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

दिनांक: 24.09.2025

सेवा में
As per attached list of Members and Other invitees

विषय: संरक्षण उप-समिति की 63 वीं बैठक की कार्यसूची |
Subject: Agenda for 63rd Protection Sub-Committee Meeting.

संरक्षण उप-समिति की **63 वीं बैठक, दिनांक 29.09.2025 को 10:30 बजे** से **एनआरपीसी सचिवालय, कटवारिया सराय, नई दिल्ली** में आयोजित की जाएगी | उक्त बैठक की कार्यसूची संलग्न है । यह उत्तर क्षेत्रीय विद्युत् समिति की वेबसाइट (http://164.100.60.165/) पर भी उपलब्ध है | 56 वीं पीएससी बैठक के निर्णयों के अनुसार, आईईजीसी 2023 के सुरक्षा कोड का अनुपालन सुनिश्चित करने के लिए एनआरपीसी सदस्य के अलावा अन्य विद्युत उपयोगिताओं को भी बैठक के लिए आमंत्रित किया गया है। कृपया बैठक मे उपस्थिति सुनिश्चित करें ।

The **63rd meeting** of Protection Sub-Committee is scheduled to be held on **29.09.2025** at **10:30 Hrs** at **NRPC Secretariat, Katwaria Sarai, New Delhi**. The agenda for the meeting is attached herewith. The same is also available on NRPC website (http://164.100.60.165/). As per decisions of 56th PSC meeting, utilities other than NRPC member have also been invited for meeting for ensuring compliance of protection code of IEGC 2023. Kindly make it convenient to attend the same.

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निदेशक (संरक्षण)

Agenda of 63rd Protection Sub-Committee Meeting (29th September, 2025)

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Agenda of 63rd Protection Sub-Committee Meeting (29th September, 2025)

Agenda for 63rd Meeting of Protection Sub-Committee (PSC) of Northern Regional Power Committee

Date and time of meeting	:	*29.09.2025 10.30 Hrs.*
Venue	:	*NRPC Secretariat, Katwaria Sarai, New Delhi*

Part-A: Agenda by NRPC Secretariat

A.1. Confirmation of minutes of 62nd meeting of Protection Sub-Committee

A.1.1 62nd PSC meeting was held on 26.08.2025. Minutes of the meeting were issued vide letter dtd. 16.09.2025.

A.1.2 Ayana Renewable Power Pvt Ltd. has submitted that the performance indices for Ayana Renewable Power One Pvt ltd and Ayana Renewable Power Three Pvt ltd (Bikaner) were sent on 8 July 2025 but not updated in the MoM of 62nd PSC meeting held on 26.08.2025. It has been requested to update in the issued minutes.

A.1.3 It is to mention that Ayana Renewable Power Pvt Ltd. has submitted the same for the month of June, 2025 only.

Decision required from Forum:

Forum may approve the issued minutes along with modification as requested by Ayana Renewable Power Pvt Ltd.

A.2. Status of action taken on decisions of 62nd Protection Sub-Committee meeting (agenda by NRPC Secretariat)

A.2.1 Status of action taken on the decisions of 62nd PSC meeting is attached as **Annexure-A.I.**

***Decision* required from Forum**

Status may be deliberated for timely action on issues.

A.3. Submission of protection performance indices of 220 kV and above system along with reason and corrective action taken for indices less than unity to NRPC Secretariat for month of August 2025 (agenda by NRPC Secretariat)

A.3.1 *As per clause 15 (6) of IEGC 2023;*

- *Users shall submit the following protection performance indices of previous month to their respective RPC and RLDC on monthly basis for 220 kV and above (132 kV and above in NER) system, which shall be reviewed by the RPC:*

  *a) The **Dependability Index** defined as* $D = Nc/Nc+Nf$

  *b) The **Security Index** defined as* $S = Nc/Nc+Nu$

  *c) The **Reliability Index** defined as* $R = Nc/Nc+Ni$

  where,

  Nc is the number of correct operations at internal power system faults,

  Nf is the number of failures to operate at internal power system faults,

  Nu is the number of unwanted operations,

  Ni is the number of incorrect operations and is the sum of Nf and Nu

- *Each user shall also submit the reasons for performance indices less than unity of individual element wise protection system to the respective RPC and action plan for corrective measures. The action plan will be followed up regularly in the respective RPC.*

A.3.2 In earlier PSC meeting, it was decided that each utility shall submit the performance **indices of previous month by 7th day of next month.**

A.3.3 Accordingly, the status of the indices reported for the month of **August 2025** is attached as **Annexure-A.II.**

A.3.4 Further, based on submitted data by the utilities as on date, the summary of events that caused indices less than unity is also attached as **Annexure-A.III.**

A.3.5 **Submitted data has following issues:**

Some Utilities have not submitted data	As mention in Annexure-A.II.
Utilities have submitted data for some	**NTPC, HPGCL, UJVNL**

plants/regions but not all.	
Some utilities have sent data after cut-off date of 7th	As mention in Annexure-A.II.

Decision required from Forum:

i. Forum may discuss cases where indices are less than 1 and may direct necessary action to be taken.

ii. Forum may direct utilities to submit the performance indices of previous month by 7th day of next month element wise along with the reason for indices less than unity and corrective action taken.

A.4. Reporting of protection performance indices of SPS by SLDCs/RLDC (agenda by NRPC Secretariat)

A.4.1 As per clause 16 of IEGC 2023;

- *The users and SLDCs shall report about the operation of SPS immediately and detailed report shall be submitted within three days of operation to the concerned RPC and RLDC in the format specified by the respective RPCs.*
- *The performance of SPS shall be assessed as per the protection performance indices specified in these Regulations. In case, the SPS fails to operate, the concerned User shall take corrective actions and submit a detailed report on the corrective actions taken to the concerned RPC within a fortnight.*

A.4.2 The agenda was discussed in previous PSC meeting and following has been decided:

i. Utilities and SLDCs shall report about the operation of SPS immediately and detailed report shall be submitted within three days of operation to the concerned RPC and RLDC.

ii. SLDCs may submit protection performance indices for SPS on monthly basis by 7th date of each month in the same format as that of protection performance indices of elements (lines/ICT etc.). All utilities shall report their indices to concerned RLDC/SLDCs, then, **after verifying SPS operation**

from all points, SLDC/RLDCs shall report performance indices to the NRPC Secretariat.

A.4.3 However, it has been observed that reporting of operation/failure of operation of SPS is not being done regularly by the SLDCs/utilities.

A.4.4 **None of the SLDCs have submitted indices for SPS in their control area.**

A.4.5 UPPTCL, PPGCL, LPGCL & AGEL have informed that no SPS operation has been observed in the month of August, 2025.

A.4.6 STPS, Suratgarh (RVUNL) has shared that SPS for 2x315MVA ILTs for avoiding overloading operated correctly in the month of August, 2025.

A.4.7 NRLDC has informed SPS operation from Apr-August 2025. The same is attached as **Annexure-A.IV.**

Decision required from Forum:

Forum may direct SLDC/utilities for compliance of following:

I. Utilities and SLDCs shall report about the operation of SPS immediately and detailed report shall be submitted within three days of operation to the concerned RPC and RLDC.

