh). The installation would require an outage of 6-8 days outage/pole.
- A.11.9. CGM(SO) NRLDC stated that as per the available information HVDC Balia-Bhiwadi bipole and HVDC Mundra-Mahendragarh bipole have the same technical specifications, but such issues were not faced in HVDC Balia-Bhiwadi. Further, stated that commercial part is also complex as against the 2500 MW capacity of Mundra-Mahendragarh about 1495 MW is of Haryana and balance share is billed as national component under PoC mechanism. So, the cost of 40 crore would be proportionately divided within the states with a higher proportion of the cost to be borne by Haryana. Therefore, financial implication of the proposal also needs to be studied and consent is to be provided by states.
- A.11.10. Haryana SLDC representative stated that internal deliberation is required as expenses are involved. MS, NRPC stated that agenda was already stated and

should have been discussed at the state level. UP, Rajasthan were also asked for their opinion. Rajasthan representative stated that financial implication should also be clearly stated.

A.11.11. ATIL representative mentioned that cost would be distributed on the basis of Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations.

A.11.12. MS, NRPC asked Powergrid to share the experience of CO₂ injection system installed by M/s Siemens in Talcher - Kolar HVDC system.

A.11.13. Powergrid representative intimated that similar CO₂ feeding system was installed in Talcher- Kolar HVDC system in 2016. Last comprehensive check of the electrodes was carried out in 2022 and based on the checks they still found the deposition /scaling on the electrodes. Further, as per Powergrid is not familiar with the solution proposed by M/s Siemens to ATIL this time, Powergrid cannot conclusively comment on the efficacy of the system.

A.11.14. ATIL asked Powergrid whether, during their annual checks of the Talcher-Kolar HVDC system, any improvements had been observed in terms of a reduction in the number of outages required to address the deposition issue, fewer replacements of grading electrodes, or a decrease in water leakage problems.

A.11.15. Powergrid representative responded that the Talcher-Kolar HVDC system is part of the SR region, and as informed by the concerned Region of PGCIL operating the HVDC Talcher Kolar, there was no methodology to gauge the extent of trend in scaling. PGCIL representative informed that scaling is a genuine problem in HVDCs and same occurred in Balia-Bhiwadi also over a period, reactors have failed, and leakages have also occurred. Further they informed that now every year 03 years they check each of the electrodes completely and cleaning of electrodes is done.

A.11.16. CGM (SO), NRLDC also stated that CO₂ injection system needs to be studied separately to examine the proposal.

A.11.17. CGM (SO) NRLDC asked the opinion of Haryana as they have the major share in Mundra-Mahendragarh Further, he advised that POWERGRID may take lead as they have expertise, and a committee may be formed to decide on the CO₂ injection system within 2-3 months. Haryana should also be part of the technical committee on deciding the CO₂ injection system installation.

A.11.18. CGM (SO) NRLDC opined that availability of poles is required and tripping to be avoided, and all measures required for ensuring reliability of HVDC needs to be taken.

A.11.19. MS, NRPC stated that a committee may be formed under the chairmanship of SE(O) NRPC with representatives from NLDC, NRLDC, Powergrid, ATIL and concerned utility from Haryana. The committee to submit recommendations within three months on the need of the CO₂ injection system.

Decision of OCC Forum:

Forum constituted a committee under the chairmanship of SE(O), NRPC with representatives from NLDC, NRLDC, Powergrid, ATIL and concerned utility from Haryana. The committee to submit recommendations within three months on the need of the CO₂ injection system.

A.12. Procurement of cold spare transformers and reactor for Northern Region (Agenda by POWERGRID NR-1)

- A.12.1 Powergrid representative apprised that Hon'ble CERC had set up a committee on dated 15.03.2018 consisting of representatives from CERC, NLDC, and CEA & POWERGRID under the Chairmanship of the Chief (Engineering) of the CERC to assess the requirement of regional spares including bus reactors, line reactors, ICTs, etc.
- A.12.2 Based on the recommendations of the CERC Committee, Powergrid has determined the state-wise requirements for transformers and reactors to be kept as spares for the Northern Region, and the details of the same are provided in the agenda.
- A.12.3 CGM, NRLDC, was of the view that spare ICTs should be planned on a regional basis rather than on a state basis. He also inquired with Powergrid about how the tariff/cost is recovered in case a spare is utilized at any location.
- A.12.4 Powergrid representative stated that he would consult with their commercial division and inform about the tariff recovery mechanism for the spare ICT currently being utilized.
- A.12.5 CGM, NRLDC suggested that Powergrid may also share the methodology being followed in other regions regarding cold spare transformers and reactors.
- A.12.6 Powergrid informed that, at present, they do not have cold spares for reactors, which is very much needed considering the increasing penetration of renewable energy.
- A.12.7 CGM, NRLDC asked Powergrid to submit a consolidated, capacity-wise list of the total number of transformers required as spares on regional basis. The list should include the current shortfall in ICTs, the number of ICTs allocated to States/UT's of NR as regional spares, and the expected timeline for their return.

Decision of OCC Forum:

Forum asked Powergrid to submit a consolidated, capacity-wise list of the total number of transformers required as spares on a regional basis. The list should include the current shortfall in ICTs, the number of ICTs allocated States/UT's of NR as regional spares, and the expected timeline for their return.

A.13. Review of availability for power line crossing & OPGW diamond formation by

upcoming new Transmission Line Projects (Agenda by POWERGRID NR-1)

- A.13.1. Powergrid NR-1 has mentioned that outages required for power line crossings and OPGW diamond formations associated with upcoming transmission line projects are not currently being considered under the "LCSD" category (Line Shutdowns for Construction Activities of New Systems Executed by Licensee) on availability certification, which accurately reflects the purpose of these shutdowns as they support essential construction activities for new system integrations.
- A.13.2. GM(SO), NRLDC mentioned that 765kV Fatehgarh-2 to Bhadla-2 Circuits 1 & 2 were already commissioned in 2021, however shutdown of these lines for power line crossing & OPGW diamond formation of 765kV Fatehgarh-2 to Bhadla-2 Circuits 1,2,3 & 4. NRLDC enquired whether approval of any forum was taken for considering this shutdown period under construction head for deemed availability.
- A.13.3. Powergrid informed that shutdown of existing element taken for construction of new element is deemed available as per CERC tariff regulation.
- A.13.4. NRLDC representative submitted that construction related activities must be completed before declaring COD of the element.
- A.13.5. **MS NRPC stated that NRPC and NRLDC would hold internal deliberations on this issue, after which a decision would be made on the matter.**

खण्ड-ख: उ.क्षे.भा.प्रे.के.

Part-B: NRLDC

B.1 NR Grid Highlights for October 2024

NRLDC representative presented major grid highlights for the month of October 2024

| 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 | 298 | 01.10.24 at 19:00 | 6.0 | 31.10.24 | 4.7 |
| 2 | Delhi | 6161 | 03.10.24 at 15:30 | 128.3 | 31.10.24 | 104.8 |
| 3 | Haryana | 11087 | 04.10.24 | 235.2 | 31.10.24 | 198.8 |

| | | | | | | |
|----|----------------------------|--------------|--------------------------|---------------|-----------------|---------------|
| | | | 4 at 19:00 | | | |
| 4 | H.P. | 1947 | 25.10.2 4 at 07:45 | 36.8 | 31.10.24 | 34.4 |
| 5 | J&K | 2742 | 03.10.2 4 at 19:00 | 53.7 | 06.10.24 | 49.9 |
| 6 | Punjab | 14311 | 04.10.2 4 at 15:15 | 289.5 | 31.10.24 | 204.4 |
| 7 | Rajasthan | 16206 | 29.10.2 4 at 12:00 | 343.8 | 13.10.24 | 317.6 |
| 8 | U.P | 26756 | 04.10.2 4 at 19:20 | 524.5 | 27.10.24 | 459.0 |
| 9 | Uttarakhand | 2412 | 09.10.2 4 at 19:00 | 48.4 | 31.10.24 | 44.2 |
| 10 | Northern Region | 73686 | 04.10.2 4 at 20:00 | 1665.7 | 31.10.24 | 1417.8 |

***As per SCADA**

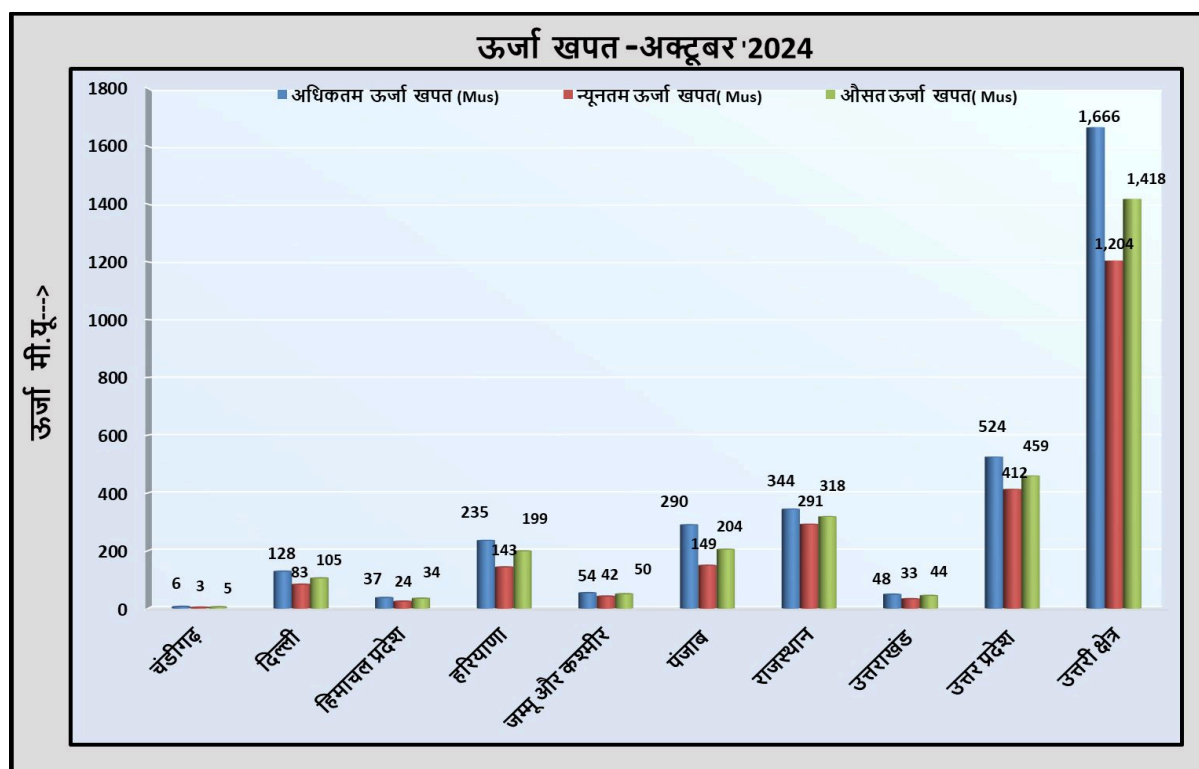
- In Oct'24, the Maximum energy consumption of Northern Region was **1666 MUs** on 31th Oct'24 and it was 17 % higher than Oct'23 (1422 MU 10th Oct'23)
- In Oct'24, the Average energy consumption per day of Northern Region was **1418 MUs** and it was 14 % higher than Oct'23 (1248 MUs/day)
- In Oct'24, the Maximum Demand met of Northern Region was 73686 **MW** on 04th Oct'24 @20:00 hours (as per SCADA data) as compared to 67829 MW on 10th Oct'23 @12:47hours.

Comparison of Average Energy Consumption (MUs/Day) of NR States for the Oct'23 vs Oct'24

| क्षेत्र/राज्य | अक्टूबर- 2023 | अक्टूबर- 2024 | % अंतर |
|---------------|---------------|---------------|--------|
| चंडीगढ़ | 4.1 | 4.7 | 14.6% |

| | | | |
|-----------------------|---------------|---------------|--------------|
| दिल्ली | 90.5 | 104.8 | 15.9% |
| हिमाचल प्रदेश | 32.6 | 34.4 | 5.6% |
| हरियाणा | 172.4 | 198.8 | 15.3% |
| जम्मू और कश्मीर | 48.5 | 49.9 | 2.8% |
| पंजाब | 173.9 | 204.4 | 17.6% |
| राजस्थान | 294.5 | 317.6 | 7.8% |
| उत्तराखंड | 40.0 | 44.2 | 10.4% |
| उत्तर प्रदेश | 391.1 | 459.0 | 17.4% |
| उत्तरी क्षेत्र | 1247.6 | 1417.8 | 13.6% |

Energy Consumptions

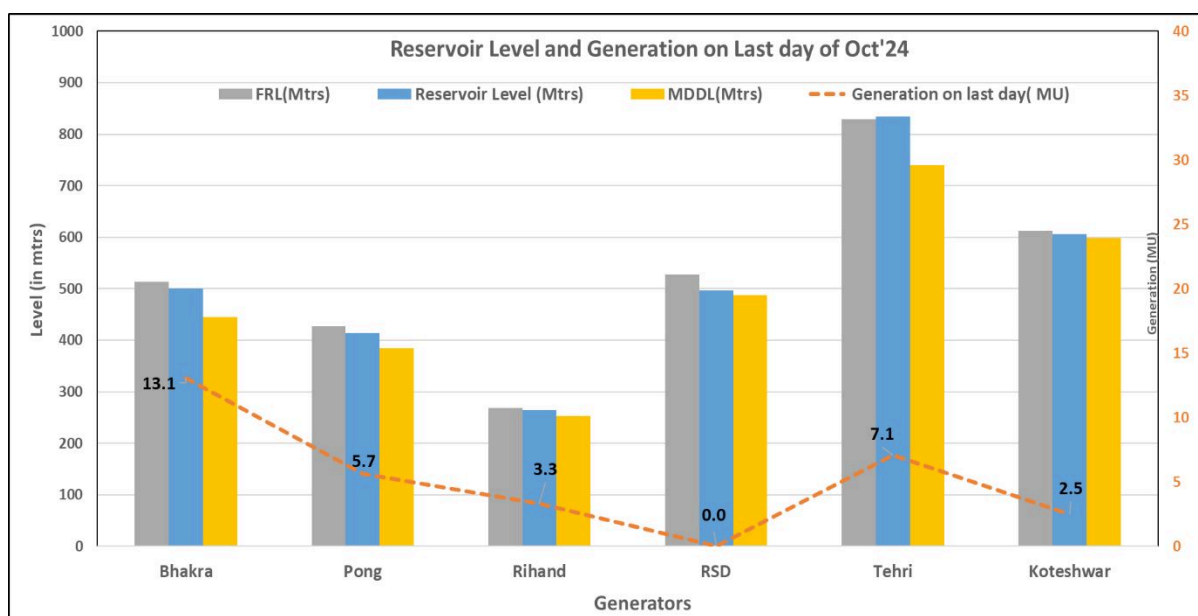


Frequency profile

| Month | Avg. Freq. | Max. Freq. (Hz) | Min. Freq. (Hz) | <49.90 (%) | 49.90 – 50.05 (%) | >50.05 (% time) |
|-------|------------|-----------------|-----------------|------------|-------------------|-----------------|
|-------|------------|-----------------|-----------------|------------|-------------------|-----------------|

| | (Hz) | | | time) | time) | |
|---------------|-------|---|--|-------|-------|------|
| Oct'24 | 50.00 | 50.388 (25.10.24 at 13:03:30 hrs) | 49.585 (16.10.24 at 17:58:20 hrs) | 4.9 | 80.3 | 14.8 |
| Oct'23 | 49.99 | 50.30 27.10.23 at 16:03:50 hrs | 49.47 16.10.23 at 14:56:40 hrs | 8.9 | 74.4 | 16.7 |

Reservoir Level and Generation on Last Day of Month



Reservoir Level comparison w.r.t. last year as on 31.10.2024:

| RESERVOIR | Parameters | | | Present Parameters | | LAST YEAR | |
|---------------|------------|-----------|-----------------------|--------------------|-------------|-------------|-------------|
| | MDDL (Mts) | FRL (Mts) | Energy Content at FRL | Level (Mts) | Energy (MU) | Level (Mts) | Energy (MU) |
| Bhakra | 445.62 | 513.59 | 1,728.8 | 499.18 | 1,065 | 506.14 | 1,367 |
| Chamera-I | 748.75 | 760 | 753.95 | 758.7 | 2 | - | - |
| Gandhisagar | 381 | 399.9 | 725 | - | - | - | - |
| Jawahar Sagar | 295.96 | 298.7 | 2.01 | - | - | - | - |
| Koteshwar | 598.5 | 612.5 | 610.73 | 611.65 | 5 | 611.78 | 5 |
| Pong | 384.05 | 426.72 | 1,084 | 411.83 | 556 | 420.02 | 889 |
| RPS | 343.81 | 352.81 | 175.66 | - | - | - | - |
| RSD | 487.91 | 527.91 | 390.3 | 501.27 | 113 | 514.15 | 259 |
| Rihand | 252.98 | 268.22 | 860.5 | 263.93 | 540 | 259.32 | 268 |
| Tehri | 740.04 | 830 | 1,164.11 | 827.99 | 1,122 | 824.89 | 1,057 |
| TOTAL | - | - | - | - | 3,403 | - | 3,845 |

Detailed presentation on grid highlights of Oct'2024 as shared by NRLDC in OCC meeting is attached as **Annexure-B.I.**

B.2 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. Order is available at Annexure-B.I of agenda.

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

- All the State Load Despatch Centres and RLDCs shall furnish the details of operational planning undertaken by them in terms of Regulation 31(4) (a) of the Grid Code especially for October 2024. RLDC shall validate the adequacy of resources in terms of Regulation 31(4) (b) of the Grid Code.
- All State Load Despatch Centres and Regional Load Despatch Centres shall prepare the worst-case scenario due to possible surge in demand during the period 1.10.2024 to 31.10.2024 in their respective control area and submit within seven days to the Commission with a copy to National Load Despatch Centre.
- The State Load Despatch Centres or Regional Load Despatch Centres, as the case may be, should assess their demand-generation scenario in the upcoming months, ensure the optimum generation, avoid undesirable planned outages, and advise the generating company to offer their availability. The State Load Despatch Centre or Regional Load Despatch Centre shall ensure the optimum scheduling during the shortage period and surplus power to get despatched during the deficit period.

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

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

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

In the meeting, NRLDC representative mentioned that:

- As per the information available with NRLDC, only HP & Uttarakhand have submitted their formal reply to CERC.
- Punjab and J&K have shared some information with NRLDC, but formal communication to CERC from their side is yet to be done.
- Whereas other states have neither submitted their response to CERC nor NRLDC with regard to order 9/SM/2024 dated 07.10.2024.

During the meeting, it was requested that Delhi, UP, Haryana, Rajasthan and Chandigarh may provide update in this regard. Punjab and J&K were also requested to provide update whether they have submitted the information to CERC.

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

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 & generation adequacy submission status for October-2024 as per Clause 31(4) (a) & (b) of IEGC-2023 as presented in the meeting is shown below:

| S.no | State | 01-Oct | 02-Oct | 03-Oct | 04-Oct | 05-Oct | 06-Oct | 07-Oct | 08-Oct | 09-Oct | 10-Oct | 11-Oct | 12-Oct | 13-Oct | 14-Oct | 15-Oct | 16-Oct | 17-Oct | 18-Oct | 19-Oct | 20-Oct | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct | 27-Oct | 28-Oct | 29-Oct | 30-Oct | 31-Oct |
|------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | JK & Ladakh(UT) | N | N | N | N | N | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N |
| 2 | Punjab | Y | N | N | N | N | N | Y | Y | Y | Y | Y | N | N | N | N | N | N | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 3 | UP | Y | N | Y | Y | Y | N | Y | Y | Y | Y | N | N | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 4 | Uttarakhand | Y | Y | Y | Y | Y | N | Y | Y | Y | N | Y | N | N | Y | Y | Y | Y | N | Y | Y | N | Y | Y | Y | Y | N | Y | Y | N | N | N |
| 5 | Chandigarh | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 6 | Rajasthan | Y | N | Y | N | N | Y | N | Y | N | N | N | N | N | N | N | N | Y | N | Y | N | Y | N | N | Y | Y | Y | N | N | N | N | N |
| 7 | Delhi | N | Y | N | N | Y | Y | Y | Y | N | Y | Y | Y | N | N | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 8 | Haryana | N | N | Y | N | Y | Y | N | N | Y | N | N | Y | N | Y | Y | Y | Y | Y | Y | N | Y | N | Y | N | Y | Y | Y | Y | N | Y | Y |
| 9 | HP | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y |

HP representative mentioned that they have also submitted data of 24 Oct. Incase day-ahead data is not received, SLDC may be asked for the same, in case of some issue in email.

Status of Week Ahead Forecasting data Submission status for the month of October 2024 as presented in the meeting is shown below:

| S.no | State | 07-10-2024 to 13-10-2024 | 14-10-2024 to 20-10-2024 | 21-10-2024 to 27-10-2024 | 28-10-2024 to 03-11-2024 | 04-11-2024 to 10-11-2024 |
|------|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 | JK & Ladakh(UT) | N | N | N | N | N |
| 2 | Punjab | N | N | N | N | N |
| 3 | UP | N | N | N | Y | Y |
| 4 | Uttarakhand | N | N | N | N | N |
| 5 | Chandigarh | N | N | N | N | N |
| 6 | Rajasthan | N | N | N | N | N |
| 7 | Delhi | N | N | N | N | N |
| 8 | Haryana | N | N | N | N | N |
| 9 | HP | Y | Y | Y | Y | Y |

Status of Month Ahead (October'2024) and Year Ahead Demand forecasting submission status as presented in the meeting is shown below:

| Region | State | | |
|--------|--------------------|--------------------------|--------------------------|
| | | Monthly | Yearly |
| | | Data submission (Y/N) | Data submission (Y/N) |
| NR | Punjab | N | N |
| | Haryana | N | N |
| | Rajasthan | N | N |
| | Delhi | N | Y |
| | UP | Y | Y |
| | Uttarakhand | N | N |
| | HP | Y | Y |
| | J&K | N | N |
| | Chandigarh | N | N |
| | <u>Railways NR</u> | N | N |

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 (nrlcmis@grid-india.in) and FTP as per above timeline.