II. SLDCs may submit protection performance indices for SPS on monthly basis by 7th date of each month in the same format as that of protection performance indices of elements (lines/ICT etc.). All utilities shall report their indices to concerned RLDC/SLDCs, then, after verifying SPS operation from all points, SLDC/RLDCs shall report performance indices to the NRPC Secretariat.

A.5. Annual protection audit plan for FY 2025-26 (agenda by NRPC Secretariat)

A.5.1 As per clause 15 of IEGC 2023;

- *Annual audit plan for the next financial year shall be submitted by the users to their respective RPC by 31st October. The users shall adhere to the annual audit plan and report compliance of the same to their respective RPC.*

A.5.2 In view of above, all utilities were requested to submit the annual protection audit plan for FY-2025-26 latest by 31st October 2024 in the 53rd PSC meeting. Further, concerned utilities were requested to submit the same at the earliest in every PSC

meeting since then.

A.5.3 Accordingly, annual audit plans submitted by utilities have been compiled (enclosed as **Annexure- A.V**).

Decision required from Forum:

Forum may direct utilities who have not submitted audit plan for FY 2025-26 as deadline of 31st October 2024 has already passed.

A.6. Third-party protection audit plan (agenda by NRPC Secretariat)

A.6.1 As per clause 15 of IEGC 2023:

All users shall also conduct third party protection audit of each sub-station at 220 kV and above (132 kV and above in NER) once in five years or earlier as advised by the respective RPC.

A.6.2 In view of above, third party audit plans submitted by utilities have been compiled (enclosed as **Annexure-A.VI)**.

Decision required from Forum:

Forum may direct utilities to update the status of 3rd party protection audit as per the submitted audit plans. Subsequently, the audit reports along with compliance status may be submitted to NRPC Secretariat regularly.

A.7. Discussion on audit reports submitted by utilities and compliance of recommendations of protection audit (agenda by NRPC Secretariat)

A.7.1 As per clause 15 (1) of IEGC 2023*;*

- *All users shall conduct internal audit of their protection systems annually,* ***and any shortcomings identified shall be rectified and informed to their respective RPC****. The audit report along with action plan for rectification of deficiencies detected, if any, shall be shared with respective RPC for users connected at 220 kV and above (132 kV and above in NER).*

A.7.2 As per clause 15 (4) of IEGC 2023*;*

The third-party protection audit report shall contain information sought in the format

enclosed as Annexure–1 (IEGC). The protection audit reports, along with **action plan for rectification of deficiencies detected, if any, shall be submitted to the respective RPC and RLDC or SLDC, as the case may be, within a month of submission of third-party audit report.** The necessary compliance to such protection audit report shall be followed up regularly in the respective RPC.

A.7.3 Following utilities have submitted the internal audit report based on the audit done at their substations:

S.N.	FY (Audit Date)	Utility	Stations
1	2025-26	LPGCL	Lalitpur

A.7.4 Following utilities have submitted reports of 3rd Party audit:

S.N.	Utility	Stations
1	NHPC	Dulhasti, Salal, Bairasiul
2	Apraava Energy Pvt. Ltd.),	Jhajjar Power Limited
3	RVUNL	KSTPS, Kota
4	Amp Green Energy Pvt. Ltd	300MW PV Project in Bhadla, Rajasthan

A.7.5 LPGCL has submitted action taken on recommendation of internal audit (FY 2024-25) team. Other utilities have not submitted action plan on recommendation of audit team.

A.7.6 **The above submitted reports and action plan are available at NRPC website: http://164.100.60.165/meetings/prsub.html**

Decision required from Forum:

Forum may discuss audit report as well as action taken by utilities on recommendations of audit. Further, other utilities may be directed to submit the protection audit report (for audited S/s as per submitted plan) to NRPC Secretariat

and may update the compliance status regularly.

A.8. Qualifying criteria for the selection of prospective bidders (Company) for conducting Third-Party Protection Audits (agenda by NRPC Secretariat)

A.8.1 The agenda was discussed in the 16th NPC meeting held on 04.07.2025 wherein it was apprised that ERPC developed qualifying criteria for the selection of prospective bidders for conducting Third-Party Protection Audits, encompassing technical criteria, personnel requirements, financial criteria, evaluation & selection criteria and disqualification clause with the objective of ensuring authenticity and reliability in the audit process.

A.8.2 Further, it was decided that the same may be circulated by the NPC Secretariat to all RPCs for their views/comments. Qualifying criteria for the selection of prospective bidders for conducting Third-Party Protection Audits, prepared by ERPC is attached as **Annexure-A.VII.**

A.8.3 In view of above, the comments on this will be discussed in the meeting. All members are requested to put their views.

Decision required from Forum:

Members may like to discuss.

A.9. Conducting the Examination for Protection Auditor Certification (Agenda by NRPC Secretariat)

A.9.1 The agenda was discussed in the 16th NPC meeting held on 04.07.2025 wherein it was apprised that multiple challenges have been identified by NRPC in conducting the Third-Party Protection Audits. These include difficulties in finalizing vendors, inadequate response from potential vendors, concerns regarding the quality of audits, high associated costs, and lack of clarity concerning the eligibility of audit experts.

A.9.2 NRPC recommended the formulation of minimum eligibility criteria for protection auditors, along with the development of a formal certification system to evaluate their competency and suggested engaging NPTI to conduct a certification examination for protection auditors. It was also further proposed that the NPC Secretariat may coordinate with NPTI for organizing the examination and managing the overall

certification process.

A.9.3 Subsequently, it was decided that Protection Auditor Certification may be issued by CPRI, NPTI, or competent State Training Institutes. RPCs may coordinate with the State Training Institutes in this regard.

A.9.4 In view of above, all members are requested to express their views on the above. States may inform about State Training Institute having the domain of protection/protection audit Further, members may provide comments on the process of certification of protection auditor.

Decision required from Forum:

Members may like to discuss.

Part-B: Agenda by NRLDC

B.1 Status of remedial actions recommended during previous PSC meeting (agenda by NRLDC)

B.1.1 As per the discussion in pervious PSC meetings, necessary remedial actions were recommended based on the analysis and discussion of the grid events. It is expected that necessary actions would have taken place. In view of the same, a mail dt 17.09.2025 has also been sent from NRLDC to constituents requesting to share the status of remedial actions taken. List of points to be discussed in 62nd PSC meeting is attached as **Annexure-B.I.** Constituents can email the details via mail to NRLDC and NRPC.

Decision required from Forum:

Members may like to discuss.

B.2 Multiple elements tripping events in Northern region in the month of August 2025 (agenda by NRLDC)

B.2.1 A total of **18** grid events occurred during the months of **August 2025** of which **09** are of GD-1 category, **08** are of GI-2 category and **01** are of GI-1 Category. The tripping report of all the events have been issued from NRLDC. The list of major tripping events occurred during **August 2025** is attached as **Annexure-B.II.**

Maximum delayed clearance of fault observed in event of tripping event at 220/33kV RSDCL PSS2 RE station at 13:46 hrs on 04th July 2025 (As per PMU at Bhadla2(PG), R-Y phase to phase fault with delayed fault clearing time of 1200 msec is observed).