The relevant clauses from IEGC 2023 related to demand forecasting exercise and resource adequacy exercise are tabulated below:

| Clause No. | Responsible Entity | Compliance Assignment |
|------------|--|--|
| 5.2(i) | Each distribution licensee within a State | Estimate the demand in its control area including the demand of open access consumers and factoring in captive generating plants, energy efficiency measures, distributed generation, demand response, in different time horizons, namely long-term, medium term and short-term. |
| 5.2(ii) | STU (on behalf of distribution licensee)/other designated agency | Estimate the demand for the entire State duly considering the diversity in different time horizons, namely long-term, medium term and short-term. |
| 5.3(a) | Each distribution | (i) Assess the existing generation resources |

| | | |
|----------------|--|--|
| | licensee | and identify the additional generation resource requirement to meet the estimated demand in different time horizons, (ii) Prepare generation resource procurement plan. |
| 5.3(c) | Each distribution licensee | Generation resource procurement planning (specifying procurement from resources under State control area and regional control area) shall be undertaken in different time horizons, namely long-term, medium term and short-term to ensure (i) adequacy of generation resources and (ii) planning reserve margin (PRM) taking into account loss of load probability and energy not served as specified by CEA. |
| 5.3(d) | STU (on behalf of distribution licensee)/other designated agency | STU or other designated agency by state commission shall provide to NLDC, •the details regarding demand forecasting, •assessment of existing generation resources •such other details as may be required for carrying out a national level simulation for generation resource adequacy for States. |
| 5.3(e) | NLDC | Based on the information received, NLDC shall carry out a simulation to assist the States in drawing their optimal generation resource adequacy plan. |
| 5.3(f) | Each distribution licensee | Each distribution licensee shall ensure demonstrable generation resource adequacy for such period as specified by the respective SERC |
| 31.1(a) | NLDC/RLDC/SLDC | Operational planning in advance by NLDC, RLDCs and SLDCs within their respective control areas: Monthly and Yearly time horizons in co-ordination with CTU, RPCs or STUs, as applicable. |
| 31.1(b) | NLDC/RLDC/SLDC | Operational planning shall be carried out in advance by NLDC, RLDCs and SLDCs within their respective control areas on Intra-day, Day Ahead, Weekly time horizons. |
| 31.1(c) | NLDC/RLDC | Procedure and data format by NLDC/RLDC for following activity •Operational planning analysis •Real-time monitoring, •Real-time assessments. Format is available at https://posoco.in/wp- |

| | | |
|----------------|---|--|
| | | content/uploads/2024/03/Final-NLDC-Operating-Procedure_as-submitted-to-CERC-dated-290923.pdf |
| 31.1(d) | SLDC | SLDC may also issue procedures and formats for data collection for the above purposes. |
| 31.2(a) | SLDC | Each SLDC shall carry out demand estimation (active & reactive) as part of operational planning after duly factoring in the demand estimation done by STU as part of resource adequacy planning referred to in Chapter 2 of these regulations. |
| 31.2(b) | SLDC | Each SLDC shall develop methodology for daily, weekly, monthly, yearly demand estimation in MW and MWh for operational analysis as well as resource adequacy purposes |
| 31.2(c) | SLDC | The demand estimation by each SLDC shall be done on day ahead basis with time block wise granularity for the daily operation and scheduling. Revision in real-time demand estimate by SLDC if major change is observed and sharing with RLDC |
| 31.2(d) | SLDC | Each SLDC shall submit node-wise morning peak, evening peak, day shoulder and night off-peak estimated demand in MW and MVA on a monthly and quarterly basis for the nodes 110 kV and above |
| 31.2(e) | SLDC | SLDC shall also estimate peak and off-peak demand (active as well as reactive power) on a weekly and monthly basis for load - generation balance planning as well as for operational planning analysis |
| 31.2(f) | ISTS connected bulk consumers or distribution licensees | The entities such as bulk consumers or distribution licensees that are directly connected to ISTS shall estimate and furnish such a demand estimate to the concerned RLDC |
| 31.2(g) | RLDC/NLDC | Based on the demand estimate furnished by the SLDCs and other entities directly connected to ISTS, each RLDC shall prepare the regional demand estimate and submit it to the NLDC. NLDC, based on regional demand estimates furnished by RLDCs, shall prepare national demand estimate |
| 31.2(h) | SLDC | Submission of demand estimate data by SLDCs or other entities directly connected to ISTS, as applicable, to the respective |

| | | |
|----------------|----------------|--|
| | | <p>RLDC and RPC as per below timeline :</p> <ul style="list-style-type: none"> - Daily: 10:00 hrs of previous day - Weekly: First working day of previous week - Monthly: Fifth day of previous month - Yearly: 30th September of the previous year |
| 31.2(i) | SLDC/RLDC/NLDC | <p>Compute forecasting error for intra-day, day ahead, weekly, monthly and yearly forecasts and analyse the same in order to reduce forecasting error in the future. The computed forecasting errors shall be made available by SLDCs, RLDCs and NLDC on their respective websites.</p> |
| 31.3(a) | SLDC | <p>The generation estimation by each SLDC shall be done on day ahead basis with time block wise granularity for the daily operation and scheduling. Revision in real-time generation estimate by SLDC if major change is observed and sharing with RLDC</p> |
| 31.3(b) | RLDC | <p>RLDC shall forecast generation from wind, solar, ESS and Renewable Energy hybrid generating stations that are regional entities and SLDC shall forecast generation from such sources that are intra-state entities, for different time horizons as referred to in clause (1) of Regulation 31 of these regulations for the purpose of operational planning</p> |
| 31.4(a) | SLDC | <p>SLDCs estimate and ensure the adequacy of resources, identify generation reserves, demand response capacity and generation flexibility requirements with due regard to the resource adequacy framework as specified under Chapter 2 of these regulations</p> |
| 31.4(b) | SLDC | <p>Furnishing time block-wise information for the following day in SLDC respect of all intra-state entities to the concerned RLDC who shall validate the adequacy of resources with due regard to the following:</p> <ul style="list-style-type: none"> (i) Demand forecast aggregated for the control area; (ii) Renewable energy generation forecast for the control area; (iii) Injection schedule for intra-State entity generating station; (iv) Requisition from regional entity generating stations |

| | | |
|-------------|--|--|
| | | (v) Secondary and planned procurement through Tertiary reserve requirement; (vi) Planned procurement of power through other bilateral or collective transactions, if any. |
| 33.1 | NLDC, RLDC, SLDC & (RPC: Monthly & Yearly) | Based on the operational planning analysis data, operational planning study shall be carried out by various agencies for time horizons such as Real time, Intra Day , Weekly , Monthly & Yearly |
| 33.2 | SLDC, RLDCs and NLDC | SLDCs, RLDCs and NLDC shall utilize network estimation tool integrated in their EMS and SCADA systems for the real time operational planning study. |
| 33.3 | SLDC | SLDCs shall perform day-ahead, weekly, monthly and yearly operational studies for the concerned State for: (a) assessment and declaration of total transfer capability (TTC) and available transfer capability (ATC) for the import or export of electricity by the State. TTC and ATC shall be revised from time to time based on the commissioning of new elements and other grid conditions and shall be published on SLDC website with all the assumptions and limiting constraints; (b) planned outage assessment; (c) special scenario assessment; (d) system protection scheme assessment; (e) natural disaster assessment; and (f) any other study relevant in operational scenario. |
| 33.4 | RLDCs and NLDC | RLDCs and NLDC shall perform day-ahead, weekly, monthly and yearly operational studies for: (a) assessment of TTC and ATC at inter-regional, intra-regional, and inter-state levels; (b) planned outage assessment; (c) special scenario assessment; (d) system protection scheme assessment; (e) natural disaster assessment; and (f) any other study relevant to operational scenarios |
| 33.5 | RLDCs | RLDC shall assess intra-regional and inter-state level TTC and ATC and submit them to NLDC. NLDC shall declare TTC and ATC for import or export of electricity between |

| | | |
|--------------|-----------------------------|---|
| | | regions including simultaneous import or export capability for a region, and cross border interconnections 11 (Eleven) months in advance for each month on a rolling basis. |
| 33.6 | RLDCs | Operational planning study shall be done to assess whether the planned operations shall result in deviations from any of the system operational limits defined under these regulations and applicable CEA Standards. The deviations, if any, shall be reviewed in the monthly operational meeting of RPC and significant deviations shall be monitored by RPC for early resolution. |
| 33.7 | NLDC, RLDCs, RPCs and SLDCs | NLDC, RLDCs, RPCs and SLDCs shall maintain records of the completed operational planning study, including date specific power flow study results, the operational plan and minutes of meetings on operational study. |
| 33.8 | NLDC, RLDCs, RPCs and SLDCs | NLDC, RLDCs, RPCs and SLDCs shall have operating plans to address potential deviations from system operational limit identified as a result of the operational planning study. |
| 33.9 | SLDCs | Each SLDC shall undertake a study on the impact of new elements to be commissioned in the intra-state system in the next six (6) months on the TTC and ATC for the State and share the results of the studies with RLDC |
| 33.10 | RLDCs | Each RLDC shall undertake a study on the impact of new elements to be commissioned in the next six (6) months in (a) the ISTS of the region and (b) the intrastate system on the inter-state system and share the results of the studies with NLDC |
| 33.11 | NLDC | NLDC shall undertake study on the impact of new elements to be commissioned in the next six (6) months in (a) inter-regional system, (b) cross-border link and (c) intraregional system on the inter-regional system. |
| 33.12 | NLDC, RLDCs and SLDCs | NLDC, RLDCs and SLDCs shall compare the results of the studies of the impact of new elements on the system and transfer capability addition with those of the interconnection and planning studies by |

| | | |
|--------------|--|---|
| | | CTU and STUs |
| 33.13 | concerned user or SLDC or RLDC or NLDC | Defense mechanisms like system protection scheme, load-rejection scheme, generation run-back, islanding scheme or any other scheme for system security shall be proposed by the concerned user or SLDC or RLDC or NLDC and shall be deployed as finalized by the respective RPC |

All SLDCs were asked 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. It was also requested to share actions being taken at SLDC end to ensure compliance of above listed clauses of IEGC 2023. It was also mentioned that in case any support is required from NRLDC side, NRLDC is ready to provide the same and extend helping hand to states.

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

All SLDCs agreed to take actions as discussed in the meeting.

B.3 Critical operation of Rajasthan Grid during upcoming winter season:

Issues related to grid operation in Rajasthan state control area have been highlighted from NRLDC side in last several OCC/TCC/NRPC meetings. It is to be noted that such issues get aggravated during winter months when agricultural demand in state is on the higher side. Several issues were encountered in Rajasthan control area during last winter season. Issues were discussed in detail in 224 OCC meeting held on 18.10.2024 and separate meeting organised on 19.10.2024. Some of the actions that were agreed are listed below:

1. SLDC to take up the matter with DISCOMs for shifting of non-essential demand being provided in day-time till transmission network capacity augmentation takes place
2. Additional ICT at Hindaun 400 KV to be commissioned in December 2024. Voltage will improve but not much considering voltages are reaching critical low of approx. 300 KV.
3. As Dholpur Gas plant has also been run in the recent past and significant improvement in Voltages and grid parameters have been observed, RVUNL to ensure the running of Dholpur units as ultimate solution in present condition.
4. RE plants installed in state control area should also provide MVAR support to RE plants as per the CEA standards as being implemented in ISGS RE plants.

5. For safely meeting 18000 MW load of Rajasthan with voltage in IEGC band, 4000 MVAR support additionally is required. After installing 2500 MVAR of capacitor banks in the study files the base case is converging with voltages at low of 360 KV at 400 KV sub-stations being observed. The base cases were simulated using the real time data. Hence, there was urgent requirement of installation of capacitor banks to prevent system collapse.
6. DISCOMs are requested to approach MoP with complete proposal for installation of Capacitor banks through RDSS fund. It was also stated that the detailed proposal was already made for all the 04 power companies of Rajasthan when funding through PSDF fund was envisaged earlier.
7. It was again reiterated that low voltages in Rajasthan network was a major area of concern it has to be flagged at the highest level. If PSDF/RDSS fund is not available, funding through other routes/schemes to be taken up for installation of Capacitor banks.
8. Expediting capacity augmentation at substations and coordinate with PGCIL/CTU to ensure N-1 compliance to prevent major grid disturbances.

Location wise constraints presented by NRLDC representative and RRVNLC Comments is summarised as below:

C

| Name of Substation | MVA Capacity | Total Loading (MW) (variations throughout day during Dec'23- Jan'24) | SPS Status as available with NRLDC | RRVNL comment in the meeting |
|--------------------|------------------|--|---------------------------------------|---|
| Bhiwadi(PG) | 3*315=945 | 300-700 | Not implemented | |
| Neemrana(PG) | 315+500=815 | 200-450 | Not implemented | |
| Bassi(PG) | 2*315+500=1130 | 300-1000 | Not implemented | |
| Sikar(PG) | 2*315+500=1130 | 150-750 | Not implemented | |
| Jaipur South(PG) | 2*500=1000 | 150-650 | Not implemented | |
| Kankroli(PG) | 3*315=945 | 250-650 | Not implemented | |
| Kotputli(PG) | 2*315=630 | 150-500 | Not implemented | |
| Hindaun (RVPN) | 2*315 =630 | 250-550 | Implemented | Additional ICT to be commissioned by Nov'24 |
| Chittorgarh (RVPN) | 3*315 =945 | 200-700 | Implemented | SPS is under revision. 4th ICT is proposed |
| Ajmer (RVPN) | 2*315 =630 | 200-600 | Implemented | Additional 500 MVA ICT to be commissioned by 06.09.2025 |
| Merta (RVPN) | 2*315 =630 | 250-550 | Implemented | |
| Bikaner (RVPN) | 2*315 =630 | 100-550 | Implemented | |
| Jodhpur (RVPN) | 2*315 =630 | 200-500 | Implemented | |
| Heerapura(RVPN) | 3*250+315=1065 | 300-900 | Not implemented | 3rd ICT by 12.09.2025 |
| Bhilwara (RVPN) | 1*500+1*315 =815 | 300-550 | Under Implementation | SPS to be proposed. Additional ICT is proposed. |
| Ratangarh(RVPN) | 3*315=945 | 300-750 | Implemented | SPS implemented, additional ICT proposed |
| Deedwana(RVPN) | 2*315=630 | 150-500 | Not implemented | 4th ICT proposed |
| Suratgarh(RVPN) | 2*315=630 | 100-500 | Implemented | Under study presently no SPS proposed |
| | | | | Space constraint |

CTUIL/RRVNL is requested to provide update regarding ICT capacity augmentation at 400/220kV POWERGRID substations:

- (i) 400/220kV Neemrana
- (ii) 400/220kV Sikar
- (iii) 400/220kV Jaipur South
- (iv) 400/220kV Kotputli

It is to be noted that new 500MVA ICT capacity augmentation has already been approved for 400/220kV Bhiwadi, 400/220kV Bassi and 400/220kV Kankroli substations and under implementation.

During 225 OCC meeting, Rajasthan SLDC provided following update in the meeting:

- Agricultural load has been shifted to morning 5am for some of the substations where there are severe transmission constraints.
- SE (T&C) are taking up with respective officers of DISCOMs to shift the load especially of the areas having transmission constraints.
- However, as two block supply is govt policy decision, DISCOMs are somewhat apprehensive to shift major load to non-solar hours and shifting only in case of severe transmission constraints.
- New 500MVA 400/220kV Hindaun ICT is expected to be commissioned in Dec'2024.
- RE plants in state control area are being asked to run in fixed power factor mode and not draw MVAR from the grid as power plant controller are not installed.
- Capacitor banks are expected to be commissioned before next winter season and it is expected that installation of capacitor banks would begin from Mar'2025 onwards.

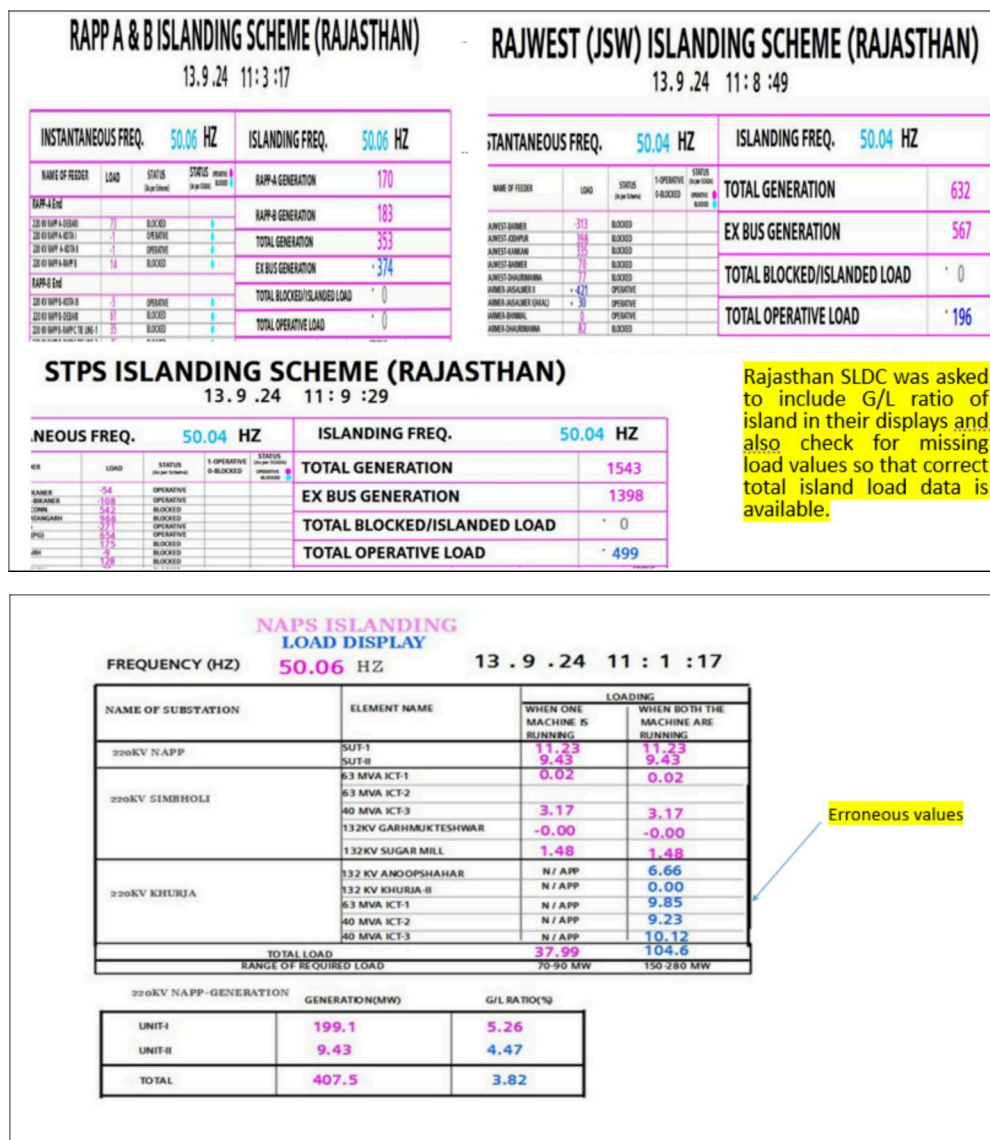
CTUIL and RRVNL were asked to take up ICT augmentation of 400/220kV Neemrana, Sikar and Jaipur South POWERGRID substations in upcoming CMETS meeting.

OCC asked Rajasthan SLDC and RRVNL to take necessary measures at their end to ensure reliability of intrastate grid.

B.4 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 Pathankot-RSD Islanding Scheme (Punjab). As per the SOP for mock islanding schemes approved in the recently concluded OCC 223, SLDCs are requested to prepare and share their plans for conducting mock testing of islanding schemes in their control areas.

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



During 225 OCC meeting, NRLDC representative mentioned that only the NAPS Islanding Scheme of UP has incorporated the G/L ratio in its SCADA display according to the shared format. UP representative added that due to a recent fire incident at Khurja S/S, the telemetry from the 220kV Khurja S/S is currently unavailable, and they promised to share an update on the restoration of telemetry from Khurja as soon as possible.

NRLDC representative also requested that all concerned utilities provide updated islanding base cases for different load-generation balance scenarios (summer: Peak/Off-peak and winter: Peak/Off-peak) along with dynamic data of the generators in the island for conducting dynamic simulation studies. He reiterated

that the Islanding SCADA display should be made available at NRLDC as per the format shared in previous OCC meetings.

UP, Rajasthan, Punjab and Delhi SLDC were requested to provide update.

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

No other update could be received from other SLDCs.

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

B.5 Winter preparedness 2024-25

Winter in Northern region is likely to start from mid of October till February end, and the challenges faced during these months are well known to all the utilities. During winter, demand of NR states except Rajasthan and hilly states is on the lower side. With decreasing temperatures and festivals, onset of winter also brings some severe challenges to NR grid operators. Moreover, there is possibility for severe winter during this season due to the impact of LA-NINA. IMD in their press release dated 05.09.2024, Extended range Forecast for next two weeks (5- 18 Sept, 2024) mentioned that *“The latest MMCFS forecast indicates higher likelihood of La Niña conditions are likely to develop during end of monsoon season”*. Accordingly, number of measures were discussed and implemented for better grid operation during winter months:

Based on the detailed discussion held in last OCC meeting, following actions were suggested:

- Transmission utilities to prepare plan for measures to be taken by them for carrying out pre-winter maintenance activities. It was agreed that same may be shared by utilities via mail with NRPC/NRLDC before next OCC meeting. Plan has been received from POWERGRID NR-2.
- To carry out tap change exercise at 220kV and below voltage level. NRLDC will also be studying voltage profile of 400/220kV substations in NR for the month of Oct 2024. Accordingly, tap changes at following 400/220kV substations are being proposed based on present tap positions, study at NRLDC end and previous year experiences:
 - (i) 400/220kV Bhiwani PG) (increase by 2 steps)
 - (ii) 400/220kV Sonapat PG) (increase by 2 steps)
 - (iii) 400/220kV Dehar (BBMB) (increase by 2 steps)
 - (iv) 400/220kV Daultabad (increase by 2 steps)

(v) 400/220kV Bamnauli (increase by 2 steps)

(vi) 400/220kV Allahabad(PG) (reduction by 2 steps)

(vii) 400/220kV Amritsar(PG) (reduction by 1 step)

(viii) 400/220kV Jalandhar(PG) (reduction by 1 step)

(ix) 400/220kV Kaithal(PG) (reduction by 1 step)

POWERGRID representative requested to explore the possibility of tap change at 400/220kV Hamirpur (PG). NRLDC representative agreed to study the same.

OCC forum approved the tap change exercise at these nodes.

- With low temperature across Northern region and with high humidity in the air, fog starts to appear across the Northern region. This problem is generally most severe from 15Dec- 15Feb period & more prominent in areas having high pollution. During this time, additional care need to be taken by system operator as many multiple element tripping events have been reported in the past especially in Punjab, Rajasthan, Haryana and Eastern UP. Such tripping are more severe if the lines are tripping from generation complex.

To furnish details of Progress on cleaning and replacement of porcelain insulator with polymer insulator. NRLDC has already requested vide emails dated 26.09.2024, 30.09.2024 & 07.11.2024, all transmission utilities to furnish the utility-wise latest status of the replacement of porcelain insulators with polymer insulators so that crucial lines for which such works are pending may be identified & prioritized. List is also attached as **Annexure-B.II** of agenda.

List of line that reported tripping on 4 or more instances last year during Dec-Jan months during fog-prone time of 21:00-10:00hrs along with their insulator status is shown below:

| S. No. | Line Name | Tripping instances | Owner | Insulator status |
|--------|---|--------------------|-----------|-----------------------|
| 1 | 220 KV RAPS_A(NP)-Sakatpura(RS) Ckt-2 | 12 | RRVPNL | N/A |
| 2 | 220 KV RAPS_B(NP)-Sakatpura(RS) Ckt-1 | 10 | RRVPNL | N/A |
| 3 | 220 KV RAPS_A(NP)-Sakatpura(RS) Ckt-1 | 9 | RRVPNL | N/A |
| 4 | 400 KV Agra-Unnao Ckt-1 | 8 | UPPTCL | Partial polymer (25%) |
| 5 | 220 KV Debari(RS)-RAPS_A(NP) Ckt-1 | 6 | RRVPNL | N/A |
| 6 | 220 KV Nara(UP)-Roorkee(UK) Ckt-1 | 5 | UPPTCL | N/A |
| 7 | 220 KV Ratangarh(RS)-Sikar(PG) Ckt-1 | 5 | POWERGRID | N/A |
| 8 | 220 KV Panipat(BB)-Chajpur(HV) Ckt-2 | 5 | HVPNL | N/A |
| 9 | 400 KV Muksar-Makhu Ckt-2 | 5 | PSTCL | Porcelain |
| 10 | 400 KV Suratgarh(RVUN)-Ratangarh(RS) Ckt-1 | 4 | RRVPNL | Porcelain |
| 11 | 220 KV Shahjahanpur(PG)-Lakhimpur(Gola) Ckt-2 | 4 | UPPTCL | N/A |
| 12 | 220 KV Ratangarh(RS)-Sikar(PG) Ckt-2 | 4 | POWERGRID | N/A |
| 13 | 400 KV Shree Cement(SCL)-Kota(PG) Ckt-1 | 4 | POWERGRID | Polymer |
| 14 | 400 KV Muradnagar_2-Mathura Ckt-1 | 4 | UPPTCL | N/A |

During the meeting, Punjab SLDC representative stated that due to smog, number of transmission lines had tripped in last one week. However, lines for which washing and cleaning was not done and had tripped recently, could be taken on priority.

NRLDC representative mentioned that separate meeting would be scheduled in next week to discuss preparedness measures taken by Punjab to minimise tripping of lines due to fog.

- To ensure that all over flux setting of transformers and overvoltage settings of transmission lines are as per approved protection philosophy of NRPC.

On number of occasions, it is seen that utilities are correcting their protection settings after tripping events. It is important all the protection settings are as approved by NRPC.

Utilities were requested to confirm the same from field and ensure that protection settings are only as approved by NRPC.

- OCC expressed concern on the lack of progress of DTL reactors and asked them to expedite their works. Status of reactors under commissioning in Delhi control area in Northern region as per discussion in 223 OCC MoM is shown below:

| Substation | Reactor | Status as per 222 OCC MoM |
|---------------|--|---|
| 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. |
| 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. |
| Electric Lane | 1x50 MVar at 220 kV | Under Re-tendering due to Single Bid |
| 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. |

NRLDC representative also presented the voltage profile of these substations for last winter season in the meeting and emphasized on urgent requirement of these reactors. It was requested to expedite the commissioning of these reactors apart from the measures listed above.

During 225 OCC meeting, DTL representative stated that Peeragarhi and Harshvihar reactors have been commissioned however, procurement of other reactors is pending since long. Some issues were observed at

tendering stage on several occasions. Proposal for procurement of reactors would be taken up for further approval.

- Some of the generators have already been tested (Tehri, Chamera, Pong, RSD etc.) and shall be available for condenser mode of operation as and when required. States/SLDCs are also advised to explore synchronous condenser operation of Hydro & Gas units in their state control area. It is requested that all other utilities may explore possibility of running units as synchronous condenser. Since reactive energy charges are now payable to generators also therefore, it would also be providing them financial support in case units are supporting through synchronous condenser mode of operation. During 224 OCC meeting,

NHPC representative agreed to make Chamera-II available to operate as a synchronous condenser this winter season, as needed for grid stability. He noted that the unit had not been run as a synchronous condenser since 2018 due to maintenance issues, which have now been addressed.

Punjab representative informed the forum that currently only one machine at RSD can operate as a synchronous condenser. For the other three machines, they have engaged ABB to install additional equipment to enable synchronous condenser functionality.

During 225 OCC meeting,

BBMB representative mentioned that they would be able to run two machines in synchronous condenser mode of operation during this winter season.

- Utilities were asked to submit feedback on NRLDC reactive power document including for line reactors which can be used as bus reactors as per requirement.

All utilities agreed to take necessary actions as discussed above, to ensure smooth and secure grid operation during upcoming winter season.

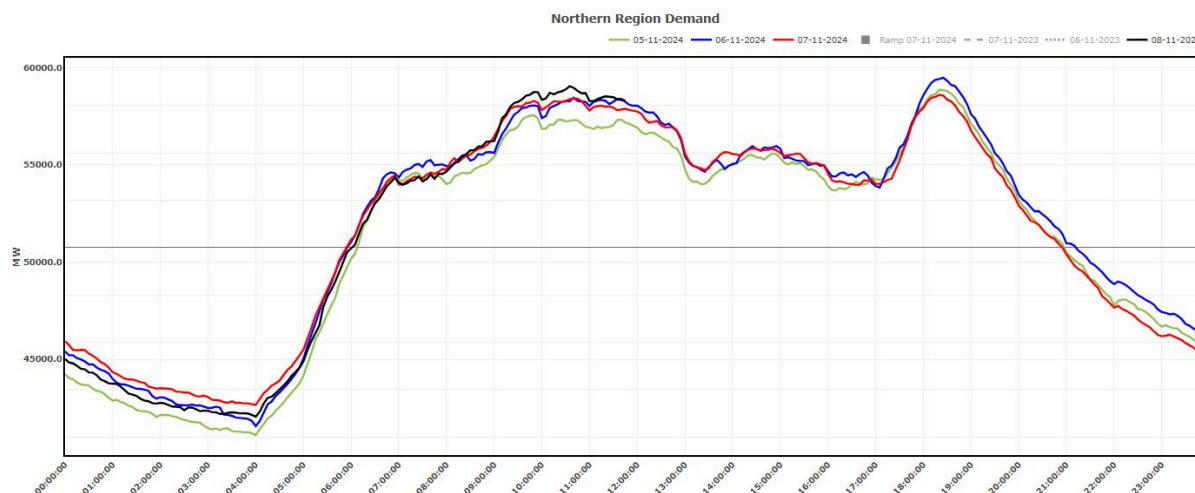
Ramping support requirement from states during winter season:

Off-peak to peak demand ratio of NR falls to around 0.5 to 0.6 during winter, morning and evening load ramp is quite steep together with limited hydro resources etc. This increases the importance of Portfolio management as per load forecast especially during high ramp up and ramp down periods.

NRLDC representative mentioned that generation planning becomes very important especially with the in-surge of renewable integration with the grid, generation resources should be optimally planned, taking care to maintain adequate reserves.

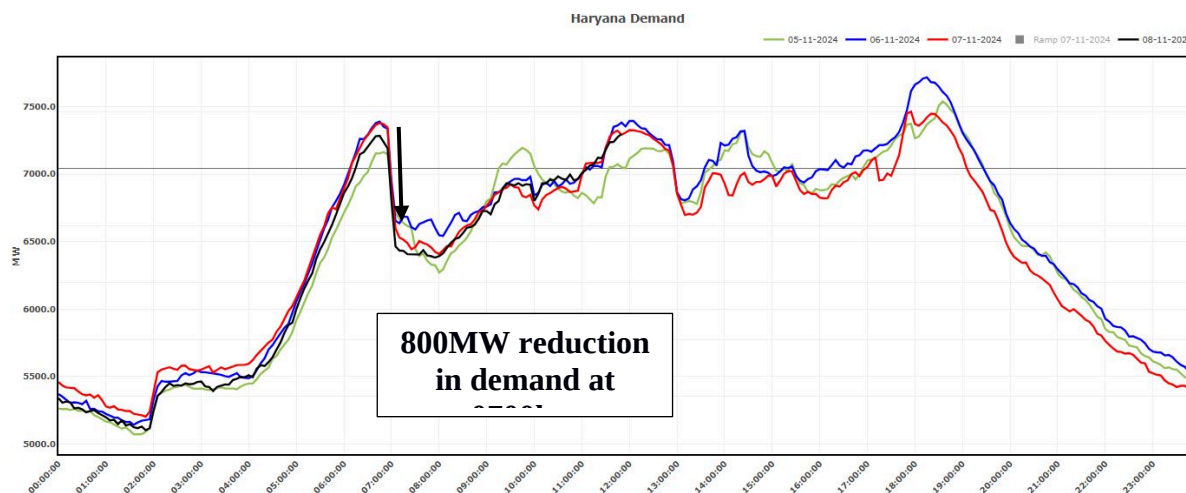
Hydro generation resource which becomes all the more important due to ramping requirement; it starts depleting due to limited inflow of water (most of the hydro stations of NR are snow fed). With increasing solar generation during the day-time, the ramping requirements during evening hours are rising and posing serious challenge to the system operators to maintain frequency within the band.

Demand pattern for last 3 days (05.11.2024, 06.11.2024, 07.11.2024) is shown below:

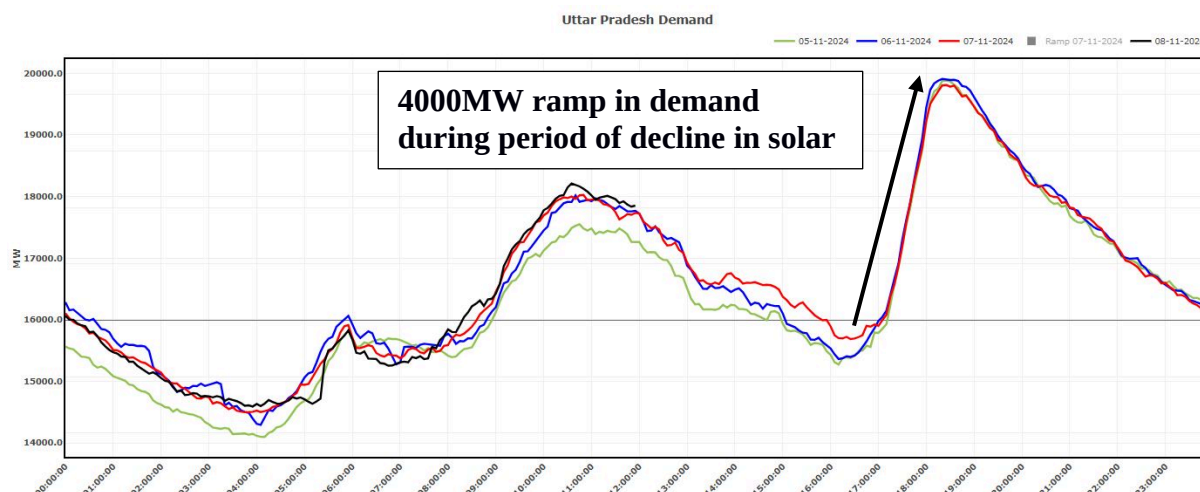


As can be seen there is high ramp in demand during 0400-0800 hrs and also during 1700-1830 hrs. It is requested that all intrastate generating resources are also scheduled optimally to support this ramp in demand.

Further, from demand pattern of Haryana for last few days it is seen that there is sudden decline in demand at 06:00hrs. Haryana SLDC is requested to provide the reasons for the same.



Further from the demand pattern of UP state it is seen that there is sharp rise in demand from 1700-1830 hrs. This rise of 4000MW in demand is observed when the solar generation in the grid is declining. This is leading to extra pressure on the grid resources to meet this ramp in demand.



Utilities were requested to take actions to ensure that ramp in demand is adequately met without any major excursions in frequency of the grid.

B.6 Reactive power performance of generators

During winter season, demand of Northern region is low and high voltages are a common phenomenon predominantly in Punjab, Haryana and Delhi area. Even after several actions being taken by control centers, it is seen that there is persistent high voltage in Northern region. The reactive power absorption by generators becomes an important resource that helps in managing high voltages in the grid. However, even after continuous follow up in OCC meetings, it is seen that MVAR data telemetry is poor/ inaccurate from most of the generating stations. For some of the generators it is seen that there is inadequate reactive power absorption based on their capability curve especially during night hours. The performance of generators in absorption of reactive power for last 7 days (01 Nov 2024 – 07 Nov 2024) is shown below:

| S.No. | Station | Unit No. | Capacity | Geographical location | MVAR capacity as per capability curve (on LV side) | MVAR performance (-) Absorption (+) Generation (HV side data) | Voltage absorption above (in KV) |
|-------|----------------|----------|----------|-----------------------|--|---|----------------------------------|
| 1 | Dadri NTPC | 1 | 490 | Delhi-NCR | -147 to 294 | -150 to 110 | Data freeze |
| | | 2 | 490 | | -147 to 294 | -150 to 110 | |
| 2 | Singrauli NTPC | 1 | 200 | UP | -60 to 120 | 0 to 20 | 404 |
| | | 2 | 200 | | -60 to 120 | 0 to 20 | 402 |
| | | 3 | 200 | | -60 to 120 | -5 to 20 | 402 |
| | | 4 | 200 | | -60 to 120 | -25 to 0 | 394 |
| | | 5 | 200 | | -60 to 120 | -10 to 5 | 398 |

| | | | | | | | |
|----|-------------------|---|-----|-----------|-------------|-------------|-----|
| | | 6 | 500 | | -150 to 300 | 5 to 50 | 404 |
| | | 7 | 500 | | -150 to 300 | 10 to 40 | 402 |
| 3 | Rihand NTPC | 1 | 500 | UP | -150 to 300 | -50 to 0 | 394 |
| | | 2 | 500 | | -150 to 300 | -20 to 20 | 396 |
| | | 3 | 500 | | -150 to 300 | -50 to 0 | 394 |
| | | 4 | 500 | | -150 to 300 | -60 to -10 | 394 |
| 4 | Kalisindh RS | 1 | 600 | Rajasthan | -180 to 360 | - | - |
| | | 2 | 600 | | -180 to 360 | -150 to 50 | 400 |
| 5 | Anpara C UP | 1 | 600 | UP | -180 to 360 | -110 to 0 | 770 |
| | | 2 | 600 | | -180 to 360 | -120 to -20 | 768 |
| 6 | Talwandi Saboo PB | 1 | 660 | Punjab | -198 to 396 | -200 to 0 | 410 |
| | | 2 | 660 | | -198 to 396 | -200 to 0 | 410 |
| | | 3 | 660 | | -198 to 396 | - | - |
| 7 | Kawai RS | 1 | 660 | Rajasthan | -198 to 396 | -100 to 50 | 402 |
| | | 2 | 660 | | -198 to 396 | -70 to 20 | 404 |
| 8 | IGSTPP Jhajjar | 1 | 500 | Haryana | -150 to 300 | -80 to 50 | 410 |
| | | 2 | 500 | | -150 to 300 | -90 to 150 | 412 |
| | | 3 | 500 | | -150 to 300 | -110 to 50 | 409 |
| 9 | Rajpura (NPL) | 1 | 700 | Punjab | -210 to 420 | -250 to 0 | 405 |
| | | 2 | 700 | | -210 to 420 | -250 to 0 | 402 |
| 10 | MGTPS | 1 | 660 | Haryana | -198 to 396 | -120 to 120 | 412 |
| | | 2 | 660 | | -198 to 396 | -130 to 100 | 408 |
| 11 | Bawana | 1 | 216 | Delhi-NCR | -65 to 130 | -70 to 10 | 406 |
| | | 2 | 216 | | -65 to 130 | - | - |
| | | 3 | 216 | | -65 to 130 | - | - |
| | | 4 | 216 | | -65 to 130 | - | - |

| | | | | | | | |
|----|--------------|---|-----|-----------|-------------|--------------|-----|
| | | 5 | 253 | | -65 to 130 | -50 to 50 | 408 |
| | | 6 | 253 | | -65 to 130 | - | - |
| 12 | Bara PPGCL | 1 | 660 | UP | -198 to 396 | 0 to 80 | 775 |
| | | 2 | 660 | | -198 to 396 | 0 to 100 | 775 |
| | | 3 | 660 | | -198 to 396 | -70 to 20 | 765 |
| 13 | Lalitpur TPS | 1 | 660 | UP | -198 to 396 | -50 to 50 | 765 |
| | | 2 | 660 | | -198 to 396 | -50 to 50 | 765 |
| | | 3 | 660 | | -198 to 396 | -100 to 50 | 760 |
| 14 | Anpara D UP | 1 | 500 | UP | -150 to 300 | -200 to -100 | - |
| | | 2 | 500 | | -150 to 300 | -150 to -100 | - |
| 15 | Chhabra TPS | 1 | 250 | Rajasthan | -75 to 150 | -40 to 40 | 410 |
| | | 2 | 250 | | -75 to 150 | -70 to 20 | 408 |
| | | 3 | 250 | | -75 to 150 | -60 to 40 | 410 |
| | | 4 | 250 | | -75 to 150 | - | - |
| | | 5 | 660 | | -198 to 396 | -50 to 150 | 412 |
| | | 6 | 660 | | -198 to 396 | -50 to 150 | 410 |

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

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

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

Following was discussed in 224 OCC meeting:

Singrauli representative informed that they would look into the issue of Unit 4 and Unit 5.

IGSTPP Jhajjar representative informed the forum that their machine is capable of absorbing reactive power as per its capability curve. However, they have manually set a voltage threshold of 408kV for Unit-3, and they plan to adjust the voltage threshold of 412kV in Unit-2 by making suitable tap changes to align it with Unit-3.

Regarding Talwandi Sabo, Punjab representative stated that they have consulted PSPCL, which confirmed that the settings were configured as per the OEM's specifications and have not been adjusted since. Punjab representative requested guidance on any standard settings or documents that could be shared with the OEM for tuning the system.

The forum advised that the settings could be aligned with the unit's capability curve. Subsequently, Punjab SLDC representative proposed inviting a PSPCL representative to the upcoming Northern Region protection meeting to resolve the issue.

Representative from Bara also agreed to rectify the issue and same has been taken up with their protection team.

CGM (NRLDC) informed all such plants to take suitable actions at their end so that the reactive power performance of generators aligns with the requirement of the grid.

During 225 OCC meeting, NRLDC representative mentioned that following are few observations based on data of 01Nov-07Nov 2024 analysed at NRLDC end:

- Some of the machines at NTPC Singrauli are generating MVAR whereas some are absorbing MVAR
- Data of Dadri Stage-II was not available for analysis.
- IGSTPP Jhajjar performance needs improvement.
- Performance of Unit-2 at MGTPS Jhajjar was better than for Unit-1
- Performance of Unit03 at Bara is as required, whereas Unit-1 and Unit-2 performance needs improvement/ data check.
- Rajasthan SLDC to monitor performance of intrastate thermal units to obtain better voltage support during low voltage conditions in the grid.

No reply could be received from IGSTPP Jhajjar, MGTPS Jhajjar and Bara TPS in the meeting.

All generating stations were requested to resolve any issues related to telemetry and make sure that MVAR absorption is as per grid requirement and capability curve of machine. Generators may also set their V_{sch} (voltage set point) such that units are absorbing MVAR as per their capability and grid requirement with intimation to RLDC/SLDC.

B.7 Sharing of ATC/TTC assessment and basecase with NRLDC

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

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

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

| Purpose | S No | Action of Stakeholder | Responsibility | Submission to | Data/ Information on Submission Timeline |
|---|-------------|--|-----------------------|----------------------|---|
| 1. Revision 0 TTC/ATC Declaration for Month 'M' | 1(a) | Submission of node wise Load and generation data along with envisaged | SLDC | RLDC | 10 th Day of 'M-12' month |
| | | scenarios for assessment of transfer capability | | | |
| | | Assessment of TTC/ATC of the import/export capability of the state and intra-state system and sharing of updated network simulation models | | | |
| | 1(b) | Declaration of TTC/ATC of the intra- state system by SLDC in consultation with RLDC | | | 26 th Day of 'M-12' month |
| 2. Interconnection Studies for elements to be integrated in the month 'M' | 2(a) | Submission of node-wise load and generation data & sharing of network simulation models for intra-state elements coming in the next six months | SLDC | RLDC | 8 th Day of 'M- 6' month |
| | 2(b) | Sharing of inter-connection study results | | | 21 st Day of 'M-6' month |
| 3. Month Ahead TTC/ATC Declaration & Base case for Operational Studies | 3(a) | Submission of node wise Load and generation data along with envisaged scenarios for assessment of transfer capability | SLDC | RLDC | 8 th Day of 'M- 1' month |
| | | Assessment of TTC/ATC of the intra- state system and sharing of updated network simulation models | | | |
| | 3(b) | Declaration of TTC/ATC of the intra- state system in consultation with RLDC | SLDC | RLDC | 22 nd Day of 'M-1' |

| | | | | | |
|----------------------|--|--|--|--|--------------|
| for Month | | | | | month |
|----------------------|--|--|--|--|--------------|

To encourage participation from SLDCs regarding basecase preparation and ATC/TTC assessment, two workshops have been conducted from Grid-India/NRLDC side. One workshop was conducted 31.08.2023 before the finalization of the procedure and another on 10.01.2024 recently to involve further participation from SLDCs.

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

B.7.1 ATC/TTC assessment sharing 11 months in advance

The procedure mentions that:

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

Accordingly, SLDCs are requested to send the PSSE cases for four scenarios for Oct'25 i.e. Afternoon Peak, Solar Peak, Evening Peak & Off-Peak hours as communicated from NRLDC side. It is requested that the basecases as well as ATC/TTC assessments may be shared with NRLDC as per CERC approved procedure. Further, the above exercise needs to be carried out regularly monthly.

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

B.7.2 Sharing of Data and study results for interconnection studies

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

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

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

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

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

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

B.7.3 TTC/ATC of state control areas for monsoon 2024 (M-1)

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

Based on simulation studies and discussions between SLDCs and NRLDC, ATC/TTC limits for NR states for the month of Dec'2024 are attached as Annexure-B.III of agenda.