B.2.2 Delayed clearance of fault (more than 100ms for 400kV and 160ms for 220kV system) observed in total **11** events out of **42** grid events occurred in these two months. In **09** (no.) of grid events, there were no fault in the grid.

B.2.3 Maximum delayed clearance of fault observed in event of tripping event at 400/220kV Gumma(HP) & 220kV Sawrakuddu HEP at 07:04 hrs on 06th August 2025 (As per PMU at Gumma(HP), Y-B fault converted into R-Y-B fault with delayed clearance of approx. 4 sec 80 msec is observed).

B.2.4 Delayed clearance of fault (more than 100ms for 400kV and 160ms for 220kV system) observed in total **07** events out of **18** grid events occurred in the month. In **02** (no.) of grid events, there were no fault in the grid.

B.2.5 Remedial actions taken by constituents to avoid such multiple elements tripping may be shared.

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

B.2.6 Members may take necessary preventive measures to avoid such grid incidents / disturbances in future and report actions taken by respective utilities in OCC & PSC forum. Moreover, utilities may impress upon all concerned for providing the Preliminary Report, DR/EL & Detailed Report of the events to RLDC in line with the regulations.

B.2.7 The list of major tripping events occurred during **August 2025** is attached as **Annexure-B.III**. Concerned constituents/utilities are requested to share the detailed analysis of the tripping elements along with status of remedial action taken/to be taken.

B.2.8 Utilities are requested to prepare detailed analysis report and present the event

details during 63rd PSC meeting. Events involving more than one utility may be jointly prepared and presented.

Decision required from Forum:

Members may like to discuss.

B.3 Frequent elements tripping during August 2025 (agenda by NRLDC)

B.3.1 The following transmission elements were frequently tripping during the month of **August'25**:

S. NO.	Element Name	No. of forced outages	Utility/SLDC
1	132 KV Rihand(UP)-Garwa(JS) (UP) Ckt-1	11	UP/JS
2	250 MW (PSP) TEHRI HPS - UNIT 6	10	Tehri PSP
3	220 KV NAPP(NP)-Simbholi(UP) (UP) Ckt-1	7	NPCIL/UP
4	250 MW (PSP) TEHRI HPS - UNIT 5	6	Tehri PSP
5	132 KV Pilibhit(UP)-Sitarganj(PTCUL) (PTCUL) Ckt-1	6	UP/UK
6	132 KV Khatima(UK)-Pilibhit(UP) (PTCUL) Ckt-1	5	UP/UK
7	132 KV Rihand(UP)-Nagar Untari(JS) (UP) Ckt-1	4	UP/JS
8	200 MW Parbati II HEP - UNIT 3	4	NHPC

B.3.2 List of tripping is attached as **Annexure-B.IV**.

B.3.3 It may be noted that frequent tripping of such elements affects the reliability and security of the grid. Hence, **utilities are requested to analyse the root cause of the tripping and share the remedial measures taken/being taken in this respect.**

Decision required from Forum:

Members may like to discuss.

B.4 Details of tripping of Inter-Regional lines from Northern Region for August 2025 (agenda by NRLDC)

B.4.1 A total of **7** inter-regional lines tripping occurred in the month of **August** 2025. The list is attached at **Annexure-B.V**. The status of receipt of preliminary reports, DR/EL within 24hrs of the event and fault clearing time as per PMU data has also been mentioned in the table. The non-receipt of DR/EL & preliminary report within 24hrs of the event from SLDCs / ISTS licensees / ISGSs is in violation of regulation 37.2(c) of

IEGC and regulation 15(3) of CEA Grid Standards. As per regulations, all the utilities shall furnish the DR/EL, flag details & preliminary report to RLDC/RPC within 24hrs of the event. They shall also furnish the detailed investigation report within 7 days of the event if fault clearance time is higher than that mandated by CEA (Grid Standard) Regulations.

Decision required from Forum:

Members may please note and advise the concerned for taking corrective action to avoid such tripping as well as timely submission of the information.

B.5 Mock testing of System Protection Schemes (SPS) in Northern Region (agenda by NRLDC)

B.5.1 As per IEGC clause 16.2

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

B.5.2 As per IEGC clause 16.3

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

B.5.3 There are 50 numbers of System Protection Scheme (SPS) approved in Northern Region. These SPS are implemented at major generation complexes, important evacuating transmission lines and ICTs which are N-1 non-complaint. System Protection Scheme Document of Northern Region has been revised/updated on 31st January, 2025.

B.5.4 SPS is designed to detect abnormal system conditions and take predetermined, corrective action to preserve system integrity and provide acceptable system performance. Therefore, correct operation of SPS as per designed logic is important

to serve its purpose. To ensure this, mock testing of SPS needs to be conducted at a regular period. Clause 16.2 of IEGC 2023 also mandates the mock testing of SPS for reviewing SPS parameters & functions, at least once a year.

B.5.5 In this regard, communication has already been sent to constituents through NRLDC letter dated 01.05.2024, 21.02.2025, 05.03.2025, 04.04.2025 & 28.05.2025 and continuous follow up is being done in OCC & PSC meeting since May 2024.

B.5.6 During 2024-25, mock testing of 14 SPS out of total 55 SPS were not conducted. In view of high demand scenario during summer 2025-26, NLRDC vide letter dated 04.04.2025 requested all the concerned utility to conduct the mock testing of pending SPS by the end of April 2025. However, as reported, mock testing of 03 SPS out of pending 14 SPS have been done. In this regard, discussion was also held in 60th, 61st & 62nd PSC meeting. PSC Forum requested all the members to conduct the mock testing of all the SPS in their respective control area at the earliest.

B.5.7 Status of mock testing of all the SPS in NR is attached as **Annexure-B.VI.**

B.5.8 In view of the above, the following are requested:

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

ii. In compliance with IEGC clause 16.2, users shall ensure that mock testing along with the review of SPS logic of all the SPS is conducted at least once a year. Hence utilities are also requested to share the tentative schedule and conduct the mock testing of SPS schemes in their respective control area w.r.t. FY 2025-26.

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

B.5.9 During 60th PSC meeting, Forum also decided to not disable the SPS where ICTs are now N-1 compliant after augmentation. It was decided that SPS may be kept enabled

with logic based on loading instead of ICT tripping. Members may share the status in this regard.

Decision required from Forum:

Members may like to discuss.

B.6 Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS (agenda by NRLDC)

B.6.1 On 17th May 2024 on outage of both pole (carrying total ~1500MW), SPS of 500kV HVDC Mundra-Mahindergarh inter regional link didn't operate. This issue was discussed during 51st PSC meeting and ADANI was requested to share the details w.r.t. SPS operation during the meeting.

B.6.2 Further, NRLDC in coordination with NLDC conducted an online discussion meeting with concerned stakeholders (SLDCs, ADANI, POWERGRID) on 12th August 2024, for further remedial actions required to make this SPS healthy.