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

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

In 225 OCC meeting,

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

Still, it is being observed that response from some SLDCs is not as per desired levels.

| June 2024 Mails | | | | | | | |
|--------------------------------|---|----------------------------------|----------------------------------|----------------------------------|-----------|----------------------------------|-----|
| ATC/TTC Declaration | | | | | | Interconnection Studies | |
| M-1 (July-24) | | M-11 (June-25) | | M-6 (Dec-24) | | | |
| Data Values | Basecases | Data Values | Basecases | Data Values | Basecases | | |
| Chandigarh | No | No | No | No | No | No | No |
| Delhi | No | No | Yes | Yes | No | No | No |
| Haryana | No | No | No | No | No | No | No |
| Himachal | No | No | No | No | No | No | No |
| J & K | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ladakh | No | No | No | No | No | No | No |
| Punjab | No | No | Yes | No | No | No | No |
| Rajasthan | No | No | No | No | No | No | No |
| Uttar Pradesh | Yes | Yes | Yes | Yes | No | No | No |
| Uttarakhand | No | No | No | No | No | No | No |
| | | | | | | | |
| September 2024 Mails | | | | | | | |
| ATC/TTC Declaration | | | | | | Interconnection Studies | |
| M-1 (October-24) | | M-12 (September-25) | | M-6 (Mar-25) | | | |
| Data Values | Basecases | Data Values | Basecases | Data Values | Basecases | | |
| Chandigarh | No | No | No | No | No | No | No |
| Delhi | No | No | No | No | No | No | No |
| Haryana | No | No | No | No | No | Shared only for 1 cardinal point | No |
| Himachal | Shared only for 1 cardinal point | Shared only for 1 cardinal point | Shared only for 1 cardinal point | Shared only for 1 cardinal point | No | No | No |
| J & K | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ladakh | No | No | No | No | No | No | No |
| Punjab | No | No | Yes | Yes | Yes | Yes | Yes |
| Rajasthan | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttar Pradesh | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttarakhand | No | No | No | No | No | No | No |
| Submitted with one month delay | | | | | | | |
| July 2024 Mails | | | | | | | |
| ATC/TTC Declaration | | | | | | Interconnection Studies | |
| M-1 (August-24) | | M-11 (July-25) | | M-6 (Jan-25) | | | |
| Data Values | Basecases | Data Values | Basecases | Data Values | Basecases | | |
| Chandigarh | No | No | No | No | No | No | No |
| Delhi | No | No | No | No | No | No | No |
| Haryana | No | No | No | No | No | No | No |
| Himachal | No | No | No | No | No | No | No |
| J & K | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ladakh | No | No | No | No | No | No | No |
| Punjab | No | No | No | No | No | No | No |
| Rajasthan | No | No | No | No | No | No | No |
| Uttar Pradesh | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttarakhand | No | Shared only for 1 cardinal point | No | No | No | No | No |
| August 2024 Mails | | | | | | | |
| ATC/TTC Declaration | | | | | | Interconnection Studies | |
| M-1 (September-24) | | M-11 (August-25) | | M-6 (Feb-25) | | | |
| Data Values | Basecases | Data Values | Basecases | Data Values | Basecases | | |
| Chandigarh | No | No | No | No | No | No | No |
| Delhi | No | No | Yes | Yes | No | No | No |
| Haryana | No | Shared only for 1 cardinal point | No | No | No | No | No |
| Himachal | No | No | No | No | No | No | No |
| J & K | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ladakh | No | No | No | No | No | No | No |
| Punjab | No | No | Yes | Yes | Yes | Yes | Yes |
| Rajasthan | No | No | No | No | No | No | No |
| Uttar Pradesh | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttarakhand | No | No | No | No | No | No | No |
| October 2024 Mails | | | | | | | |
| ATC/TTC Declaration | | | | | | Interconnection Studies | |
| M-1 (November-24) | | M-12 (October-25) | | M-6 (Apr-25) | | | |
| Data Values | Basecases | Data Values | Basecases | Data Values | Basecases | | |
| Chandigarh | No | No | No | No | No | No | No |
| Delhi | No | No | No | No | No | No | No |
| Haryana | Yes | Yes | No | No | No | No | No |
| Himachal | Yes | No | Yes | No | No | No | No |
| J & K | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ladakh | No | No | No | No | No | No | No |
| Punjab | No | No | Yes | Yes | Yes | Yes | Yes |
| Rajasthan | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttar Pradesh | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttarakhand | Shared only TTC value and TTC case, no data regarding cardinal points | No | No | No | No | No | No |
| November 2024 Mails | | | | | | | |
| ATC/TTC Declaration | | | | | | Interconnection Studies | |
| M-1 (December-24) | | M-12 (November-25) | | M-6 (May-25) | | | |
| Data Values | Basecases | Data Values | Basecases | Data Values | Basecases | | |
| Chandigarh | | | | | | | |
| Delhi | | | Yes | Yes | | | |
| Haryana | | | | | | | |
| Himachal | Yes | | Yes | | | | |
| J & K | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ladakh | | | | | | | |
| Punjab | | | Yes | Yes | Yes | Yes | Yes |
| Rajasthan | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttar Pradesh | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Uttarakhand | | | | | | | |

OCC asked all SLDCs to share basecase as well as ATC/TTC assessment as per CERC approved procedure. All SLDCs agreed for the same.

Status of action taken on decision of 224th OCC meeting of NRPC

| S.N. | Agenda | Decision of 224 th OCC meeting of NRPC | Status of action taken |
|------|--|---|--|
| 1 | A.15. N-1 contingency violation in 400/220/33KV 315MVA ICT-I at BBMB Dehar (Agenda by Powergrid NR-2) | Forum asked BBMB, PSTCL and HPPTCL to jointly have a meeting and explore the technical modalities for implementation of SPS at Dehar and same may be presented in next OCC meeting | There is no action taken by BBMB, PSTCL and HPPTCL on the cited matter despite direction from OCC forum to jointly have a meeting to explore the technical modalities for implementation of SPS at Dehar. Powergrid to follow up with concerned stakeholders before next OCC meeting. |
| 2 | A.16. Regarding installation of CSD in 400KV Kalaamb Wangtoo and 400KV Kalaamb Sorang to control switching surges (Agenda by Powergrid NR-2) | <p><i>Forum recommended that CTU to do a study and submit its observations to NRLDC on the following</i></p> <ol style="list-style-type: none"> <i>Whether the reactor currently installed at the Karcham end could be relocated to either Wangtoo or Sorang, or alternatively, a new reactor could be installed.</i> <i>Determine whether to install a reactor at Wangtoo or Sorang, or alternatively, to install a Capacitor Switching Device (CSD) on the 400 kV Wangtoo and 400 kV Sorang lines at Kalaamb substation to manage switching surges.</i> | CTU informed that, based on their study, there is a voltage rise of approximately 13 kV on the 400 kV Kalaamb-Wangtoo line, which is within the permissible limit of 20 kV as per CEA planning criteria. However, to mitigate switching surges, the reactor installed at the Karcham end could be relocated to either Wangtoo or Sorang. Additionally, CTU has contacted both HPPTCL and M/s Greenko via |

Status of action taken on decision of 224th OCC meeting of NRPC

| | | | |
|---|---|--|---|
| | | | email to confirm the availability of space for this relocation. CTU also requested NRLDC to provide the voltage profile of the reactor at the Karcham end to assess its performance during the winter period. |
| 3 | A.17. Power flow congestion to Delhi Ring Main unit through 400 kV Switchyard at 765/400KV Jhatikra substation (Agenda by Powergrid NR-1) | <i>Forum asked CTU to provide detailed study report in consultation with NRLDC on load congestion relieving measures at Jhatikra S/S including provision for upcoming ICTs at Jhatikra S/S and Narela S/s.</i> | CTU informed that, based on their study, the commissioning of Narela S/s will not provide significant load relief at Jhatikra S/s, as both substations are fed from different sources. Additionally, the two separate 765/400 kV sections at Jhatikra S/s are each equipped with two 1500 MVA ICTs. If these sections are connected via a bus coupler or other equipment, the loading relief observed is minimal. However, in the event of a contingency affecting one ICT, the other ICT would be able to handle the load. CTU has requested |

Status of action taken on decision of 224th OCC meeting of NRPC

| | | | |
|---|--|---|--|
| | | | Powergrid to confirm the availability of space for the bus coupler and bay upgrade work. CTU has also asked NRLDC to provide the loading patterns for both the Jhatikra-Bamnauli and Jhatikra-Mundaka sections. |
| 4 | A.21 Requirement of complete 400 kV Bus-1 &2 shutdown at Mandola & Ballabgarh SS for replacement of damaged sections 400 kV jack buses (Agenda by Powergrid NR-1) | <i>Forum asked DTL and HVPN to submit before OCC meeting how they will manage their load during the complete shutdown of 400 kV Bus-1 and Bus-2 at Mandola and Ballabgarh substation, respectively.</i> | DTL requested Powergrid to formally submit an agenda along with a detailed timeline of the work for discussion in the upcoming state OCC meeting with the respective discoms. HVPN informed that they would share their comments via email soon, after carrying their study on alternative power supply options. |

Follow up issues from previous OCC meetings

Annexure-A. I

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|--|---|---|--------------|---------------|---------|----------|-----------|----------|------|----------|------------------|---------------|----------|----------|-------------|----------|------|----------|---------------|----------|--------|----------|--------------|---------------|---------|-----------|-----------|-----------|------|-----------|------------------|-----------|----------|-----------|-------------|-----------|------|-----------|
| 1 | Down Stream network by State utilities from ISTS Station | Augmentation of transformation capacity in various existing substations, addition of new substations along with line bays as well as requirement of line bays by STUs for downstream network are under implementation at various locations in Northern Region. Further, 220kV bays have already been commissioned at various substations in NR. For its utilization, downstream 220kV system needs to be commissioned. | List of downstream networks is enclosed in Annexure-A. I. I. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Progress of installing new capacitors and repair of defective capacitors | Information regarding installation of new capacitors and repair of defective capacitors is to be submitted to NRPC Secretariat. | <div>Data upto following months, received from various states / UTs:</div> <table><tr><td>⊙ CHANDIGARH</td><td>Sep-2019</td></tr><tr><td>⊙ DELHI</td><td>Jul-2024</td></tr><tr><td>⊙ HARYANA</td><td>Sep-2024</td></tr><tr><td>⊙ HP</td><td>Sep-2024</td></tr><tr><td>⊙ J&K and LADAKH</td><td>Not Available</td></tr><tr><td>⊙ PUNJAB</td><td>Sep-2024</td></tr><tr><td>⊙ RAJASTHAN</td><td>Sep-2024</td></tr><tr><td>⊙ UP</td><td>Oct-2024</td></tr><tr><td>⊙ UTTARAKHAND</td><td>Oct-2024</td></tr></table> <div>All States/UTs are requested to update status on monthly basis.</div> | ⊙ CHANDIGARH | Sep-2019 | ⊙ DELHI | Jul-2024 | ⊙ HARYANA | Sep-2024 | ⊙ HP | Sep-2024 | ⊙ J&K and LADAKH | Not Available | ⊙ PUNJAB | Sep-2024 | ⊙ RAJASTHAN | Sep-2024 | ⊙ UP | Oct-2024 | ⊙ UTTARAKHAND | Oct-2024 | | | | | | | | | | | | | | | | | | |
| ⊙ CHANDIGARH | Sep-2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ DELHI | Jul-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ HARYANA | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ HP | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ J&K and LADAKH | Not Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ PUNJAB | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ RAJASTHAN | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ UP | Oct-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ UTTARAKHAND | Oct-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Healthiness of defence mechanism: Self-certification | <div>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” .</div> <div>In compliance of NPC decision, NR states/constituents agreed to raise the AUFR settings by 0.2 Hz in 47th TCC/49th NRPC meetings.</div> | <div>Data upto following months, received from various states / UTs:</div> <table><tr><td>⊙ CHANDIGARH</td><td>Not Available</td></tr><tr><td>⊙ DELHI</td><td>Sep-2024</td></tr><tr><td>⊙ HARYANA</td><td>Sep-2024</td></tr><tr><td>⊙ HP</td><td>Oct-2024</td></tr><tr><td>⊙ J&K and LADAKH</td><td>Not Available</td></tr><tr><td>⊙ PUNJAB</td><td>Sep-2024</td></tr><tr><td>⊙ RAJASTHAN</td><td>Sep-2024</td></tr><tr><td>⊙ UP</td><td>Oct-2024</td></tr><tr><td>⊙ UTTARAKHAND</td><td>Sep-2024</td></tr><tr><td>⊙ BBMB</td><td>Jun-2024</td></tr></table> <div>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 .</div> <div>Status:</div> <table><tr><td>⊙ CHANDIGARH</td><td>Not Available</td></tr><tr><td>⊙ DELHI</td><td>Increased</td></tr><tr><td>⊙ HARYANA</td><td>Increased</td></tr><tr><td>⊙ HP</td><td>Increased</td></tr><tr><td>⊙ J&K and LADAKH</td><td>Increased</td></tr><tr><td>⊙ PUNJAB</td><td>Increased</td></tr><tr><td>⊙ RAJASTHAN</td><td>Increased</td></tr><tr><td>⊙ UP</td><td>Increased</td></tr></table> | ⊙ CHANDIGARH | Not Available | ⊙ DELHI | Sep-2024 | ⊙ HARYANA | Sep-2024 | ⊙ HP | Oct-2024 | ⊙ J&K and LADAKH | Not Available | ⊙ PUNJAB | Sep-2024 | ⊙ RAJASTHAN | Sep-2024 | ⊙ UP | Oct-2024 | ⊙ UTTARAKHAND | Sep-2024 | ⊙ BBMB | Jun-2024 | ⊙ CHANDIGARH | Not Available | ⊙ DELHI | Increased | ⊙ HARYANA | Increased | ⊙ HP | Increased | ⊙ J&K and LADAKH | Increased | ⊙ PUNJAB | Increased | ⊙ RAJASTHAN | Increased | ⊙ UP | Increased |
| ⊙ CHANDIGARH | Not Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ DELHI | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ HARYANA | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ HP | Oct-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ J&K and LADAKH | Not Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ PUNJAB | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ RAJASTHAN | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ UP | Oct-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ UTTARAKHAND | Sep-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ BBMB | Jun-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ CHANDIGARH | Not Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ DELHI | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ HARYANA | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ HP | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ J&K and LADAKH | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ PUNJAB | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ RAJASTHAN | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ UP | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|--|---|--|---------------------------------|---------------------------------|---|---------------------------------|----------------------|------------------------|---------|-----------|------------------------|---|--------|------------------------|---|--|-----------------------|------------|------|----------------------------------|------------|---------------|---|-------|--------|---|---------|--------|---|----|--------|---|----------------|--|---|--------|--------|---|-----------|--------|---|----|--------|---|-------------|--------|
| | | | <table><tr><td>⊙</td><td>UTTARAKHAND</td><td>Increased</td></tr><tr><td>⊙</td><td>BBMB</td><td>Increased</td></tr></table> | ⊙ | UTTARAKHAND | Increased | ⊙ | BBMB | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | UTTARAKHAND | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | BBMB | Increased | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Status of FGD installation vis-à-vis installation plan at identified TPS | <p>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.</p> <p>Further, progress of FGD installation work on monthly basis is monitored in OCC meetings.</p> | <p>Status of the information submission (month) from states / utilities is as under:</p> <table><tr><td>⊙</td><td>HARYANA</td><td>Jun-2024</td></tr><tr><td>⊙</td><td>PUNJAB</td><td>Jun-2024</td></tr><tr><td>⊙</td><td>RAJASTHAN</td><td>Jul-2024</td></tr><tr><td>⊙</td><td>UP</td><td>Jan-2024</td></tr><tr><td>⊙</td><td>NTPC</td><td>Feb-2023</td></tr></table> <p>FGD status details are enclosed as Annexure-A. I. III.</p> <p>All States/utilities are requested to update status of FGD installation progress on monthly basis.</p> | ⊙ | HARYANA | Jun-2024 | ⊙ | PUNJAB | Jun-2024 | ⊙ | RAJASTHAN | Jul-2024 | ⊙ | UP | Jan-2024 | ⊙ | NTPC | Feb-2023 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | HARYANA | Jun-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | PUNJAB | Jun-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | RAJASTHAN | Jul-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | UP | Jan-2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | NTPC | Feb-2023 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Submission of breakup of Energy Consumption by the states | <p>All states/UTs are requested to submit the requisite data as per the billed data information in the format given as under:</p> <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> | Category→ | Consumption by Domestic Loads | Consumption by Commercial Loads | Consumption by Agricultural Loads | Consumption by Industrial Loads | Traction supply load | Miscellaneous / Others | <Month> | | | | | | | <p>Status of the information submission (month) from states / utilities is as under:</p> <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>Jun-24</td></tr><tr><td>⊙</td><td>HARYANA</td><td>Sep-24</td></tr><tr><td>⊙</td><td>HP</td><td>Sep-24</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>Sep-24</td></tr><tr><td>⊙</td><td>RAJASTHAN</td><td>Jul-24</td></tr><tr><td>⊙</td><td>UP</td><td>Jun-24</td></tr><tr><td>⊙</td><td>UTTARAKHAND</td><td>Jun-24</td></tr></table> <p>Chandigarh is requested to submit the requisite data w.e.f. April 2018 as per the billed data information in the given format</p> | | State / UT | Upto | ⊙ | CHANDIGARH | Not Submitted | ⊙ | DELHI | Jun-24 | ⊙ | HARYANA | Sep-24 | ⊙ | HP | Sep-24 | ⊙ | J&K and LADAKH | JPDCL- Mar' 24 KPDCL- Not Submitted | ⊙ | PUNJAB | Sep-24 | ⊙ | RAJASTHAN | Jul-24 | ⊙ | UP | Jun-24 | ⊙ | UTTARAKHAND | Jun-24 |
| Category→ | Consumption by Domestic Loads | Consumption by Commercial Loads | Consumption by Agricultural Loads | Consumption by Industrial Loads | Traction supply load | Miscellaneous / Others | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <Month> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | State / UT | Upto | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | CHANDIGARH | Not Submitted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | DELHI | Jun-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | HARYANA | Sep-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | HP | Sep-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | J&K and LADAKH | JPDCL- Mar' 24 KPDCL- Not Submitted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | PUNJAB | Sep-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | RAJASTHAN | Jul-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | UP | Jun-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | UTTARAKHAND | Jun-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Information about variable charges of all generating units in the Region | The variable charges detail for different generating units are available on the MERIT Order Portal. | All states/UTs are requested to submit daily data on MERIT Order Portal timely. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Status of Automatic Demand Management System in NR states/UT's | The status of ADMS implementation in NR, which is mandated in clause 5.4.2 (d) of IEGC by SLDC/SEB/DISCOMs is presented in the following table: | <p>The status of ADMS implementation in NR is enclosed in Annexure-A. I. II.</p> <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></table> | ⊙ | DELHI | Scheme Implemented but operated in manual mode. | ⊙ | HARYANA | Scheme not implemented | ⊙ | HP | Scheme not implemented | ⊙ | PUNJAB | Scheme not implemented | ⊙ | RAJASTHAN | Under implementation. | ⊙ | UP | Scheme implemented by NPCIL only | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | DELHI | Scheme Implemented but operated in manual mode. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | HARYANA | Scheme not implemented | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | HP | Scheme not implemented | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | PUNJAB | Scheme not implemented | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | RAJASTHAN | Under implementation. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊙ | UP | Scheme implemented by NPCIL only | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|--|--|--|---|-------------|------------------------|
| | | | © | UTTARAKHAND | Scheme not implemented |
|--|--|--|---|-------------|------------------------|

| 8 | Reactive compensation at 220 kV/ 400 kV level at 8 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 | SLDC informed that PTCUL has intimated that bid extension has been done till 18.07.2024. In 220th OCC meeting, PTCUL was suggested to seek assistance from Powergrid in |
| viii | RAJASTHAN | Jodhpur | 1x125 MVar | Agreement signed on dt. 22.06.2020. Grant of 1st Instalment received on dt.19.02.21 & work order placed on dt. 07.04.2022 to M/s Kanohar Electricals Ltd. Schedule time is 18 months. 01 No. of 125 MVAR reactor is under testing which is expected to done by end of May 2024. Tentative charging plan is to be intimated by Rajasthan SLDC. |

| | | | | | | Annexure-A-I.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. | Mar'25 | 02 No. of bays shall be utilized for LILO-II of 220kV Jatwal-Bishnah Transmission Line, the work of which is delayed due to persisting RoW issues. expected date of completion is Mar 2025 subject to availability of funds and resolving of RoW issues), Updated in 220th OCC by JKPTCL. |
| 2 | 400/220kV, 2x315 MVA New Wanpoh | Commissioned: 6 Total: 6 | Utilized: 2 Unutilized: 4 | • 220 kV New Wanpoh - Alusteng D/c Line | Mar'25 | 02 No. of bays are to be utilized for connecting 220kV New Wanpoh-Alusteng D/c Line. RoW issues persisting; At present new-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 | Mar'25 | Under construction.Updated in 222nd OCC by HVPNL |
| 5 | 400/220 kV, 2x315 MVA Dehradun | Commissioned: 6 Total: 6 | Utilized: 2 Unutilized: 4 | • Network to be planned for 4 bays | - | PTCUL to update the status. |
| 6 | Shahjahanpur, 2x315 MVA 400/220 kV | Commissioned: 6 | Utilized: 7 | • 220 kV D/C Shahjahanpur (PG) - Gola line | Commissioned | Energization date: 26.10.2023 updated by UPPTCL in 215th OCC |
| | | Approved/Under Implementation:1 | | • LILO of Sitapur – Shahjahanpur 220 kV SC line at Shahjahanpur (PG) | Commissioned | Energization date: 25.02.2022 updated by UPPTCL in 196th OCC |
| 7 | Hamirpur 400/220 kV Sub-station | Commissioned: 8 Total: 8 | Utilized: 4 Unutilized: 4 | • 220 kV Hamirpur-Dehan D/c line | Commissioned | HPPTCL has commissioned the Planned 220kV Dehan-Hamirpur TL utilizing 2 No. 220kV Bays.Commissioned date: 09.06.2022. Updated in 198th OCC by HPPTCL |
| | | | | • Network to be planned for 4 bays | - | HPPTCL to update the status. |
| 8 | Sikar 400/220kV, 1x 315 MVA S/s | Commissioned: 8 Total: 8 | Utilized: 6 Unutilized: 2 | • LILO of 220 kV Sikar (220 kV GSS)-Dhod S/c line at Sikar (PG) | Commissioned | LILO of 220 kV S/C Sikar-Dhod line at 400 kV GSS PGCIL, Sikar has been charged on dt. 31.03.2022 |
| | | | | • Network to be planned for 2 bays. | - | Against the 3rd ICT at 400 kV GSS Sikar, only 2 bays were constructed and same has been utilized by RVPN by constructing LILO of 220 kV S/C Sikar – Dhod line as updated by RVPNL in 195th OCC |
| 9 | Bhiwani 400/220kV S/s | Commissioned: 6 Total: 6 | Utilized: 2 Unutilized: 4 | • 220 kV D/C line Bhiwani (PG) – Bhiwani (HVPNL) line | Commissioned | Updated in 202nd OCC by HVPNL |
| | | | | • 220 kV Bhiwani (PG) - Isherwal (HVPNL) D/c line. | Dec'24 | Issue related to ROW as intimated in 218th OCC by HVPNL. Status: Work was stalled since 29.07.2021 due to ROW issues and farmers agitation and further restarted on 9.10.2023 with the help of district administration. Now, work was again stalled since30.11.2023 due to severe ROW issues. Expected to be completed by 31.12.2024. Foundation 209/212. Erection 193/212. Stinging 37.8/50.3 km |
| | | | | • 220 kV Bhiwani (PG) - Dadhibana (HVPNL) D/c line. | Oct'25 | Line work awarded to M/s R S Infra Projects Pvt. Ltd. Noida, Uttar 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 | Dec'24 | Work in progress. Updated in 220th OCC by HVPNL. |
| 11 | 400/220kV Tughlakabad GIS | Commissioned: 6 | Utilized: 6 | • RK Puram – Tughlakabad (UG Cable) 220kV D/c line – March 2023. | Commissioned | Updated in 216th OCC by DTL |
| | | Under Implementation: 4 | Unutilized: 0 | • Masjid Mor – Tughlakabad 220kV D/c line. | Commissioned | Updated in 216th OCC by DTL |

| Sl. No. | Substation | Downstream network bays | Status of bays | Planned 220 kV system and Implementation status | Revised Target | Remarks |
|---------|----------------------------------|-------------------------------|------------------------------|--|-----------------|---|
| 12 | 400/220kV Kala Amb GIS (TBCB) | Commissioned: 6 | Utilized: 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 |
| | | Total: 6 | Unutilized: 2 | • 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 |
| | | | Under Implementation:2 | • 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 - Sec-56 Gurugram. | Not awarded yet | Initial proposal of LILO of 220kV Pali-Sector 56 Line and Pali-Sector 52 line was descoped due to forest issue. Proposal to evacuate power from 220kV D/C Pali-Sector 56 line to Sector 56 and 52 with bunching of lines is under consideration. Updated in 218th OCC by HVPNL |
| | | | | • S/C line Kadarpur - Sec-52 Gurugram | Not awarded yet | Initial proposal of LILO of 220kV Pali-Sector 56 Line and Pali-Sector 52 line was descoped due to forest issue. Proposl to evacuate power from 220kV D/C Pali-Sector 56 line to Sector 56 and 52 with bunching of lines is under consideration. Updated in 218th OCC by HVPNL |
| | | | | • S/C line Kadarpur - Pali | Not awarded yet | Initial proposal of LILO of 220kV Pali-Sector 56 Line and Pali-Sector 52 line was descoped due to forest issue. Proposl to evacuate power from 220kV D/C Pali-Sector 56 line to Sector 56 and 52 with bunching of lines is under consideration. Updated in 218th OCC by HVPNL |
| 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 | Dec'24 | Updated in 216th 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 205th 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 | Utilized: 4 | • 220kV D/C line from Prithla to Harfali with LILO of one circuit at 220kV Meerpur Kurali | Mar'25 | Contract awarded on 08.08.23 to M/s Skipper with completion in March 25.Updated in 218th OCC by HVPNL |
| | | Approved: 2 | Unutilized: 4 | • LILO of both ckt of 220kV D/c Ranga Rajpur – Palwal line | Commissioned | Energization date: 31.12.2021. Updated in 198th OCC by HVPNL |
| | | Total: 10 | Under Implementation:2 | • 220kV D/C for Sector78, Faridabad | 31.01.2025 | Issue related to ROW and Pending crossing approval from Northern Railways and DFCCIL. as intimated in 223rd OCC by HVPNL |
| | | | | • Prithla - Sector 89 Faridabad 220kV D/c line | Jul'25 | Work awarded to M/s Man Structural's Pvt Ltd. JV M/s Aquarian Enterprises on 09.01.2024. Contractual date: 06.05.2025 and Tentative date of completion :06.05.2025 Route has been approved and further work is in progress.Updated in 218th OCC by HVPNL |
| 16 | 400/220kV Sonapat Sub-station | Commissioned: 6 | Utilized: 2 | • LILO of both circuits of 220kV Samalkha - Mohana line at Sonapat | 31.12.2024 | Updated in 224th OCC by HVPNL. Status: The stringing work between TL No. 19 & 20, TL No. 22 & 23 and TL No. 22 & 24 is pending for want of necessary consent from the forest department. The case has already been uploaded on Parivesh portal and is currently pending at the O/o AIGF, Forest Dept. Panchkula. |
| | | Under Implementation:2 | Unutilized: 4 | • Sonapat - HSIISC Rai 220kV D/c line | Commissioned | Energization date: 31.05.2024 updated by HVPNL in 220th OCC |
| | | Total: 8 | Under Implementation:2 | • Sonapat - Kharkhoda Pocket A 220kV D/c line | 08.03.2025 | Updated in 212th 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. Tetative date of completion of both bays at PGCIL end is end of July 2024. |
| 17 | 400/220kV Neemrana Sub-station | Commissioned: 6 Total: 6 | Utilized: 4 Unutilized: 2 | • LILO of Bhiwadi - Neemrana 220kV S/c line at Neemrana (PG) | - | Work is under progres. Stub Setting: 14/2017. Permission for Highway is awaited from concerned department as updated in 218th OCC by RVPNL. |
| 18 | 400/220kV Kotputli Sub-station | Commissioned: 6 Total: 6 | Utilized: 4 Unutilized: 2 | • Kotputli - Pathreda 220kV D/c line | - | Date of bid opening has been extended up to 30.04.2024 as updated in 218th OCC by RVPNL. |
| 19 | 400/220kV Jalandhar Sub-station | Commissioned: 10 Total: 10 | Utilized: 8 Unutilized: 2 | • Network to be planned for 2 bays | Nov'24 | LILO of 220 kV BBMB Jalandhar - Butari line at 400 kV PGCIL Jalandhar being planned. Work expected to be completed by May 2024. Updated in 198th OCC by PSTCL. 6 months more are needed due to ROW issues as updated by PSTCL in 220th OCC |

| Sl. No. | Substation | Downstream network bays | Status of bays | Planned 220 kV system and Implementation status | Revised Target | Remarks |
|---------|----------------------------------|--|---|--|----------------|--|
| 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. |
| 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 | Mar'25 | Updated in 222nd OCC by HVPNL |
| 26 | 400/220kV Amritsar S/s | Commissioned:7 Approved in 50th NRPC- 1 no. Total: 8 | Utilized: 6 Under Implementation:2 | • Amritsar – Patti 220kV S/c line | 31.08.2024 | Issue in connectivity agreement with CTU. CTU asked PSTCL to approach CEA and thereafter CEA may plan a meeting with PSTCL and CTU to resolve the issue. Updated in 225th OCC by PSTCL. |
| | | | | • Amritsar – Rashiana 220kV S/c line (2 bays shall be required for above lines. However, 1 unutilized bay shall be used for Patti and requirement of one additional bay approved for Rashiana by NRPC) | 31.08.2024 | Issue in connectivity agreement with CTU. CTU asked PSTCL to approach CEA and thereafter CEA may plan a meeting with PSTCL and CTU to resolve the issue. Updated in 225th OCC by PSTCL. |
| 27 | 400/220kV Bagpat S/s | Commissioned: 8 Total: 8 | Utilized:6 Unutilized: 2 | • Bagpat - Modipuram 220kV D/c line | Commissioned | Updated in 201st OCC by UPPTCL |
| 28 | 400/220kV 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 | Mar'25 | Updated in 220th OCC by HVPNL. Status: NIT has been floated vide NIT No. EPC-D-96 dated 15.10.23 to be opened on 22.12.23. • Now, the tender has been dropped and likely to be refloated by 31.07.2024. |
| | | | | • Bahadurgarh – METL 220kV D/c line (Deposit work of M/s METL) | Mar'25 | Updated in 220th OCC by HVPNL. Status: • Revised BOQ forwarded from Design wing to contract wing. • Tender has floated vide NIT No. EPC-D-100 dated 04.01.2024 with tender opening date of 26.02.2024. • Tender has been opened on 26.03.24 and 03 nos. bids has been received. The work is likely to be awarded by the 31.07.2024. |
| | | | | • Bahadurgarh - Kharkhoda Pocket B 220kV D/c line | 08.03.2025 | Updated in 220th OCC by HVPNL. Status: Contract awarded on 09.08.23 to M/s R S Infra Noida. Work has been started. |
| 29 | 400/220kV Jaipur (South) S/s | Commissioned: 4 Total: 4 | Utilized:2 Unutilized: 2 | • LILO of 220 kV S/C Dausa – Sawai Madhopur line at 400 kV GSS Jaipur South (PG) | 06.10.2025 | Work order has been issued on 06.10.2023, work under progress as updated by RVPNL in 215th OCC |
| 30 | 400/220kV Sohawal S/s | Commissioned: 8 Total: 8 | Utilized: 8 | • Sohawal - Barabanki 220kV D/c line | Commissioned | Energization date: 14.04.2018 updated by UPPTCL in 196th OCC |
| | | | | • Sohawal - New Tanda 220kV D/c line | Commissioned | Energization date: 28.05.2019 updated by UPPTCL in 196th OCC |
| | | | | • Network to be planned for 2 bays | Commissioned | • Sohawal - Gonda 220kV S/c line (Energization date: 27.04.2020) updated by UPPTCL in 196th OCC • Sohawal - Bahraich 220kV S/c line (Energization date: 15.02.2021) updated by UPPTCL in 196th OCC |
| 31 | 400/220kV, Kankroli | Commissioned: 6 Total: 6 | Utilized: 4 Unutilized: 2 | • 220 kV D/C Kankroli(PG) - Nathdwara line | - | Standard bid document has been finalized on 13.08.2024 and bid is under preparation as updated by RVPN in 222nd OCC. |

| Sl. No. | Substation | Downstream network bays | Status of bays | Planned 220 kV system and Implementation status | Revised Target | Remarks |
|---------|----------------------------------|---|--|--|----------------|---|
| 32 | 400/220kV, Manesar | Commissioned: 8 Total: 8 | Utilized: 4 Unutilized: 4 | • Network to be planned for 2 bays | - | Status:- 2nos bays are being utilised for 220 kV D/C Panchgaon (PGCIL)-Panchgaon Ckt-I & 220 kV D/C Panchgaon (PGCIL)-Panchgaon Ckt-II, charged on dated 05.09.2022 & 20.10.2022 respectively. The 2nos bays may be utilised by HVPNL in future. |
| 33 | 400/220kV, Saharanpur | Commissioned: 6 Under Implementation:2 Total: 8 | Utilized: 6 Unutilized: 0 Under Implementation:2 | • Network to be planned for 2 bays | Commissioned | Saharanpur(PG)-Devband D/c line (Energization date: 20.04.2023) updated by UPPTCL in 207th OCC |
| 34 | 400/220kV, Wagoora | Commissioned: 10 Total: 10 | Utilized: 6 Unutilized: 4 | • Network to be planned for 4 bays | - | PDD, J&K to update the status. |
| 35 | 400/220kV, Ludhiana | Commissioned: 9 Total: 9 | Utilized: 8 Unutilized: 1 | • Network to be planned for 1 bay | Commissioned | Direct circuit from 220 kV Lalton Kalan to Dhandari Kalan to be diverted to 400 kV PGCIL Ludhiana. Work completed , final agrrement is expected to be signed by May'24. Updated in 218th OCC by PSTCL. |
| 36 | 400/220kV, Chamba (Chamera Pool) | Commissioned: 3 Under tender:1 Total: 4 | Utilized:3 Unutilized: 0 Under tender:1 | • Stringing of 2nd ckt of Chamera Pool – Karian 220kV D/c line | Commissioned | Stringing of 2nd Circuit of Chamera Pool-Karian 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. |
| 37 | 400/220kV, Mainpuri | Commissioned: 6 Under Implementation:2 Total: 8 | Utilized: 6 Unutilized: 0 Under Implementation:2 | • Network to be planned for 2 bays | - | • 02 no. of bays under finalization stage updated by UPPTCL in 196th OCC. Mainpuri S/s planned. Land is not finalized, therefore timeline not available as intimated by UPPTCL in 201st OCC. |
| 38 | 400/220kV, Patiala | Commissioned: 8 Total: 8 | Utilized: 6 Unutilized: 2 | • Network to be planned for 2 bays | May'25 | 2 Nos. bays for 400 kV PGCIL Patiala - 220 kV Bhadson (D/C) line being planned. Tender is yet to be awarded. Timeline one year communicated by PSTCL in 220th OCC meeting |
| | | | | | | |

Status of ADMS implementation in NR:

| Sl. No. | State / UT | Status | Remarks |
|---------|------------|---|--|
| 1 | DELHI | Scheme Implemented but operated in manual mode. | A committee has been constituted under the chairmanship of GM, SLDC Delhi to formulate the logic for implementation of ADMS. Delhi SLDC informed that two meetings have been held by the committee and based on the deliberation in those meetings, SoP has been formed by the committee. Delhi SLDC has shared the logic for implementation of ADMS with NRLDC for their observation and upon examination of same NRLDC has submitted its views/comments to Delhi SLDC. In 222nd OCC meeting Delhi SLDC intimated that they would be shortly having a meeting with its Discoms and NRLDC views would be deliberated in the said meeting. Delhi SLDC intimated that they have shared revised SoP with NRPC and NRLDC after incorporating the views of NRLDC In 225th OCC meeting NRPC representative apprised forum that revised Standard Operating Procedure (SOP) of Automatic Demand Management Scheme (ADMS) by the DISCOMs in NCT of Delhi has been discussed in 51st TCC and 76th NRPC meeting. |
| 2 | HARYANA | Scheme not implemented | <p>Haryana SLDC intimated that as per Joint Roadmap of implementation of ADMS in Haryana supplied to NRPC vide memo dated 17.10.2023 (Annexure-II), the implementation plan was proposed to be carried out in two parts, as mentioned below:</p> <p>PART-I: Control with Transmission Utility</p> <p>PART-II: Control with Distribution Utility</p> <p>It is pertinent to mention that as part of upcoming SCADA-EMS system i.e. upgradation of SCADA-EMS system, a feature in the name of LSS (Load Shedding Software)/ ADMS is part of the Technical Specification of project to be delivered. Therefore, the functionalities of ADMS application will be covered under 'Part-I: Control with Transmission Utility' will already be covered using the RTUs available at select substations along with the ADMS software being delivered by M/s GE under SCADA upgradation project.</p> <p>Hence, there is no need to acquire a separate ADMS application & associated hardware for data centre for implementation of PART-I.</p> <p>Further for Part -II a committee has been constituted for further finalization of the ADMS module with control with Discoms is under discussions for preparation of DPR.</p> |
| 3 | HP | Scheme not implemented | HP SLDC intimated that HPSEB had intimated that initially 142 Nos. of feeders were identified for operation under ADMS functionality but most of these feeders were from same sub-station. Therefore, now they have increased the no. of sub-station and identified the non-critical feeders. Load relief to be given through these feeders is under finalization. The revised feeder list to be shared by HPSEBL with the SLDC within one month. |
| 4 | PUNJAB | Scheme not implemented | <p>i. A committee comprising of following officers of PSPCL & PSTCL has been constituted to finalize the logic regarding implementation of Automatic Demand Management System in Punjab Control Area.</p> <p>A meeting in this regard was held on dated 26-02-2024 at PSLDC Complex, Patiala. The committee deliberated various loading scenarios and proposed the following logic for the management of demand:</p> <ol style="list-style-type: none"> 1. If the frequency sustains below 49.90 Hz for duration of 3 minutes, the Automatic Demand Management System will initiate a 50% reduction in the Over Drawl. 2. In case the frequency falls further below 49.85 Hz, the Over Drawl will be reduced to zero. 3. The software at the SLDC end for ADMS shall be available with ULDC phase –III SCADA system which is under implementation. <p>ii. In 222nd OCC, MS NRPC asked Punjab to co-ordinate with Powergrid for integration of their proposed logic with the ULDC phase-III SCADA system for timely implementation.</p> |

| | | | |
|---|-------------|----------------------------------|---|
| 5 | RAJASTHAN | Under implementation | In 225th OCC meeting, RVPN intimated that pilot testing has been completed on 16th October 2024. Further, 160 nos. of CBs have been mapped to ADMS, out of which 60 nos. have been tested under overdrawl condition. Remaining CB's are being contiously mapped in phased manner which is expected to be completed by end of December 2024. |
| 6 | UP | Scheme implemented by NPCIL only | <p>i. A meeting regarding ADMS was held on 15.01.2023 with the UPPCL under the chairmanship of MD UPPTCL</p> <p>ii. A committee formed for identification of load at 33 kV level under the chairmanship of Director (Distribution), UPPCL.</p> <p>iii. Another committee under the chairmanship of Director UPSLDC shall identify the technical and operational requirement for ADMS implementation</p> <p>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.</p> <p>v. In order to operate identified 33 kV feeders under ADMS scheme, integration of 132 kV substations with SCADA system is under implementation in the Reliable Communication Scheme and expected date of completion of the scheme is October 2024.</p> <p>vi. MS, NRPC apprised forum that a letter has been written to Director, SLDC for co-ordinatng with Director (Distribution), UPPCL for expediting the finalization of feeder list at 33kV for ADMS implementation.</p> |
| 7 | UTTARAKHAND | Scheme not implemented | <p>i. UPCL has prepared a system architecture in which all the non-monitored substions 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.</p> <p>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.</p> <p>iii. Uttarakhand SLDC informed that feeder list at 11kV level has been finalized and logic of ADMS implementation is under finalization.</p> <p>iv. In 222nd OCC meeting, Uttarakhand intiamted that commissioning of servers and related software has been done and supply of field equipment and infrastructure is under process . Further, New API has to be develop and integrate as new API for WBES for fetching real time schedule has been created by NRLDC. NRLDC has been requested to provide design document(having URL, data structure and credentials etc) of new API.</p> |

FGD Status

Updated status of FGD related data submission

NTPC (27.02.2023)

MEJA Stage-I

RIHAND STPS

SINGRAULI STPS

TANDA Stage-I

TANDA Stage-II

UNCHAHAHAR TPS

UPRVUNL (10.01.2024)

ANPARA TPS

HARDUAGANJ TPS

OBRA TPS

PARICHHA TPS

PSPCL (18.06.2024)

GGSSSTP, Ropar

GH TPS (LEH.MOH.)

RRVUNL (09.07.2023)

CHHABRA SCPP

CHHABRA TPP

KALISINDH TPS

KOTA TPS

SURATGARH SCTPS

SURATGARH TPS

Updated status of FGD related data submission

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

Lalitpur TPS

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

ANPARA-C TPS

HGPCL (14.06.2024)

PANIPAT TPS

RAJIV GANDHI TPS

YAMUNA NAGAR TPS

Adani Power Ltd. (18.02.2022)

KAWAI TPS

**Rosa Power Supply Company
(01.01.2024)**

Rosa TPP Phase-I

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

Prayagraj TPP

APCPL (01.05.2024)

INDIRA GANDHI STPP

Pending submissions

GVK Power Ltd.

GOINDWAL SAHIB

NTPC

DADRI (NCTPP)

Talwandi Sabo Power Ltd.

TALWANDI SABO TPP

L&T Power Development Ltd.

Nabha TPP (Rajpura TPP)

Target Dates for FGD Commissioning (Utility-wise)

| | |
|-------------------------|--|
| Adani Power Ltd. | KAWAI TPS U#1 (Target: 31-12-2024), KAWAI TPS U#2 (Target: 31-12-2024) |
| APCPL | INDIRA GANDHI STPP U#2 (Target: 30-09-2023), INDIRA GANDHI STPP U#3 (Target: 30-06-2023) |
| GVK Power Ltd. | GOINDWAL SAHIB U#1 (Target: 30-04-2020), GOINDWAL SAHIB U#2 (Target: 29-02-2020) |
| HGPCL | PANIPAT TPS U#6 (Target: 31-12-2026), PANIPAT TPS U#7 (Target: 31-12-2026), PANIPAT TPS U#8 (Target: 31-12-2026), RAJIV GANDHI TPS U#1 (Target: 31-12-2024), RAJIV GANDHI TPS U#2 (Target: 31-12-2024), YAMUNA NAGAR TPS U#1 (Target: 31-12-2024), YAMUNA NAGAR TPS U#2 (Target: 31-12-2024) |

NTPC

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

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

| | |
|----------------------------------|---|
| Rosa Power Supply Company | ROSA TPP Ph-I U#1 (Target: 31-12-2026), ROSA TPP Ph-I U#2 (Target: 31-12-2026), ROSA TPP Ph-I U#3 (Target: 31-12-2026), ROSA TPP Ph-I U#4 (Target: 31-12-2026) |
| RRVUNL | KOTA TPS U#5 (Target: 31-08-2024), KOTA TPS U#6 (Target: 31-08-2024), KOTA TPS U#7 (Target: 31-08-2024), SURATGARH TPS U#1 (Target: 31-12-2026), SURATGARH TPS U#2 (Target: 31-12-2026), SURATGARH TPS U#3 (Target: 31-12-2026), SURATGARH TPS U#4 (Target: 31-12-2026), SURATGARH TPS U#5 (Target: 31-12-2026), SURATGARH TPS U#6 (Target: 31-12-2026), SURATGARH SCTPS U#7 (Target: 28-02-2025), SURATGARH SCTPS U#8 (Target: 28-02-2025), CHHABRA TPP U#1 (Target: 31-12-2026), CHHABRA TPP U#2 (Target: 31-12-2026), CHHABRA TPP U#3 (Target: 31-12-2026), CHHABRA TPP U#4 (Target: 31-12-2026), CHHABRA SCPP U#5 (Target: 28-02-2025), CHHABRA SCPP U#6 (Target: 28-02-2025), KALISINDH TPS U#1 (Target: 28-02-2025), KALISINDH TPS U#2 (Target: 28-02-2025) |
| Talwandi Sabo Power Ltd. | TALWANDI SABO TPP U#1 (Target: 28-02-2021), TALWANDI SABO TPP U#2 (Target: 31-12-2020), TALWANDI SABO TPP U#3 (Target: 31-10-2020) |
| UPRVUNL | ANPARA TPS U#1 (Target: 31-12-2025), ANPARA TPS U#2 (Target: 31-12-2025), ANPARA TPS U#3 (Target: 31-12-2025), ANPARA TPS U#4 (Target: 31-12-2025), ANPARA TPS U#5 (Target: 31-12-2025), ANPARA TPS U#6 (Target: 31-12-2025), ANPARA TPS U#7 (Target: 31-12-2025), HARDUAGANJ TPS U#8 (Target: 31-12-2026), HARDUAGANJ TPS U#9 (Target: 31-12-2026), OBRA TPS U#9 (Target: 31-12-2026), OBRA TPS U#10 (Target: 31-12-2026), OBRA TPS U#11 (Target: 31-12-2026), OBRA TPS U#12 (Target: 31-12-2026), OBRA TPS U#13 (Target: 31-12-2026), PARICHHA TPS U#3 (Target: 31-12-2026), PARICHHA TPS U#4 (Target: 31-12-2026), PARICHHA TPS U#5 (Target: 31-12-2026), PARICHHA TPS U#6 (Target: 31-12-2026) |



Annexure-A.II

HIMACHAL PRADESH STATE LOAD DESPATCH CENTRE
(an Apex body)
GOVERNMENT OF HIMACHAL PRADESH



No. HPSLDC/SLDC-75 (Vol.-III)/2024-25- **7004-13**
To

Dated: **29-10-2024**

As per List;

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

Reference: MoM held on 11.01.2023 to discuss implementation of islanding scheme in Himachal Pradesh (Attached as Annexure – I)

Sirs,

This has reference to the minutes of meeting (MoM) mentioned under reference, vide which the representative of your project has agreed that the under-frequency relay settings (UFR) of your generator can be decreased to 47.5 Hz.