B.6.3 Following actions were decided during the meeting:

i. POWERGRID, ADANI and concerned states were requested to identify the issue in communication links and take expeditious actions to make the all the communication link healthy. POWERGRID & ADANI shall review the healthiness of SPS system at different load centres and communication path between them in coordination with the SLDCs.

ii. States were requested to go through the details of load feeders mentioned in SPS document and share the changes / modifications as per present scenario and share the inputs w.r.t. unavailability in identified load feeders and load shedding. SLDCs shall share the revised updated feeder details (radial) along with expected average/peak load relief through respective feeders.

iii. SLDCs in coordination with their transmission and protection team shall share the status and healthiness of existing SPS system along with details of availability of communication path for incorporation of proposed revised/additional feeders.

B.6.4 Load end details have been received from UP, Haryana, Punjab Rajasthan & Delhi. Details and communications are attached as **Annexure-B.VII**.

B.6.5 ADANI via mail dated 29.08.2024 has submitted the status of healthiness of

communication network and hardware system at different locations on the basis of preliminary inspection. As per details submitted, counter status was found OFF at Alwar, Ratangarh, Gobindgarh, Malerkotla, Bamnauli, Shamli and Dhanonda.

B.6.6 Details of nodal officer of different substation involved in SPS scheme has already been shared with ADANI team for coordination and further remedial actions.

B.6.7 During 53rd PSC meeting, ADANI was requested to coordinate with the respective states to rectify the issues in the SPS system and share the status of remedial action taken / planned to be taken. Desired remedial actions need to be expedited.

B.6.8 ADANI agreed for the same and stated that update would be given within 01 week. However, no detail received yet from ADANI.

B.6.9 During discussion in 55th PSC meeting it was decided that ADANI shall take lead in rectification work as this SPS scheme was commissioned by them. Protection nodal officers from States will provide possible necessary assistance from their end. Further, states were also requested to ensure incorporation of revised decided feeders during work at their stations. States representative assured to provide all necessary coordination from their end.

B.6.10 During 56th PSC meeting, ADANI was requested to apprise the forum about the present status of remedial actions. ADANI representative stated that they have raised service order to COMTEL (OEM) for approval. After approval of this service order, COMTEL engineers will visit all the sites in coordination with nodal officers from respective stations. It is expected that identification of issues and estimate hardware requirement will be completed by the end April 2025. Thereafter, after financial approval, rectification of issues will be done. ADANI was requested to ensure completion of whole work before summer 2025. State representatives were also requested to coordinate with the ADANI team and ensure incorporation of identified revised feeders for load relief in SPS.

B.6.11 Further, through mail dt 3rd April 2025, ADANI has informed that they awarded the

rectification work service to M/s COMTEL for survey and restoration of possible elements installed at the locations and engineers from M/s COMTEL shall be visiting respective stations as per the schedule.

B.6.12 During 57th PSC meeting, ADANI representative informed that visit by COMTEL engineers at all the sites is completed and COMTEL will submit the report within 10 days.

B.6.13 ADANI was requested to share the report at the earliest and make Action Plan accordingly to ensure completion of whole work before summer 2025.

B.6.14 ADANI agreed to take expeditious actions and to share the action plan at the earliest.

B.6.15 During 58th PSC meeting, ADANI representative shared the observations made by COMTEL engineers and informed that it would at least require 6 months to complete the work.

B.6.16 NRLDC CGM (SO) highlighted that in view of envisaged growth in demand in next summer season, it is important to ensure rectification of issues and healthiness of SPS.

B.6.17 ADANI representative further informed that cost implication in this case is estimated as approx. Rs. 1.5 Cr. Till now they conducted technical assessment and made cost estimation. They will look into the regulatory aspect of the same for finalising the action plan.

B.6.18 During 59th PSC meeting, ADANI representative informed that they are doing discussions with ULDC for allocation of necessary links between locations. They have also initiated internal approval for placing necessary orders to the partner for execution of upgradation activity. They are expecting to complete the execution within 4-5 months in collaboration with all the stakeholders from respective utilities and ULDC team. Communication from ATIL in this regard is also sent to NRLDC through

letter dated 10th April 2025.

B.6.19 PSC Forum emphasized that considering the growing energy demands in summer season, healthiness of 500kV Mundra-Mahindergarh SPS is of utmost importance for secure & reliable grid operation. State representatives were also requested to coordinate with the ADANI team and also ensure incorporation of identified revised feeders for load relief in SPS. Desired remedial actions need to be expedited.

B.6.20 During 60th PSC meeting, ADANI representative informed that internal approval is taken for placing the order and order will be released to vendor by end of June-July 2025. They have expedited the execution of upgradation activity and now it is expected to get completed by August 2025.

B.6.21 NRLDC representative requested to share weekly progress report once the execution work starts and ADANI agreed for the same.

B.6.22 ADANI was requested to apprise the forum about identified issues at various stations, action plan and progress in rectification work.

B.6.23 During 61st PSC meeting, ADANI representative informed that order will be released by 1st week of July to the vendor for completion of work. The vendor has given 06 (six) months' timeline for completion of whole work however, we will follow up with the vendor and try to complete the whole work within 04 months.

B.6.24 NRLDC representative requested ADANI to expedite the necessary actions at their end as corrective actions has already been delayed. It was also requested to give action plan of corrective actions for smooth coordination and actions. Weekly progress and status of actions may also be shared.

B.6.25 Further, through mail dt 30th July 2025, ADANI has informed that order has been placed with vendor for the procurement and development of the scheme on new devices and they also shared the timeline for the upcoming broader steps which has

evolved based on discussions held with the vendor.

B.6.26 During 62nd PSC meeting, ADANI confirmed the following:

i) The system is expected to be ready by the partner and complete the Factory Acceptance Test (FAT) by 15th September 2025.
ii) Following the FAT, the material will be shipped to various sites and installed by 30th October 2025. Concerned constituents need to ensure the material is kept in a safe and secure area till commissioning at original location.
iii) Implementation of the communication channel with the assistance of ULDC is also scheduled for completion parallelly by 30th October 2025.
iv) Testing of the installation and wiring will be carried out by 15th November 2025. The same shall require support from respective site representatives.
v) Testing of the communication link between Mahindergarh and other locations is planned for completion by 30th November 2025.
vi) Finally, the testing of the SPS scheme is expected to be completed by 31st December 2025.

B.6.27 Further, through mail dt 15th September 2025, ADANI has informed that Hardware is expected to be received by the partner by 20th September 2025 and FAT is expected to be carried out by 31st September 2025. The Dispatch and site activities shall be planned based on FAT punch point closures.

B.6.28 ADANI is requested to take continuous follow-up with the vendor for expeditious corrective actions.

Decision required from Forum:

Members may like to discuss.

B.7 Confirmation regarding implementation of proposed Overvoltage protection setting by committee (agenda by NRLDC)

B.7.1 A committee was formed by NRPC during 52nd PSC meeting held on 20th September 2024 to review the Overvoltage Protection settings of 400kV and 765kV transmission lines in Northern Region. This committee was formed for compliance of the recommendation given by the committee formed by CEA for analysis of Grid incident occurred on 17th June 2024. The committee reviewed the Overvoltage Protection settings of 400kV and 765kV transmission lines in Northern Region, finalized the protection settings for overvoltage protection and proposed the revised overvoltage protection settings. The proposed Overvoltage protection settings were discussed and approved in 58th Protection Sub-Committee (PSC) meeting held on 26th March 2025. The PSC forum requested all to implement the proposed overvoltage protection settings in 400kV and 765kV transmission lines in their respective control area. Details of the revised overvoltage protection setting to be implemented is attached as **Annexure-B.VIII.**

B.7.2 Further, the agenda in this regard was again discussed in 230th OCC meeting and 60th, 61st & 62nd PSC meeting. It was observed that many members are yet to confirm the implementation of revised overvoltage settings.