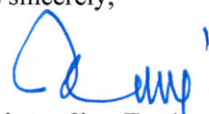
In regard to the above, it is requested to decrease the UFR settings of your generators to 47.5 Hz and compliance of the same be intimated to this office at the earliest.

In addition to the above, it is intimated that if the UFR settings of your generators are below 47.5 Hz, then there is no need to increase it to 47.5 Hz, however, the intimation of the same be informed to this office immediately.

This is for your kind information and necessary action please.


Yours sincerely,

DA: As Above


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

Copy to:

1. The General Manager (SO – I), Northern Regional Load Despatch Centre, 18-A, Shaheed Jeet Singh Sansanwal Marg, Katwaria Sarai, New Delhi-110016 for kind information please. Email: nrlcdso2@posoco.in.
2. The Superintending Engineer (Operation), Northern Regional Power Committee, 18-A, Shaheed Jeet Marg, New Delhi – 110016 for kind information please. Email id: seo-nrpc@nic.in


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

LIST

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

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 opened and contract activities under process |
| | | 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 Bikaner |
| | | 220 kV | 16227.979 | | 3 | | |
| | | 400 kV | 6899.386 | | 2 | | |
| | | 765 kV | 425.498 | | 1 | | |
| 13 | DTL | 220kV | 915.498 | NIL | 1 | 400kV Bamnauli Sub station | ERS tower available for 400KV rating can also be used for lower voltage lines as well |
| | | 400kV | 249.19 | 02 Sets (32 towers) | 1 | | |
| 14 | JKPTCL | | | | | | JKPTCL, Jammu: being procured |
| 15 | HVPN | | | | | | 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 |
|---------|--|---|--|---|---|----------------------|---|
| 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 | | In the advance stage of process of finalising arrangement for providing ERS on need basis with other transmission utility (M/s INDIGRID). |
| 30 | ARAVALI POWER COMPANY PVT LTD | 765 kv HVAC | | | | | |

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

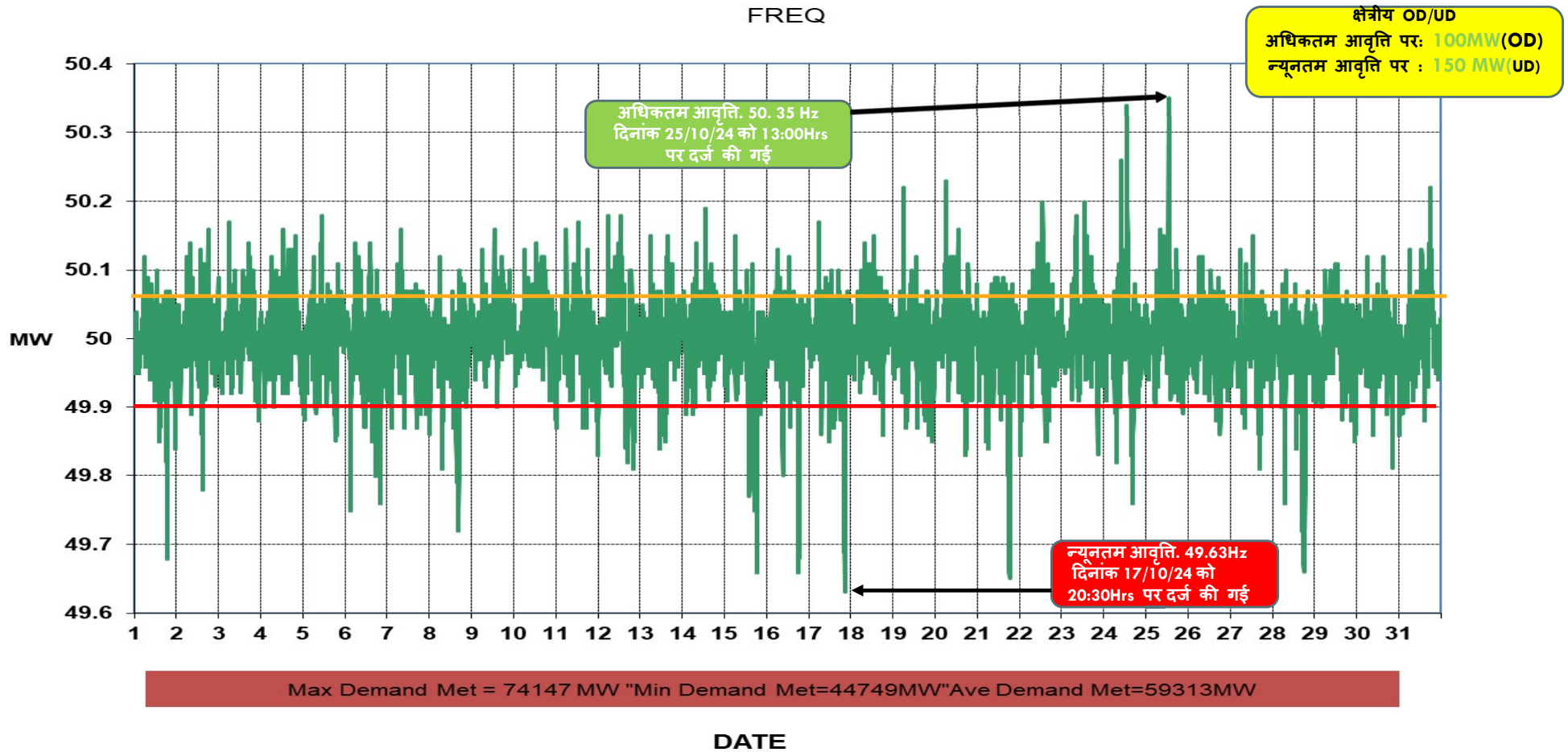
| Capacity (MW) 30- 11-2023 | Name of Station | UNIT_NM | STN_TYP E_ID | SECTOR | REGION_ NM | ST_NM | SH_NM | IPP | FUEL_NM | Capacity (MW) 31- 03-2025 | Approved Planned Outage-1 | | | Actual Planned Outage-1 | | |
|---------------------------------|--------------------------|---------|-----------------|------------------------|---------------|------------------|-----------|-------|----------------|---------------------------------|---------------------------|-----------|-------------------|-------------------------|-----------|--|
| | | | | | | | | | | | Start Date | End Date | Reason | Start Date | End Date | Reason for any deviation |
| 660 | TALWANDI SABO TPP | 3 | | T IPP SECTOR | Northern | Punjab | TSPL | FALSE | COAL | 660 | 7-Oct-24 | 31-Oct-24 | AOH | | | Not availed as confirmed by utility |
| 135 | JALIPA KAPURDI TPP | 7 | | T IPP SECTOR | Northern | Rajasthan | JSWBL | FALSE | LIGNITE | 135 | 23-Oct-24 | 30-Oct-24 | AOH | | | Deffered due to other unit forced outages |
| 135 | JALIPA KAPURDI TPP | 5 | | T IPP SECTOR | Northern | Rajasthan | JSWBL | FALSE | LIGNITE | 135 | 15-Oct-24 | 22-Oct-24 | AOH | 30-Sep-24 | 15-Nov-24 | Machine under Forced outage from 30.Sept.24 |
| 135 | JALIPA KAPURDI TPP | 6 | | T IPP SECTOR | Northern | Rajasthan | JSWBL | FALSE | LIGNITE | 135 | 5-Oct-24 | 12-Oct-24 | AOH | | | Deffered due to other unit forced outages |
| 250 | CHHABRA TPP | 3 | | T STATE SECTOR | Northern | Rajasthan | RRVUNL | FALSE | COAL | 250 | 1-Oct-24 | 20-Oct-24 | AOH | | | Postponed due to power crises. |
| 660 | CHHABRA TPP | 6 | | T STATE SECTOR | Northern | Rajasthan | RRVUNL | FALSE | COAL | 660 | 1-Sep-24 | 5-Oct-24 | AOH | | | Postponed due to power crises. |
| 110 | TANDA TPS | 3 | | T CENTRAL SECTOR | Northern | Uttar Pradesh | NTPC Ltd. | FALSE | COAL | 110 | 1-Oct-24 | 30-Oct-24 | AOH | | | Not availed as confirmed by utility |
| 225 | KASHIPUR CCPP | 1 | | T IPP SECTOR | Northern | Uttarakhan d | SrEPL | FALSE | NATURAL GAS | 225 | 30-Sep-24 | 2-Oct-24 | Offline Waterwash | | | No Offline Waterwash conducted. plant was under reserve shutdown |
| 214 | KASHIPUR CCPP | 2 | | T IPP SECTOR | Northern | Uttarakhan d | SrEPL | FALSE | NATURAL GAS | 214 | 6-Oct-24 | 8-Oct-24 | Offline Waterwash | | | No Offline Waterwash conducted. plant was under reserve shutdown |
| 214 | KASHIPUR CCPP | 2 | | T IPP SECTOR | Northern | Uttarakhan d | SrEPL | FALSE | NATURAL GAS | 214 | 21-Oct-24 | 23-Oct-24 | Offline Waterwash | | | No Offline Waterwash conducted. plant was under reserve shutdown |



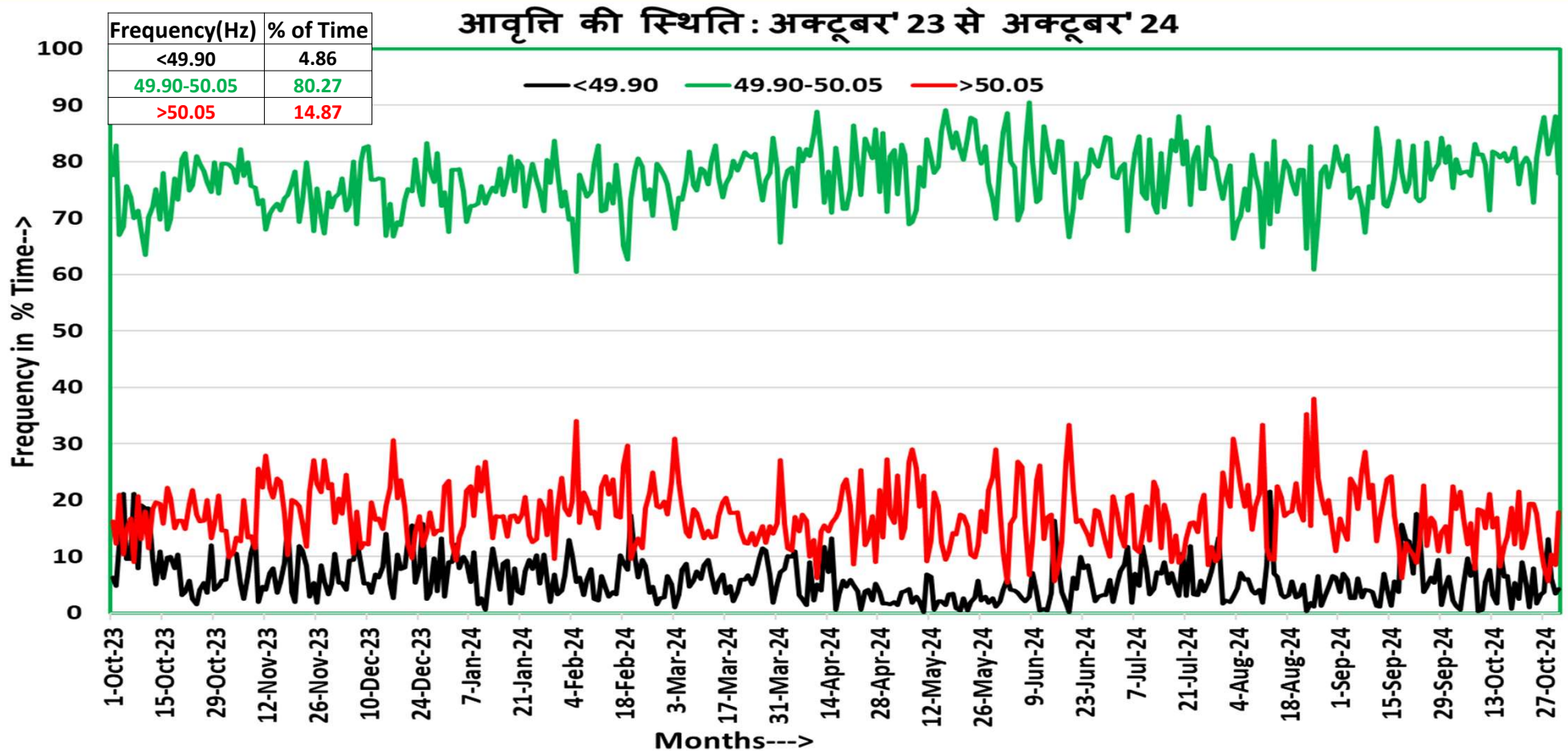
**प्रचालन समन्वय उपसमिति की बैठक
अक्टूबर- 2024**

अक्टूबर-2024 के दौरान आवृत्ति की स्थिति (As per 5 Minute SCADA data)

FREQ



आवृत्ति की स्थिति: अक्टूबर -2023 से 2024



पिछले एक साल में आवृत्ति की स्थिति

| आवृत्ति बैंड | अक्टूबर 2023 | नवम्बर 2023 | दिसंबर 2023 | जनवरी 2024 | फ़रवरी 2024 | मार्च 2024 | अप्रैल 2024 | मई 2024 | जून 2024 | जुलाई 2024 | अगस्त 2024 | सितम्बर 2024 | अक्टूबर 2024 |
|-------------------|--------------|-------------|-------------|------------|-------------|------------|-------------|---------|----------|------------|------------|--------------|--------------|
| < 49.7 Hz(%) | 0.53 | 0.10 | 0.17 | 0.12 | 0.095 | 0.065 | 0.030 | 0.000 | 0.02 | 0.054 | 0.176 | 0.18 | 0.14 |
| <49.8 Hz(%) | 1.99 | 0.96 | 1.40 | 0.92 | 0.797 | 0.479 | 0.432 | 0.059 | 0.31 | 0.621 | 0.631 | 0.89 | 0.60 |
| <49.9 Hz(%) | 8.87 | 6.83 | 7.83 | 6.80 | 6.239 | 6.022 | 5.254 | 2.490 | 4.50 | 6.406 | 4.660 | 6.09 | 4.86 |
| 49.90-50.05 Hz(%) | 74.42 | 74.36 | 75.21 | 75.83 | 74.06 | 77.51 | 78.56 | 80.045 | 79.177 | 78.424 | 75.012 | 77.130 | 80.27 |
| 50.05-50.10 Hz(%) | 13.53 | 13.74 | 10.47 | 11.91 | 14.118 | 12.262 | 11.178 | 13.839 | 13.34 | 12.122 | 13.334 | 10.36 | 12.18 |
| >50.10 Hz(%) | 3.18 | 5.06 | 6.49 | 5.47 | 5.581 | 4.204 | 5.010 | 3.627 | 2.99 | 3.047 | 6.992 | 6.42 | 2.49 |
| >50.20 Hz(%) | 0.14 | 0.66 | 0.53 | 0.41 | 0.565 | 0.657 | 0.539 | 0.285 | 0.12 | 0.280 | 1.725 | 1.03 | 0.20 |
| औसत आवृत्ति | 49.99 | 50.00 | 49.99 | 49.99 | 50.00 | 50.00 | 50.00 | 50.00 | 50.002 | 49.997 | 50.008 | 50.000 | 49.998 |

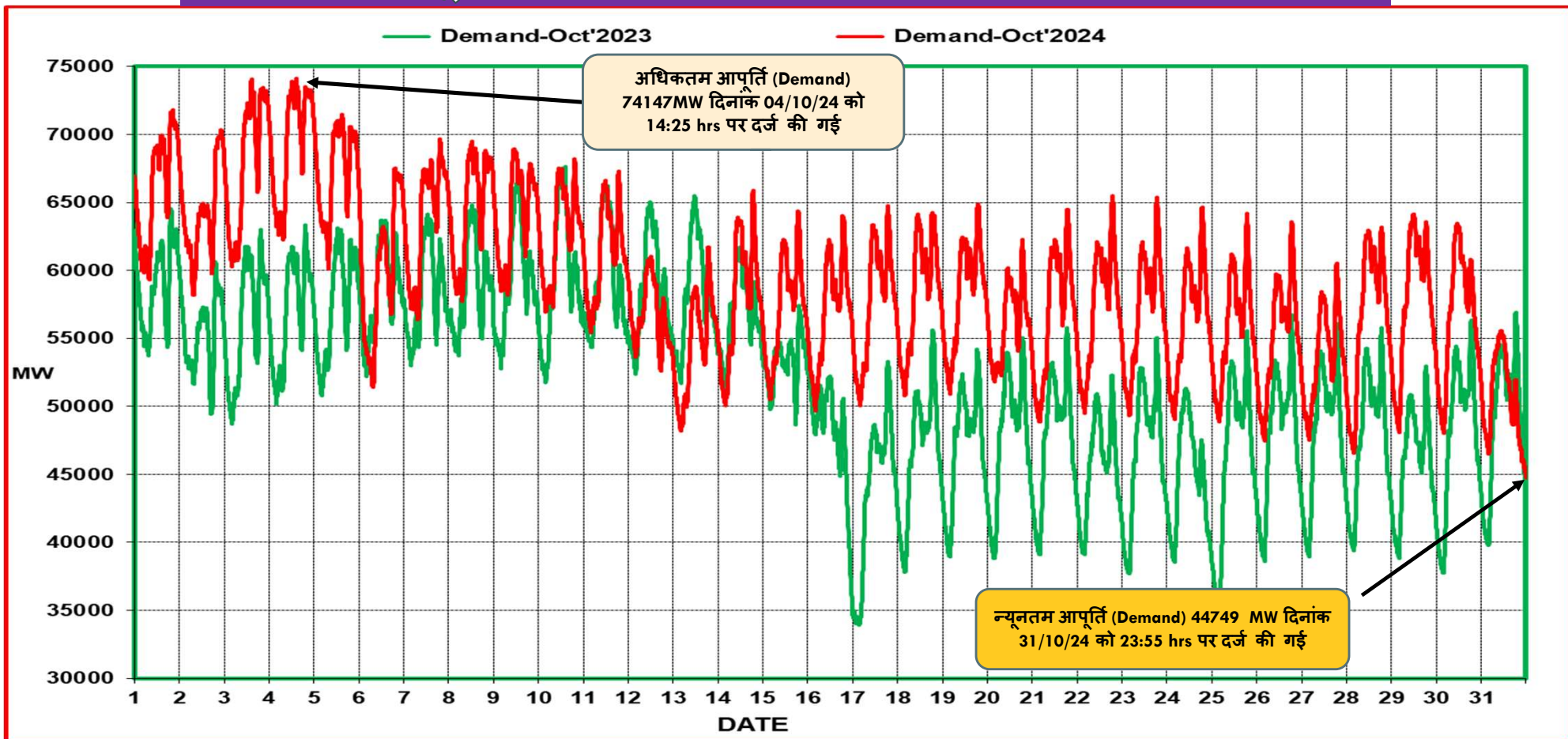
अक्टूबर-2024 के दौरान अधिकतम मांग (Demand Met), अधिकतम ऊर्जा खपत (Energy consumption) और अब तक का कीर्तिमान (राज्यों द्वारा जमा आंकड़ों के अनुसार)



| राज्य | अधिकतम मांग (MW) (in Oct'24) | दिनांक / समय | रिकॉर्ड अधिकतम मांग (in MW) (upto Sep'24) | दिनांक / समय | अधिकतम ऊर्जा खपत (MU) (in Oct'24) | दिनांक | रिकॉर्ड अधिकतम ऊर्जा खपत (MU) (Upto Sep'24) | दिनांक |
|--------------------------------------|---------------------------------|-------------------|---|-------------------|--------------------------------------|----------|--|------------|
| पंजाब | 14311 | 04.10.24 at 15:15 | 16089 | 29.06.24 at 12:45 | 289.5 | 31.10.24 | 366.8 | 21.07.2024 |
| हरियाणा | 11087 | 04.10.24 at 19:00 | 14662 | 31.07.24 at 14:30 | 235.2 | 31.10.24 | 293.4 | 30.07.2024 |
| राजस्थान | 11087 | 04.10.24 at 19:00 | 17949 | 20.01.24 at 11:00 | 343.8 | 13.10.24 | 379.1 | 30.05.2024 |
| दिल्ली | 6161 | 03.10.24 at 15:30 | 8656 | 19.06.24 at 15:06 | 128.3 | 31.10.24 | 177.7 | 18.06.2024 |
| उत्तर प्रदेश | 26756 | 04.10.24 at 19:20 | 30618 | 13.06.24 at 22:00 | 524.5 | 27.10.24 | 658.7 | 17.06.2024 |
| उत्तराखंड | 2412 | 09.10.24 at 19:00 | 2863 | 14.06.24 at 22:00 | 48.4 | 31.10.24 | 62.1 | 14.06.2024 |
| हिमाचल प्रदेश | 1947 | 25.10.24 at 07:45 | 2235 | 20.01.24 at 07:00 | 36.8 | 31.10.24 | 40.5 | 30.07.2024 |
| जम्मू और कश्मीर (UT) तथा लद्दाख (UT) | 2742 | 03.10.24 at 19:00 | 3107 | 12.01.24 at 20:00 | 53.7 | 06.10.24 | 66.8 | 26.01.2024 |
| चंडीगढ़ | 298 | 01.10.24 at 19:00 | 482 | 18.06.24 at 15:28 | 6.0 | 31.10.24 | 9.1 | 18.06.2024 |
| उत्तरी क्षेत्र # | 74273 | 03.10.24 at 14:57 | 91234 | 19.06.24 at 14:37 | 1669.6 | 04.10.24 | 1990.4 | 18.06.2024 |

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

क्षेत्रीय विद्युत आपूर्ति (Demand) अक्टूबर 2023 बनाम अक्टूबर 2024 (As per 5 Minute SCADA data)

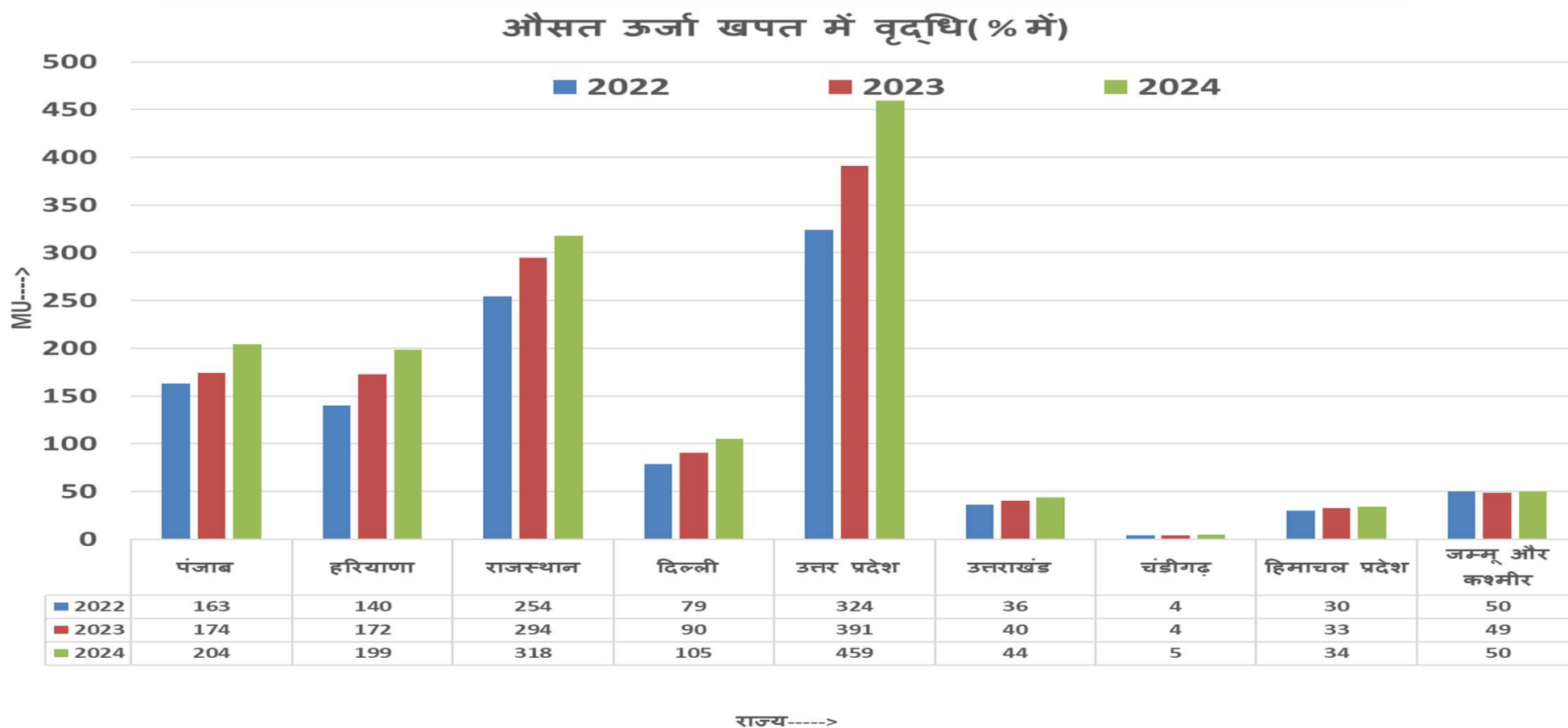


अक्टूबर -2023 की तुलना में अक्टूबर -2024 की औसत विद्युत आपूर्ति में 14% (~7176MW) वृद्धि हुई

उत्तरी क्षेत्र की औसत ऊर्जा खपत में वृद्धि(% में) अक्टूबर -2024/ अक्टूबर -2023
/ अक्टूबर -2022

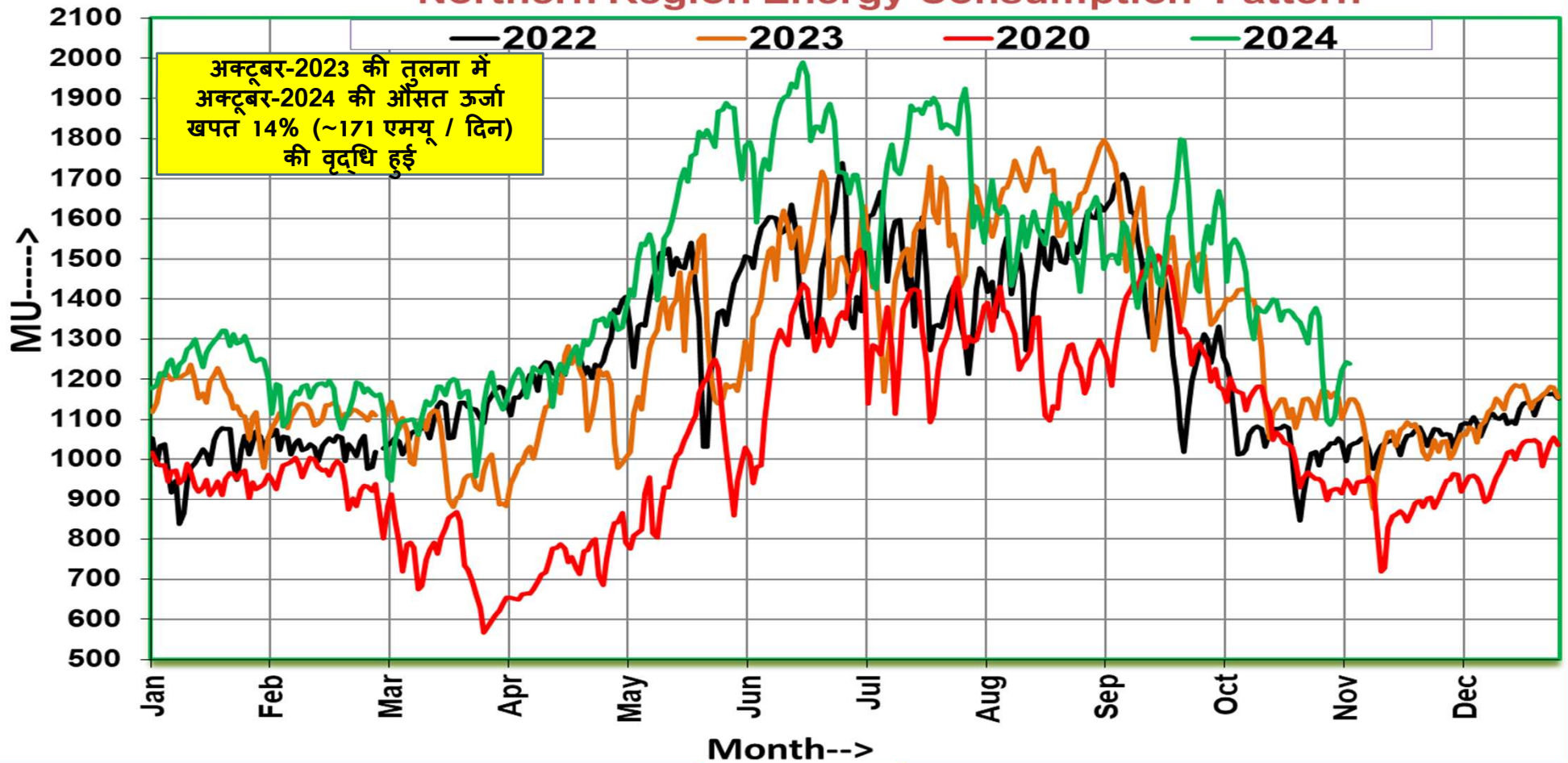
| राज्य | अक्टूबर -2022 | अक्टूबर -2023 | अक्टूबर -2024 | % वृद्धि (अक्टूबर -2023 vs अक्टूबर -2022) | % वृद्धि (अक्टूबर -2024 vs अक्टूबर -2023) |
|---|---------------|---------------|---------------|--|--|
| पंजाब | 163 | 174 | 204 | 6.7% | 17.6% |
| हरियाणा | 140 | 172 | 199 | 23.1% | 15.3% |
| राजस्थान | 254 | 294 | 318 | 15.8% | 7.8% |
| दिल्ली | 79 | 90 | 105 | 15.2% | 15.9% |
| उत्तर प्रदेश | 324 | 391 | 459 | 20.6% | 17.4% |
| उत्तराखंड | 36 | 40 | 44 | 11.1% | 10.4% |
| चंडीगढ़ | 4 | 4 | 5 | 5.0% | 14.6% |
| हिमाचल प्रदेश | 30 | 33 | 34 | 7.7% | 5.6% |
| जम्मू और कश्मीर (UT) तथा लद्दाख (UT) | 50 | 49 | 50 | -3.4% | 2.8% |
| उत्तरी क्षेत्र | 1081 | 1251 | 1422 | 15.8% | 13.6% |

उत्तरी क्षेत्र की औसत ऊर्जा खपत में वृद्धि(% में) अक्टूबर-2024/ अक्टूबर-2023 / अक्टूबर-2022

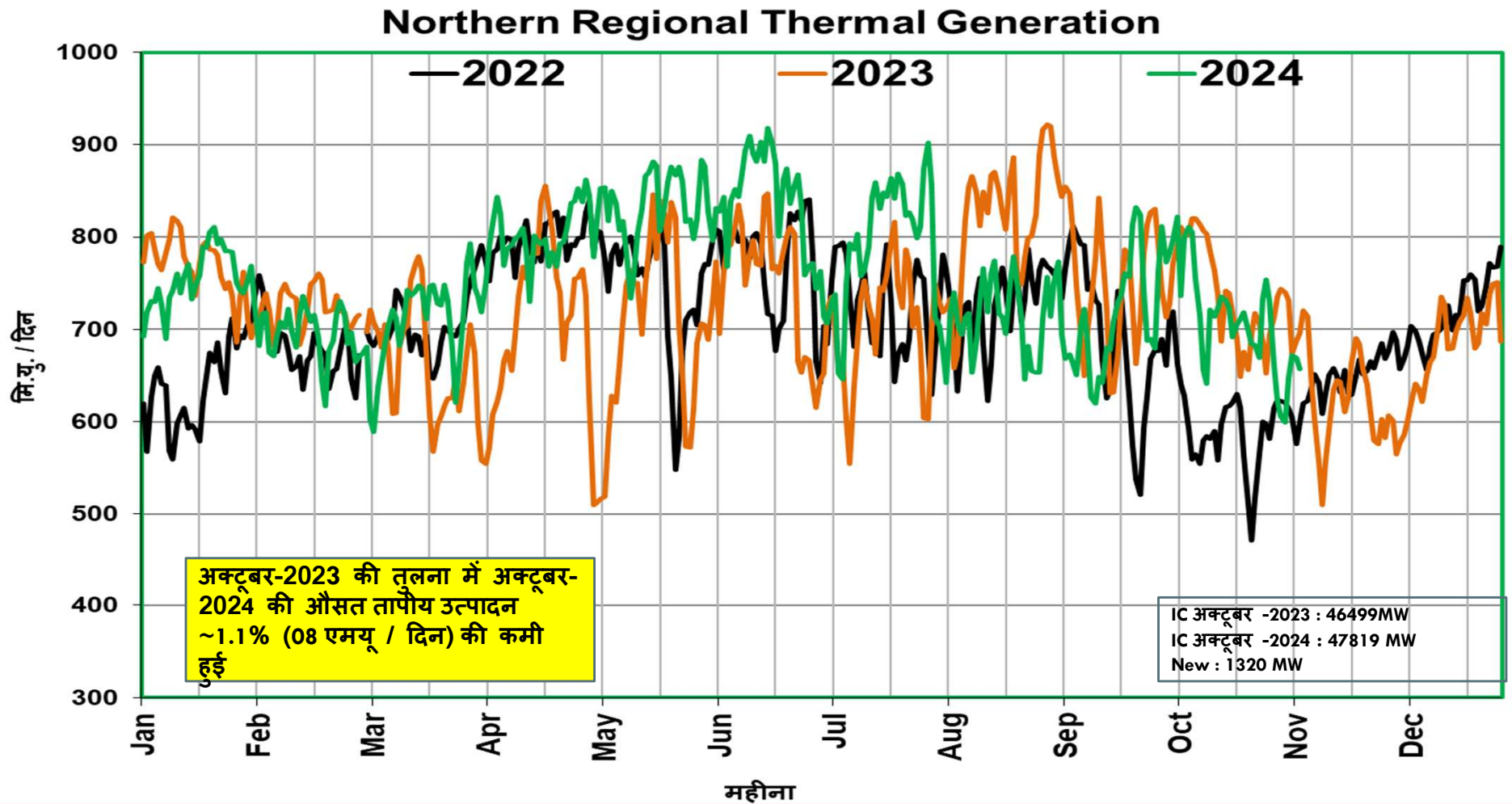


उत्तरी क्षेत्र की ऊर्जा खपत(MUs)

Northern Region Energy Consumption Pattern

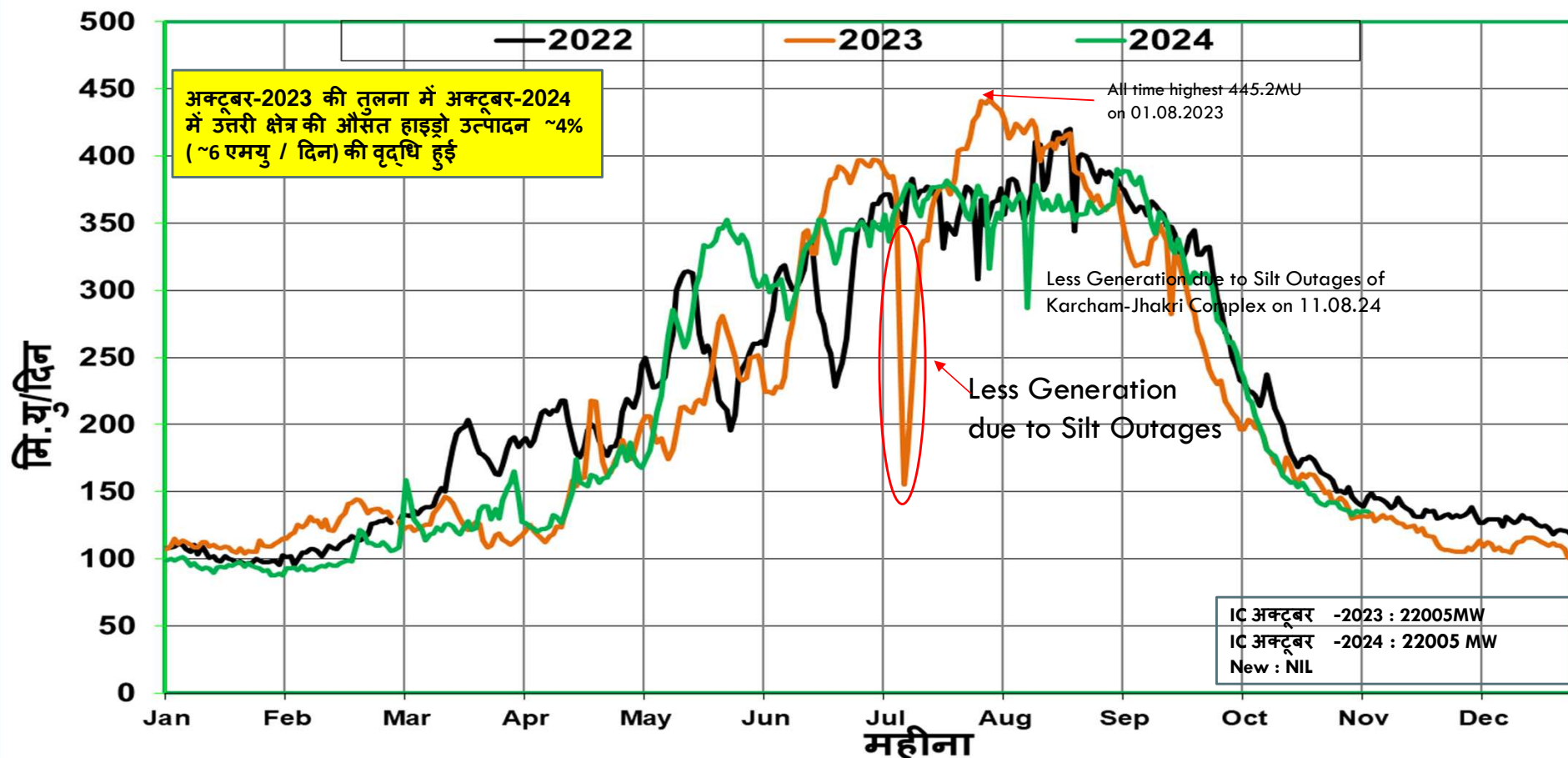


उत्तरी क्षेत्र की तापीय (Thermal) उत्पादन की स्थिति (MU_s/Day)

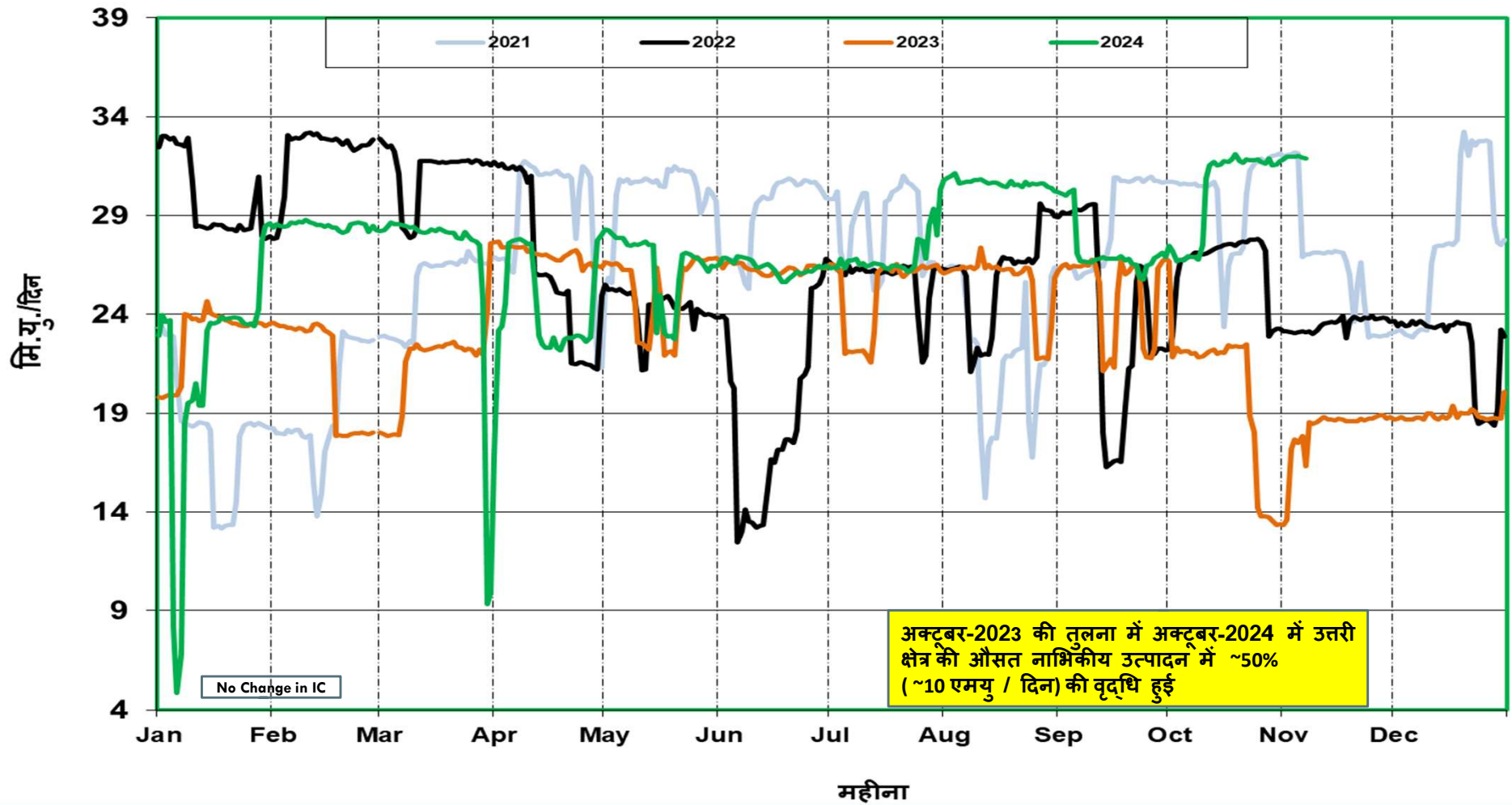


उत्तरी क्षेत्र की जलीय (हाइड्रो) उत्पादन की स्थिति (MU's/Day)