B.7.3 Status of confirmation received from **UPPTCL, HVPNL, PSTCL (Partial), DTL, Lalitpur TPS (LPGCL), NHPC (Chamera-I &II, Uri-I& II, Dulhasti HEP), POWERGRID NR-1, NUPPL, Nathpa Jhakri and Rampur HEP.**

B.7.4 However, status of confirmation from **POWERGRID NR-2, POWERGRID NR-3, Adani, Rajasthan, J&K, Punjab, Uttarakhand, HP, BBMB, Indigrid, APCPL, NTPC and RE Plants** are yet to be received.

B.7.5 SLDC Punjab vide mail dt 05th June 2025 informed that over-voltage settings implementation will take 3-4 months.

B.7.6 During 61st PSC meeting, PSTCL representative stated that due to shortage of manpower in protection team, 3–4-month time is required for implementation of revised OV settings.

B.7.7 PSC Forum suggested PSTCL to address the issue and propose to form separate protection wing so that protection related compliance and grid event analysis may be done in stipulated time frame.

B.7.8 During 62nd PSC meeting, PSTCL representative confirmed that implementation work

is in progress and partially done, however work will be completed before the next PSC meeting.

B.7.9 All members were requested to ensure the implementation of proposed overvoltage settings in their control area at the earliest to avoid any unwanted tripping during the ongoing high demand scenario. In this regard, e-mail communication was also sent dated 07.05.2025 & 03.06.2025 to all members.

B.7.10 The winter season in Northern region begins from mid-October onwards and remains till February, and the challenges faced during these months are well known to all the utilities. During winter with NR load reducing significantly, the lines become lightly loaded leading to high voltages in Grid. Hence, vide NRLDC letter dated 17.09.2025, it was advised to ensure timely implementation of revised approved overvoltage protection settings in all the 400 & 765kV transmission lines to avoid any unwanted tripping of transmission lines on over-voltage.

B.7.11 **Therefore, all the concerned utilities are once again advised to ensure expeditious implementation of proposed Overvoltage Protection settings in 400kV and 765kV transmission lines in their respective control area and send a confirmation regarding this to NRPC and NRLDC.**

Decision required from Forum:

Members may like to discuss.

B.8 Status of connected load relief quantum during operation of UFR and df/dt (agenda by NRLDC)

B.8.1 UFRs and df/dt are envisaged to take care of sudden contingencies arising out of outage of generation stations or separation of inter-regional lines. UFRs setting are for steady state operation of the Grid at considerably low frequency and df/dt settings are for dynamic change when frequency falls suddenly with jerks.

B.8.2 As per IEGC 2023 Clause 29.(13)(d),

"SLDC shall ensure that telemetered data of feeders (MW power flow in real time and circuit breaker status) on which UFR and df/dt relays are installed is available at its control centre. SLDC shall monitor the combined load in MW of these feeders at all times. SLDC shall share the above data with the respective RLDC in real time and submit a monthly exception report to the respective RPC…"

B.8.3 In view of the above, SLDCs are requested to share the list of feeders mapped for UFR and df/dt along with feeder-wise planned load relief quantum. SLDCs are also requested to share details of mapped/telemetered stage-wise quantum of load relief on UFR and df/dt operation against the planned quantum. Data is to be furnished in the format attached as **Annexure-B.IX**.

B.8.4 In view of recent events due to df/dt operation, major review of UFR and df/dt settings is required to avoid unwanted tripping of feeders and load loss in states.

B.8.5 As per IEGC 2023 Clause 30.(1),

"The National Reference Frequency shall be 50.000 Hz and the allowable band of frequency shall be 49.900-50.050 Hz. The frequency shall be measured with a resolution of +/-0.001 Hz…."

B.8.6 Further, this is to highlight that on 09th September 2025, significant quantum of load loss (~853 MW) occurred in NR control area during low frequency period of evening hours (18:50-18:56 hrs). As reported, load loss occurred due to UFR operation in Uttar Pradesh (~404 MW), Rajasthan (~82 MW), Punjab (~103 MW) and Uttarakhand (~264 MW) control area. However, as per PMU, frequency didn't touch the threshold of 49.400 Hz during that day.

B.8.7 In view of recent events due to UFR operation, major review of UFR and df/dt settings is required to avoid unwanted tripping of feeders and load loss in states. SLDCs are requested to review UFR settings of the relays (whether frequency settings can be done up to three decimal places or not) and further take up for replacement of the relays, if necessary. SLDCs are also advised to look into any issue in transducer etc to avoid any unwanted tripping on UFR operation in future.

Decision required from Forum:

Members may like to discuss.

B.9 Frequent Tripping of Generating Units of NHPC on Turbine Bearing Temperature High (agenda by NRLDC)

B.9.1 It is observed in recent past that several generating units of NHPC are tripping frequently on Turbine Bearing Temperature High. List of such tripping events are attached as **Annexure-B.X.**

B.9.2 In view of the above, NHPC is requested to analyse the reason of the same and take necessary remedial action to prevent such tripping events in future.

Decision required from Forum:

Members may like to discuss.

Part-C: Agenda for final approval of protection settings by PSC Forum for FTCs which have been provisionally allowed by NRLDC/SLDCs

C.1. First Time Charging of transmission lines/Bays/Transformer/Reactor etc. by NRLDC

C.1.1 NRLDC has submitted the FTCs allowed in month of **August 2025**. The same may be found on NRPC website: http://164.100.60.165/meetings/prsub.html

C.1.2 As per approved procedure of NRPC, utilities have to put up agenda in PSC forum for final approval of settings.

C.1.3 Following utilities have submitted agenda for approval of settings:

i. POWERGRID/NR-1
ii. POWERGRID NR-2
iii. PRTL
iv. RVPN
v. UPPTCL

C.1.4 However, none of the settings have been put up by following utilities:

i. HVPN
ii. NTPC Green Energy Limited
iii. XL_XPPL
iv. ASSPL_BKN2

C.1.5 These all submitted settings are available at NRPC website: http://164.100.60.165/meetings/prsub.html.

C.1.6 It is to highlight that as per decisions of 54th PSC meeting:

Quote

NRLDC shall give provisional protection clearance during FTC on conditional basis subject to submission of agenda in next Protection Sub-Committee meetings (not later than 2nd next PSC meeting). If utility does not put up the agenda within time, further FTC clearance would not be granted to the concerned.

Unquote

Decision required from Forum:

Members may refer settings put up by utilities for any correction required. Accordingly, settings may be approved by Forum. Concerned members may be directed to submit the agenda for final approval of protection settings.

*****

Members of Protection Sub-Committee (FY 25-26)

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25	PSTCL	Chief Engineer (P&M)	ce-pm@pstcl.org
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27	IPGCL	DGM (Protection)	arif.ipgcl@gmail.com
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59	Azure Power India Pvt. Limited*	CEO	sunil.gupta@azurepower.com
60	Avaada Energy Private Limited*	CEO	kishor.nair@avaada.com
61	Adani Green Energy Limited	AVP	sanjay.bhatt@adani.com

* *Organizations from where nominations are not received for PSC, memebers of NRPC have been mentioned. Nomination for PSC forum may be sent at the earliest.*

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15	Adani Hybrid Energy Jaisalmer Two Ltd.	
16	Adani Hybrid Energy Jaisalmer Three Ltd.	
17	Adani Hybrid Energy Jaisalmer Four Ltd.	
18	Adani Renewable Energy (RJ) limited Rawara	
19	Adani Solar Energy Jaisalmer One Pvt. Ltd._450MW (Solar)	
20	Adani Solar Enegry Four Private Limited	
21	Adani Solar Energy Jaisalmer Two Private Limited	kailash.nagora@adani.com;
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24	SB Energy Six Private Limited, Bhadla	
25	Adani Solar Enegry Jodhpur Two Limited, Rawara	
26	Adept Renewable Technologies Pvt. Ltd.	
27	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)	
28	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)	
29	Adani Green Energy 19 Limited	

30	Altra Xergi Pvt. Ltd.	mahendra.kumar@O2power.in;
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32	AMP Energy Green Six Pvt. Ltd.	
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35	Avaada sunce energy Pvt limited	
36	Avaada Sunrays Pvt. Ltd.	
37	Avaada Sustainable RJ Pvt. Ltd.	
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58	Nedan Solar NTPC	
59	NTPC Nokhra_300MW	
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63	ReNew Solar Urja Private Limited	
64	Renew Sun Bright Pvt. Ltd. (RSBPL)	
65	Renew Sun Waves Private Limited (RSEJ4L)	
66	Renew Surya Partap Pvt. Ltd.	
67	Renew Surya Ravi Pvt. Ltd.	
68	Renew Surya Roshni Pvt. Ltd.	
69	Renew Surya Vihan Pvt. Ltd.	
70	Renew Surya Ayaan Pvt. Ltd.	
71	RENEW SOLAR POWER Pvt. Ltd. Bikaner	

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80	Transition Green Energy Private Limited	
81	Transition Sustainable Energy Services Private Limited	

Address List of ISTS Transmission Licensees (other than NRPC members)

S.N.	TBCB/ Licensee Name	Owner Company	E-mail ID
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2	NRSS-XXIX Transmission Ltd		
3	Parbati Koldam Transmission Company Limited		
4	Patran Transmission Company Ltd		
5	NRSS-XXXI(B) Transmission Ltd	SEKURA	neeraj.verma@energy-sel.com
6	NRSS XXXVI Transmission Ltd	TATA POWER	rajnishmehrotra@tatapower.com
7	AD Hydro Power Limited	-	sumitgarg@lnjbhilwara.com
8	Aravali Power Company Private Limited		amit.hooda01@apcpl.co.in
9	POWERLINKS TRANSMISSION LIMITED (PTL)	-	sandeep.shukla@tatapower.com
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11	Bikaner Khetri Transmission Limited		

Status of action taken on decisions of 62nd PSC

S.N.	Agenda No.	Agenda	Decision of 62nd PSC	Status of action Taken
1	A.4	Intimation of performance of SPS (agenda by NRPC Secretariat	SLDCs may submit protection performance indices for SPS on a monthly basis by 7th date of each month in the same format as that of protection performance indices of elements (lines/ICT etc). All utilities shall report their indices to concerned RLDC/SLDCs, then, after verifying SPS operation from all points, SLDC/RLDCs shall report performance indices to the NRPC Secretariat.	SPS Indices awaited from all SLDCs of NR. Some utilities have reported. NRLDC has shared the SPS operation in NR during 2025-26.
2	A.8	Updation of protection settings database (agenda by NRPC Secretariat)	Drive link of database shall be shared to utilities via e-mail and password shall be shared in next PSC meeting verbally.	Link and password shall be shared to nodal officers to be nominated by utilities as mentioned in agenda no. A3.
3	A.12	Backup O/C protection in lines at NTPC (agenda by NTPC)	It was decided to constitute a sub-group for study on proposal of NTPC for 'fuse failure enabled phase over current protection.	Sub-group will be formed after receipt of nominations.
4	A.13	Frequent tripping of 70 kV HVDC Vindhyachal Pole 1 & 2 of POWERGRID due to auxiliary	A sub-group may be constituted for understanding the issue and recommendations thereon.	Sub-group will be formed after receipt of nominations.

		supply source issues (agenda by NRPC Secretariat)		
5	B.8	Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS (agenda by NRLDC)	ADANI was requested to expedite the necessary actions at their end. It was also requested to give action plan of corrective actions for smooth coordination and actions. Weekly progress and status of actions may also be shared. State representatives were also requested to coordinate with the ADANI team and also ensure incorporation of identified revised feeders for load relief in SPS. Desired remedial actions need to be expedited.	Agenda has been taken again.