Northern Regional Hydro Generation

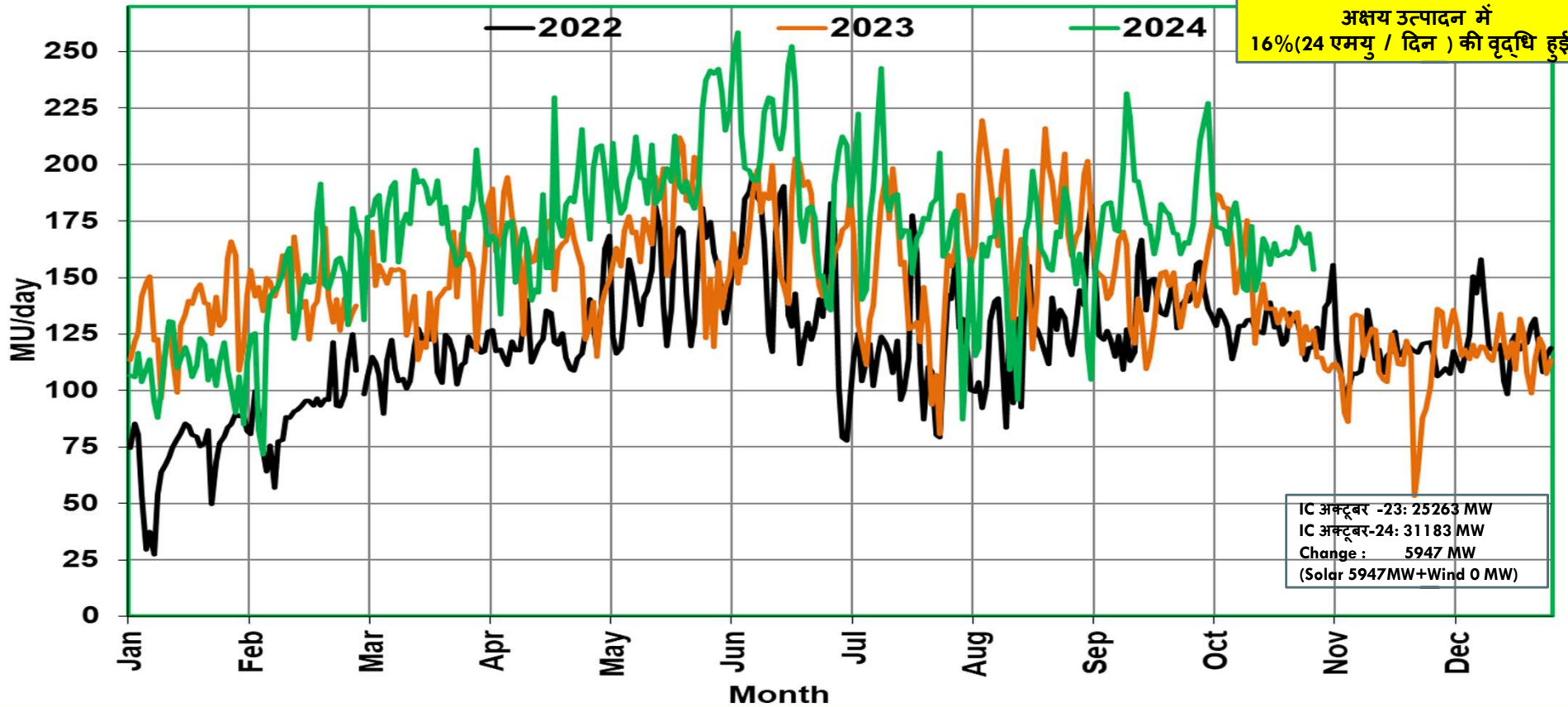


उत्तरी क्षेत्र की नाभिकीय उत्पादन की स्थिति (MUs/Day)

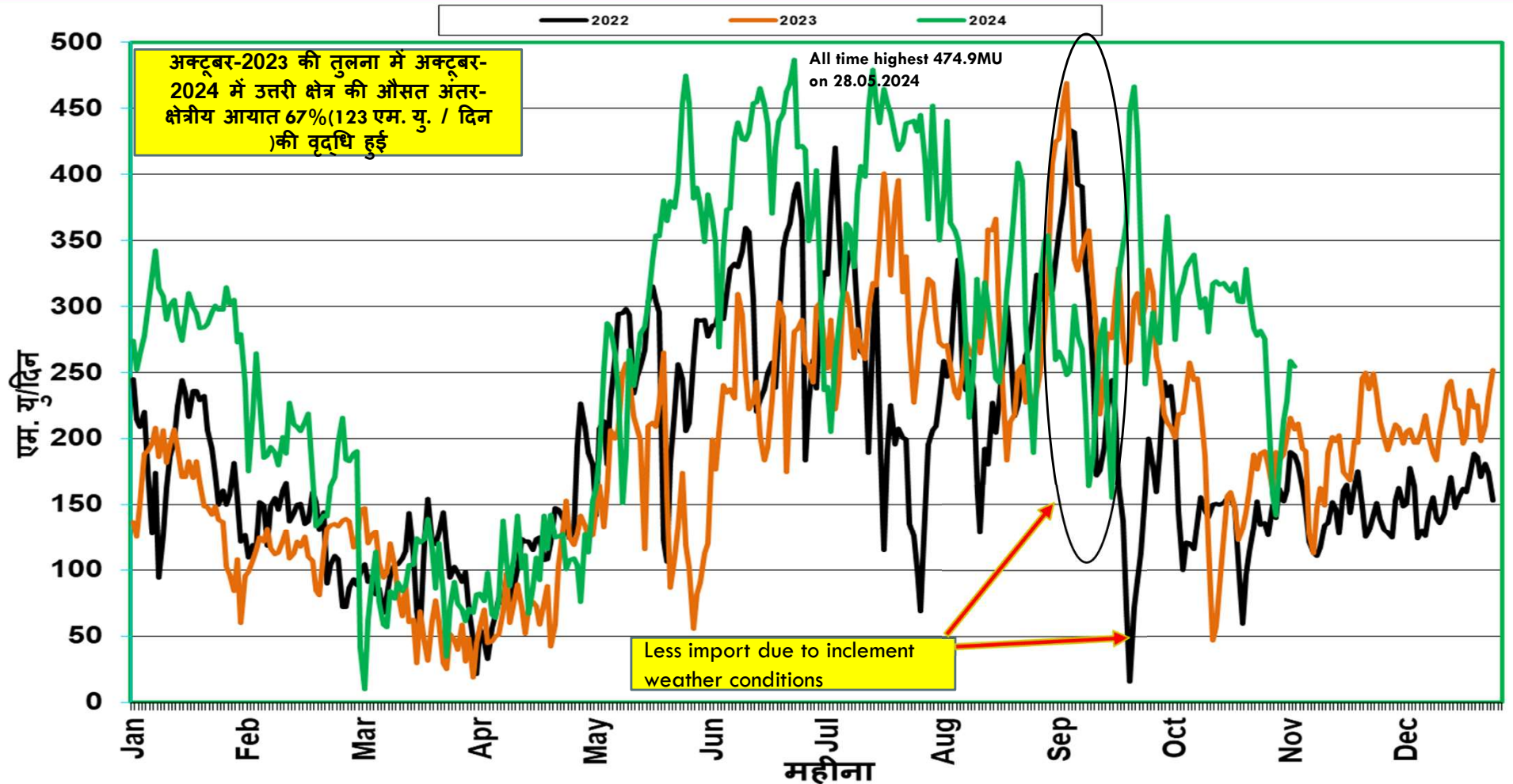


उत्तरी क्षेत्र की अक्षय (Renewable) उत्पादन की स्थिति (MUs/Day)

NR Renewable Generation



अंतर-क्षेत्रीय आयात(MUs/Day) की स्थिति



वास्तविक सारांश -
अक्टूबर-2023 बनाम अक्टूबर-2024

| | अक्टूबर-2023 (मि.यु. /दिन) | अक्टूबर-2024 (मि.यु. /दिन) | अक्टूबर माह में वृद्धि (मि.यु./दिन) |
|--|-------------------------------|-------------------------------|--|
| तापीय (Thermal) उत्पादन | 739.7 | 732.0 | -7.7 |
| जलीय (Hydro) उत्पादन | 175.8 | 181.9 | 6.1 |
| नाभिकीय (Nuclear) उत्पादन | 20.2 | 30.2 | 10.0 |
| अंतर-क्षेत्रीय (Inter- Regional) कुल आयात | 183.9 | 306.4 | 122.5 |
| अक्षय (Renewable) उत्पादन | 146.8 | 170.8 | 24.0 |

RE Penetration

Maximum Daily MU Penetration

| | Oct '2024 | | Record upto Sep '2024 | |
|-----------|-------------------|------------|-----------------------|------------|
| | Max % Penetration | Date | Max % Penetration | Date |
| Punjab | 3.46 | 31-10-2024 | 12.28 | 01-04-2020 |
| Rajasthan | 21.06 | 04-10-2024 | 36.47 | 22-10-2021 |
| UP | 3.44 | 31-10-2024 | 5.50 | 05-03-2024 |
| NR | 13.70 | 02-10-2024 | 20.69 | 02-04-2023 |

DEMAND FORECAST STATUS OF SLDC

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

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

- The following is the status regarding forecast data submission.

| Region | State | Demand Estimation | | | | | | | |
|--------|-------------|-------------------|-----------------------|------------------|-----------------------|------------------|-----------------------|------------------|-----------------------|
| | | Daily* | | Weekly | | Monthly | | Yearly | |
| | | Estimation (Y/N) | Data submission (Y/N) | Estimation (Y/N) | Data submission (Y/N) | Estimation (Y/N) | Data submission (Y/N) | Estimation (Y/N) | Data submission (Y/N) |
| NR | Punjab | Y | Y | Y | Y | N | N | N | N |
| | Haryana | Y | Y | N | N | N | N | N | N |
| | Rajasthan | Y | Y | N | N | N | N | N | N |
| | Delhi | Y | Y | Y | Y | N | N | Y* | Y* |
| | UP | Y | Y | Y | Y | Y | Y | Y* | Y* |
| | Uttarakhand | Y | Y | N | N | N | N | N | N |
| | HP | Y | Y | Y | Y | Y | Y | Y* | Y* |
| | J&K | Y | Y | N | N | N | N | N | N |
| | Chandigarh | Y | Y | N | N | N | N | N | N |

*Submitted for FY-24-25. Data is awaited for FY 25-26.

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

Outage Summary For October 2024

| CONSTITUENTS | PLANNED (A) | FORCED OUTAGES (B=C+D) | EMERGENCY SHUTDOWNS (C) | TRIPPING | % PLANNED SHUTDOWNS (A/(A+C)) | % EMERGENCY SHUTDOWNS(C/(A +C) | % ESD SHUTDOWNS(C/B) | % TRIPPING | TOTAL OUTAGES (A+B) |
|----------------------------|-------------|------------------------------|----------------------------|----------|-------------------------------------|--------------------------------------|-------------------------|------------|------------------------|
| | | | | (D) | | | | (D/B) | |
| POWERGRID | 465 | 227 | 161 | 66 | 74.3% | 25.7% | 70.9% | 29.1% | 692 |
| UPPTCL | 166 | 247 | 98 | 149 | 62.9% | 37.1% | 39.7% | 60.3% | 413 |
| RRVPNL | 67 | 123 | 82 | 41 | 45.0% | 55.0% | 66.7% | 33.3% | 190 |
| PSTCL | 88 | 34 | 12 | 22 | 88.0% | 12.0% | 35.3% | 64.7% | 122 |
| BBMB | 52 | 40 | 15 | 25 | 77.6% | 22.4% | 37.5% | 62.5% | 92 |
| HVPNL | 45 | 40 | 19 | 21 | 70.3% | 29.7% | 47.5% | 52.5% | 85 |
| PTCUL | 25 | 15 | 1 | 14 | 96.2% | 3.8% | 6.7% | 93.3% | 40 |
| HPPTCL | 17 | 19 | 6 | 13 | 73.9% | 26.1% | 31.6% | 68.4% | 36 |
| DTL | 8 | 17 | 7 | 10 | 53.3% | 46.7% | 41.2% | 58.8% | 25 |
| PDD JK | 12 | 8 | 2 | 6 | 85.7% | 14.3% | 25.0% | 75.0% | 20 |
| NTPC | 6 | 12 | 4 | 8 | 60.0% | 40.0% | 33.3% | 66.7% | 18 |
| THDC | 4 | 10 | 9 | 1 | 30.8% | 69.2% | 90.0% | 10.0% | 14 |
| APCPL | 12 | 1 | 1 | 0 | 92.3% | 7.7% | 100.0% | 0.0% | 13 |
| MAHINDRA | 4 | 1 | 0 | 1 | 100.0% | 0.0% | 0.0% | 100.0% | 5 |
| NRSS36 | 1 | 4 | 4 | 0 | 20.0% | 80.0% | 100.0% | 0.0% | 5 |
| AEPL | 0 | 4 | 4 | 0 | 0.0% | 100.0% | 100.0% | 0.0% | 4 |
| APL | 2 | 2 | 2 | 0 | 50.0% | 50.0% | 100.0% | 0.0% | 4 |
| AHEJ4L | 0 | 3 | 3 | 0 | 0.0% | 100.0% | 100.0% | 0.0% | 3 |
| AMP Energy Green Private L | 2 | 1 | 1 | 0 | 66.7% | 33.3% | 100.0% | 0.0% | 3 |
| EDEN (ERCPL) | 3 | 0 | 0 | 0 | 100.0% | 0.0% | NA | NA | 3 |
| PKTCL | 1 | 2 | 0 | 2 | 100.0% | 0.0% | 0.0% | 100.0% | 3 |
| Azure | 1 | 1 | 1 | 0 | 50.0% | 50.0% | 100.0% | 0.0% | 2 |
| ESUCRL | 1 | 1 | 1 | 0 | 50.0% | 50.0% | 100.0% | 0.0% | 2 |
| JPL | 1 | 1 | 0 | 1 | 100.0% | 0.0% | 0.0% | 100.0% | 2 |
| NHPC | 1 | 1 | 0 | 1 | 100.0% | 0.0% | 0.0% | 100.0% | 2 |
| PKTSL | 1 | 1 | 1 | 0 | 50.0% | 50.0% | 100.0% | 0.0% | 2 |
| Total | 985 | 815 | 434 | 381 | 69.4% | 30.6% | 53.3% | 46.7% | 1800 |

OUTAGE SUMMARY OF LAST THREE MONTHS

| MONTH | PLANNED | FORCED OUTAGES | EMERGENCY SHUTDOWNS | TRIPPING | % PLANNED as of TOTAL S/D | % EMERGENCY SHUTDOWNS | TOTAL OUTAGES (A+B) |
|---------|---------|-------------------|------------------------|----------|------------------------------|--------------------------|------------------------|
| | (A) | (B=C+D) | (C) | (D) | (A/(A+C)) | (C/(A+C)) | |
| July-24 | 481 | 904 | 459 | 445 | 51.2% | 48.8% | 1385 |
| Aug-24 | 548 | 844 | 382 | 462 | 58.9% | 41.1% | 1392 |
| Sep-24 | 758 | 911 | 415 | 496 | 64.6% | 35.4% | 1669 |
| Oct-24 | 985 | 815 | 434 | 381 | 69.4% | 30.6% | 1800 |

New Elements First Time Charged During Oct 2024

| S. No. | Type of transmission element | Total No |
|----------------------------|------------------------------|----------|
| 1 | New Ac Transmission Line | 06 |
| 2 | Transformer | 09 |
| 3 | Bus Reactor | 03 |
| 4 | Line Reactor | 07 |
| 5 | Solar Plant | 06 |
| 6 | Generating Unit | 01 |
| Total New Elements charged | | 32 |

New AC Transmission line

| S.No | Name of element | Owner | Voltage Level (in kV) | Circuit No | Line Length | Conductor Type | Actual date of charging |
|------|--|------------------------------|-----------------------|------------|-------------|----------------|-------------------------|
| 1 | 400kV Sikar_2(PSTL)-Neemrana(PG)-2 | PSTL | 400kV | 2 | 133.5 kM | Twin HTLS | 01-Oct-2024 |
| 2 | 765kV Sikar_2(PSTL)-Aligarh(PG)-1 | PASTL | 765kV | 1 | 256.937 kM | AL59 Zebra | 05-Oct-2024 |
| 3 | 400kV Fatehgarh Pooling(FBTL)-ACME_Deoghar_Ftgh1(PG)-1 | ACME_Deoghar_SPPL | 400kV | 1 | 16.03 Km | AL59 Moose | 05-Oct-2024 |
| 4 | 765kV Sikar_2(PSTL)-Aligarh(PG)-2 | PASTL | 765kV | 2 | 256.937 kM | AL59 Zebra | 07-Oct-2024 |
| 5 | 400kV Jaisalmer(RS)-Corneight Parks Pvt. Limited -1 | Corneight Parks Pvt. Limited | 400kV | 1 | 15.208 Km | Twin Moose | 10-Oct-2024 |
| 6 | 400kV Sikar_2(PSTL)-Neemrana(PG)-1 | PSTL | 400kV | 1 | 133.5 kM | Twin HTLS | 11-Oct-2024 |

Transformer

| S.No | Name of element | Owner | Voltage Level (HV/LV/Tertiary) | MVA Capacity | Transformer Details | Actual date of charging |
|------|---|------------------------------|--------------------------------|--------------|---------------------|-------------------------|
| 1 | 765/400/33kV, 1500 MVA, 3x1-Phase, GE, ICT - 2 at Sikar_2(PSTL) | PSTL | 765/400/33kV | 1500 | New | 02-Oct-2024 |
| 2 | 400/220/33kV, 315MVA MVA, 3-Phase, BHEL 1988, ICT - 2 at Mundka(DV) | DTL | 400/220/33kV | 315 | Replacement | 04-Oct-2024 |
| 3 | 765/400/33kV, 1500 MVA, 3x1-Phase, GE, ICT - 1 at Sikar_2(PSTL) | PSTL | 765/400/33kV | 1500 | New | 05-Oct-2024 |
| 4 | 400/33kV, 315 MVA, 3-Phase, Toshiba, Power Transformer - 4 at ACME_Deoghar_Ftgh1(PG) | ACME_Deoghar_SPPL | 400/33kV | 315 | New | 06-Oct-2024 |
| 5 | 400/33kV, 315 MVA, 3-Phase, Toshiba, Power Transformer - 2 at ACME_Deoghar_Ftgh1(PG) | ACME_Phalodi_SEPL | 400/33kV | 315 | New | 09-Oct-2024 |
| 6 | 400/33kV, 200 MVA, 3-Phase, SHIRDI SAI, ICT - 1 at Corneight Parks Pvt. Limited | Corneight Parks Pvt. Limited | 400/33kV | 200 | New | 11-Oct-2024 |
| 7 | 400/33kV, 200 MVA, 3-Phase, SHIRDI SAI, ICT - 2 at Corneight Parks Pvt. Limited | Corneight Parks Pvt. Limited | 400/33kV | 200 | New | 11-Oct-2024 |
| 8 | 400/33kV, 315MVA MVA, 3-Phase, Toshiba, Power Transformer - 3 at ACME_Deoghar_Ftgh1(PG) | ACME_Raisar_SEPL | 400/33kV | 315 | New | 19-Oct-2024 |
| 9 | 400/33kV, 315MVA MVA, 3-Phase, Toshiba, Power Transformer - 1 at ACME_Deoghar_Ftgh1(PG) | ACME_Dhaulpur_PPL | 400/33kV | 315 | New | 19-Oct-2024 |

BUS REACTOR

| S.No | Name of element | Owner | Voltage Level | MVAR Capacity | Actual date of charging |
|------|--|-------|---------------|---------------|-------------------------|
| 1 | 400kV, 125MVAR Bus Reactor 1 at Sikar_2(PSTL) | PSTL | 400kV | 125MVAR | 01-Oct-2024 |
| 2 | 765kV, 3x110 MVAR Bus Reactor 1 at Sikar_2(PSTL) | PSTL | 765kV | 3x110 MVAR | 06-Oct-2024 |
| 3 | 765kV, 3x110MVAR Bus Reactor 2 at Sikar_2(PSTL) | PSTL | 765kV | 3x110MVAR | 07-Oct-2024 |

LINE REACTOR

| S.No | Name of element | Owner | Voltage Level (in kV) | MVAR Capacity | Line Reactor Details | Actual date of charging |
|------|---|-----------|-----------------------|---------------|----------------------|-------------------------|
| 1 | 3 x 110MVAR Switchable Convertible LINE_REACTOR of 765kV Sikar_2(PSTL)-Aligarh(PG)-1 at Sikar_2(PSTL) | PASTL | 765kV | 330 | New | 05-Oct-2024 |
| 2 | 3 x 110MVAR Switchable Convertible LINE_REACTOR of 765kV Sikar_2(PSTL)-Aligarh(PG)-2 at Sikar_2(PSTL) | PASTL | 765kV | 330 | New | 07-Oct-2024 |
| 3 | 240 MVAR Switchable Convertible LINE_REACTOR of 765 KV Bhadla-II - SIKAR-II line ckt-1 at Bhadla_2 (PG) | PSTL | 765kV | 240 | New | 08-Oct-2024 |
| 4 | 240 MVAR Switchable Convertible LINE_REACTOR of 765 KV Bhadla-II - SIKAR-II line ckt-2 at Bhadla_2 (PG) | PSTL | 765kV | 240 | New | 16-Oct-2024 |
| 5 | 50 Non-Switchable Non-Convertible LINE_REACTOR of 400 KV Kanpur-Agra(PG) Ckt-1 at Kanpur(PG) | POWERGRID | 400kV | 50 | Replacement | 29-Oct-2024 |
| 6 | 3x110MVAR Switchable Convertible LINE_REACTOR of 765kV Sikar_2(PSTL)-Bhadla_2(PG)-1 at Sikar_2(PSTL) | PSTL | 765kV | 110 | New | 30-Oct-2024 |
| 7 | 3x110MVAR Switchable Convertible LINE_REACTOR of 765kV Sikar_2(PSTL)-Bhadla_2(PG)-2 at Sikar_2(PSTL) | PSTL | 765kV | 110 | New | 30-Oct-2024 |

Solar plant

| S.No | Plant Name | Pooling Sub-station | Total Capacity charged(MW) | Total Installed Capacity of Plant(MW) | Type of RE | Total No. of Solar ICR/Block Charged | Agency/ Owner | Actual date of charging |
|------|---|-------------------------|----------------------------|---------------------------------------|------------|--------------------------------------|-------------------|-------------------------|
| 1 | Transition Sustainable Energy Services One Private Limited(TSES1PL) | Bikaner_2(PBTSL) | 55.6 MW | 55.6 MW | Solar | 5 | TSES1PL | 09-Oct-2024 |
| 2 | ACME Deoghar Solar Power Private Limited | Fatehgarh Pooling(FBTL) | 253MW | 253MW | Solar | 24 | ACME_Deoghar_SPPL | 22-Oct-2024 |
| 3 | Kolayat Solar Power Plant NTPC Limited | Bhadla_2(PG) | 32.9MW | 531.68MW | Solar | 3 | NTPC_KOLAY AT SL | 15-Oct-2024 |
| 4 | ACME Phalodi Solar Energy Private Limited | Fatehgarh Pooling(FBTL) | 272MW | 272MW | Solar | 24 | ACME_Phalodi_SEPL | 19-Oct-2024 |
| 5 | ACME Raisar Solar Energy Private Limited | Fatehgarh Pooling(FBTL) | 192.67MW | 272MW | Solar | 17 | ACME_Raisar_SEPL | 23-Oct-2024 |
| 6 | ACME Dhaulpur Powertech Private Limited | Fatehgarh Pooling(FBTL) | 192.67MW | 272MW | Solar | 17 | ACME_Dhaulpur_PPL | 30-Oct-2024 |

Generating Unit

| S.No | Name of element | Owner | Voltage Level | Installed Capacity (MW) | MVA Capacity | Actual date of charging |
|------|--|-------|---------------|-------------------------|--------------|-------------------------|
| 1 | 660 MW, 777 MVA 21 kV Make BHEL Unit No 1 at 2X660MW THDC STPP,KHURJA(Stage 1) | THDC | 21kV | 660 MW | 777 MVA | 28-Oct-2024 |