Status of perfomance indices reporting of August 2025 (Last date of submission 07.09.2025)							
S. No.	**Utility**		**Received Status (Yes/No)**	**Vide mail dated**	**Remarks**	**Indices less than 1 (Yes/No)**	**Reason submitted and corrective action taken**
1	PGCIL	Central Government owned Transmission Company	Y	06.09.2025	NR-1	NO	NA
			Y	23.09.2025	NR-2	yes	yes
			Y	09.09.2025	NR-3	NO	NA
2	NTPC	Central Generating Company	Y	03.09.2025	Anta	NO	NA
					Auriya		
			Y	08.09.2025	Dadri	NO	NA
					Koldam		
					Rihand		
			Y	04.09.2025	Singrauli		
			Y	01.09.2025	Unchahar	NO	NA
			Y	08.09.2025	Tanda	NO	NA
3	BBMB						
4	THDC		Y	05.09.2025	Tehri		
			Y	05.09.2025	Tehri PSP	NO	NA
			Y	03.09.2025	Koteshwar	NO	NA
5	SJVN		Y	06.09.2025	RHPS	NO	NA
			Y	04.09.2025	NJHPS		
6	NHPC		Y	03.09.2025	-	yes	yes
7	NPCIL		Y	05.09.2025	RAPS-A	NO	NA
			Y	05.09.2025	RAPS-B	NO	NA
			Y	04.09.2025	RAPS-C(5&6)	NO	NA
			Y	02.09.2025	RAP -D (7 & 8)	NO	NA
			Y	04.09.2025	NAPS-1&2		
8	DTL	State Transmission Utility	Y	07.09.2025		NO	NA
9	HVPNL		Y	05.09.2025	-	NO	NA
10	RRVPNL		Y	06.09.2025	-	YES	Yes
11	UPPTCL		Y	02.09.2025	Meerut Circle	NO	NA
			Y	02.09.2025	Agra Circle	YES	Yes
			Y	02.09.2025	Jhansi Circle	NO	NA
			Y	02.09.2025	Prayagraj Circle	NO	NA
			Y	02.09.2025	Gorakhpur Circle	NO	NA
			Y	02.09.2025	Lucknow Circle	NO	NA
12	PTCUL		Y	10.09.2025	Kumaon	NO	NA
13	PSTCL						
14	HPPTCL		Y	06.09.2025	-	Yes	Yes
15	JKPTCL	UT	Y	06.09.2025	Jammu	NO	NA
		UT	Y	06.09.2025	Kashmir	NO	NA
16	Chandigarh Power Distribution Ltd	RPSG Group	Y	07.09.2025	220 Kv Kishangarh	NO	NA
17	IPGCL	State Generating Company	Y	06.09.2025	PPS-I	N	NA
			Y	06.09.2025	PPS-III, Bawana	N	NA
18	HPGCL				PTPS, Panipat		
					DCRTPP, Yamunanagar		
			Y	02.09.2025	RGTPP (Khedar)	N	NA
19	RRVUNL		Y	01.09.2025	KTPS	N	NA
			Y	04.09.2025	kATPP, Jhalawar		
			Y	04.09.2025	CSCTPP Chhabra		
			Y	01.09.2025	RGTPP, Ramgarh	N	NA
			Y	01.09.2025	Ctpp,Chhabra	N	NA
			Y	01.09.2025	DCCPP, Dholpur	N	NA
			Y	04.09.2025	STPS Suratgarh		
			Y	04.09.2025	SSCTPS Suratgarh		
18	UPRVUNL		Y	04.09.2025	Parichha B (220 kV)	N	NA
			Y	01.09.2025	Parichha C (400 kV)	N	NA
			Y	01.09.2025	DTPS Anpara	N	NA
			Y	08.09.2025	Obra A & B	N	NA
			Y	08.09.2025	Obra C	N	NA
			Y	08.09.2025	Harduaganj 220 kV	N	NA
			Y	08.09.2025	Harduaganj 400 kV	N	NA
			Y	08.09.2025	Anpara-A&B	N	NA
			Y	08.09.2025	Panki TPS	N	NA
			Y	08.09.2025	Jawaharpur	Yes	Yes
	NUPPL		Y	03.09.2025	Ghatampur 765 kV	N	NA
19	UJVNL		Y	04.09.2025	Dharasu	N	NA
			Y	04.09.2025	Tiloth	N	NA
					Khodri		
					Chibro		
					Vyasi		
20	HPPCL		Y	04.09.2025	Kashang HEP	N	NA
			Y	04.09.2025	Sawara Kuddu	N	NA
			Y	04.09.2025	Sainj	N	NA
21	PSPCL	State Generating Company & State owned Distribution Company	Y	04.09.2025	RSD	N	NA
			Y	11.09.2025	GGSTPS, Rupnagar	N	NA
			Y	01.09.2025	GVK Power Goindwal Shahib Ltd.	N	NA
			Y	05.09.2025	GHSTPS, Lehra Mohabbat	N	NA
22	HPSEBL	Distribution company	Y	06.09.2025	Hamirpur Circle	N	NA

Status of perfomance indices reporting of August 2025 (Last date of submission 07.09.2025)							
S. No.	**Utility**		**Received Status (Yes/No)**	**Vide mail dated**	**Remarks**	**Indices less than 1 (Yes/No)**	**Reason submitted and corrective action taken**
		having Transmission	Y	05.09.2025	Shimla Circle	N	NA
23	Prayagraj Power Generation Co. Ltd.		Y	01.09.2025	-	yes	Yes
24	Aravali Power Company Pvt. Ltd						
25	Apraava Energy Private Limited						
26	Talwandi Sabo Power Ltd.		Y	04.09.2025		N	NA
27	Nabha Power Limited		Y	02.09.2025		N	NA
28	MEIL Anpara Energy Ltd (Anpara-C)		Y	17.09.2025		N	NA
29	Rosa Power Supply Company Ltd		Y	03.09.2025		yes	Yes
30	Lalitpur Power Generation Company Ltd		Y	01.09.2025		N	NA
31	MEJA Urja Nigam Ltd.		Y	02.09.2025		N	NA
32	Adani Power Rajasthan Limited		Y	06.09.2025	Kawai	N	NA
33	JSW Energy Ltd. (KWHEP)		Y	01.09.2025		N	NA
	ISTS Transmission Utilities						
34	INDIGRID						
35	ADHPL		Y	06.09.2025	220 kV Prini	N	NA
36	Adani Transmission Limited	AESL	Y	08.09.2025		N	NA
37	Bikaner Khetri Transmission Limited		Y	08.09.2025		N	NA
38	Fatehgarh Bhadla Transmission Limited		Y	08.09.2025		N	NA
	State Utilities						
	Uttar Pradesh						
39	Vishnuprayag Hydro Electric Plant (J.P.)		Y	01.09.2025		N	NA
40	Alaknanda Hydro Electric Plant (GVK)		Y	01.09.2025		N	NA
41	Khara Power House (Khara)		Y	04.09.2025		N	NA
42	WUPPTCL	MEIL	Y	03.09.2025		N	NA
43	SEUPPTCL	Resurgent Power					
44	GTL	**AESL**	Y	08.09.2025		N	NA
45	OCBTL	**AESL**	Y	08.09.2025		N	NA
	Rajasthan						
46	Barsingsar Plant	**NLC**	Y	06.09.2025		N	NA
47	Rajwest Plant	**JSW**	Y	06.09.2025		N	NA
48	ATSCL	**AESL**	Y	08.09.2025		N	NA
49	HPTSL	**AESL**	Y	08.09.2025		N	NA
50	STSL	**AESL**	Y	08.09.2025		N	NA
51	MTSCL	**AESL**	Y	08.09.2025		N	NA
	RE Utilities						
52	ABC Renewable Pvt. Ltd		Y	05.09.2025		N	NA
53	ACME Heeragarh powertech Pvt. Ltd						
54	ACME Chittorgarh Solar Energy Pvt Ltd						
55	AHEJOL-Hybrid-1 Madhopura	ADANI GREEN	Y	03.09.2025		NO	NA
56	AHEJ3L - Hybrid-2B 300MW	ADANI GREEN	Y	03.09.2025		NO	NA
57	AHEJFL(AEML_250)	ADANI GREEN	Y	03.09.2025		NO	NA
58	AHEJ4L(AEML-350)	ADANI GREEN	Y	03.09.2025		NO	NA
59	ASEJ2PL(Hapasar 300MW) SPC11PL	ADANI GREEN	Y	03.09.2025		NO	NA
60	Adani Renewable Energy (RJ) Limited Rawra 200	ADANI GREEN	Y	03.09.2025		NO	NA
61	Adani Solar Energy Four Limited SECI 50	ADANI GREEN	Y	03.09.2025		NO	NA
62	Adani Solar Energy Jodhpur Two Limited Merchant 50	ADANI GREEN	Y	03.09.2025		NO	NA
63	ASEJ05PL (RJ200)	ADANI GREEN	Y	03.09.2025		NO	NA
64	ASERJ2PL - Phalodi 150 MW	ADANI GREEN	Y	03.09.2025		NO	NA
65	ASERJ01PL-Pokhran 300 MW (SB energy six)	ADANI GREEN	Y	03.09.2025		NO	NA
66	AGE25L(Badi Sid)	ADANI GREEN	Y	03.09.2025		NO	NA
67	Bhadla park - South block	ADANI GREEN	Y	03.09.2025		NO	NA
	AGE24L (Bhimsar)	ADANI GREEN	Y	03.09.2025		NO	NA
	AHEJ2L - Hybrid-2A 300MW	ADANI GREEN	Y	03.09.2025		NO	NA
	ASERJ2PL - Devikot 180 MW	ADANI GREEN	Y	03.09.2025		NO	NA
68	ASEJOPL-Hybrid 450 MW	ADANI GREEN	Y	03.09.2025		NO	NA
69	Altra Xergi Pvt. Ltd.		Y	03.09.2025		NO	NA

Status of perfomance indices reporting of August 2025 (Last date of submission 07.09.2025)							
S. No.	**Utility**		**Received Status (Yes/No)**	**Vide mail dated**	**Remarks**	**Indices less than 1 (Yes/No)**	**Reason submitted and corrective action taken**
70	AMP Energy Green Four Pvt. Ltd.	AMPIN ENERGY					
71	AMP Energy Green Five Pvt. Ltd.	AMPIN ENERGY					
	AMP Energy Green Six Pvt. Ltd.	AMPIN ENERGY					
72	Amplus Ages Private Limited	GENTARI	Y	23.09.2025		N	NA
73	Avaada RJHN_240MW	Avaada	Y	05.09.2025		NO	NA
74	Avaada sunce energy Pvt limited		Y	05.09.2025		NO	NA
75	Avaada Sunrays Pvt. Ltd.		Y	05.09.2025		NO	NA
76	Avaada Sustainable RJ Pvt. Ltd.		Y	05.09.2025		NO	NA
77	Ayana Renewable Power Three Private Limited						
78	Ayaana Renewable Power One Pvt. Ltd.						
79	Azure Power Forty One Pvt limited						
80	Azure Power Forty Three Pvt. Ltd._RSS						
81	Azure Maple Pvt. Ltd.						
82	AZURE POWER INDIA Pvt. Ltd., Bhadla						
83	Azure Power Thirty Four Pvt. Ltd.						
84	SB Energy Six Private Limited, Bhadla						
85	Clean Solar Power (Jodhpur) Pvt. Ltd.	Hero Future Energies	Y	01.09.2025		NO	NA
86	Eden Renewable Cite Private Limited						
87	Grian Energy private limited	GENTARI	Y	23.09.2025		N	NA
88	Mahindra Renewable Private Limited						
89	Mega Surya Urja Pvt. Ltd. (MSUPL)						
90	AURAIYA Solar						
91	DADRI SOLAR						
92	SINGRAULI SOLAR						
93	Anta Solar						
94	Unchahar Solar						
95	NTPC Devikot Solar plant-1	NGEL	Y	17.09.2025		N	NA
96	NTPC Devikot Solar plant-2		Y	17.09.2025		N	NA
97	SKB NTPC -1 (250MW)	NGEL	Y	17.09.2025		N	NA
98	SKB NTPC-2 (300MW)		Y	17.09.2025		N	NA
99	NTPC Nokhra_300MW		Y	17.09.2025		N	NA
100	NTPC Fatehgarh 296MW		Y	17.09.2025		N	NA
101	One Volt energy Pvt. Ltd.	GENTARI	Y	23.09.2025		N	NA
102	ReNew Solar Urja Private Limited	IndiGrid					
103	ReNew Solar Energy (Jharkhand Three) Private Limited	ReNew	Y	05.09.2025		N	NA
104	Neemba Renew Surya Vihan Pvt. Ltd.		Y	05.09.2025		N	NA
105	Renew Sun Bright Pvt. Ltd. (RSBPL)		Y	05.09.2025		N	NA
106	Renew Surya Partap Pvt. Ltd.		Y	05.09.2025		N	NA
107	Renew Surya jyoti Pvt. Ltd.		Y	05.09.2025		N	NA
108	Renew Surya Ravi Pvt. Ltd.		Y	05.09.2025		N	NA
109	Renew Surya Roshni Pvt. Ltd.		Y	05.09.2025		N	NA
110	Renew Surya Vihan Pvt. Ltd.		Y	05.09.2025		N	NA
111	Renew Surya Ayaan Pvt. Ltd.		Y	05.09.2025		N	NA
112	Renew Solar Photovoltaic Pvt Ltd		Y	05.09.2025		N	NA
113	Renew Hans Urja Pvt Ltd.		Y	05.09.2025		N	NA
114	RENEW SOLAR POWER Pvt. Ltd. Bikaner		Y	05.09.2025		N	NA
115	Rising Sun Energy-K Pvt. Ltd.						
116	Serentica Renewables India 4 Private Limited						
117	Solzen Urja Private Limited	Sekura	Y	05.09.2025		N	NA
118	Tata Power Green Energy Ltd. (TPGEL)	TATA POWER	Y	03.09.2025		N	NA
119	Tata Power Renewable Energy Ltd. (TPREL)		Y	03.09.2025		N	NA
120	Banderwala Solar Plant TP Surya Ltd.		Y	03.09.2025		N	NA
121	Thar Surya Pvt. Ltd.						
122	TP Surya Pvt. Ltd.						
123	TRANSITION ENERGY SERVICES PRIVATE LIMITED						
124	Transition Green Energy Private Limited						
125	Transition Sustainable Energy Services Private Limited						

Annexure-A.III

H.P. POWER TRANSMISSION CORPORATION LIMITED
(A State Government Undertaking)
Regd. Office: Himfed Bhawan, Panjari, Tutikandi, Shimla-171005
DGM (Protection & Communication), Chowki Jamwalan, Hamirpur (H.P.)-177020
Email: dgmprot.tcl@hpmail.in; Web: www.hpptcl.com

No: HPPTCL/DGM (P&C)/NRPC/2025-26-270-72 **Dated:-** 06/09/2025

To

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

Subject: **Performance indices for protection system of HPPTCL substations and lines for the month of August, 2025.**

Sir,

With reference to the subject cited above, as per 48th protection sub-committee meeting, performance indices for protection system of HPPTCL for elements connected at 220 kV and above voltage level for the month of August, 2025 is enclosed herewith for your reference please.

Yours faithfully,

DA: As above

Sr. Manager (E)
O/o DGM (Prot. &Comm.),
HPPTCL, Chowki Jamwalan,
Hamirpur (HP).

Copy to:

1. The General Manager (Projects), HPPTCL, Himfed Bhawan, Shimla-05.
2. The Superintending Engineer, HPSLDC, Totu, Shimla-04.

Sr. Manager (E)
O/o DGM (Prot. &Comm.),
HPPTCL, Chowki Jamwalan,
Hamirpur (HP).

Report of performance indices for protection System for August, 2025
(for elements connected at 220 kV and above)

Sr. No.	Name of Sub-Station	Unit (SPS/Line/ICT/GT/ etc.)	Nc	Nf	Nu	Ni	Dependability Index (D) D= Nc/Nc+Nf	Security Index (S) S=Nc/Nc+Nu	Reallability Index (R) R=Nc/Nc+Ni	Brief Description of Tripping	Corrective Action
1	400/220/66 KV Wangtoo Substation	400 kV Wangtoo - karcham Ckt I	-	-	-	-	-	-	-		
		400 kV Wangtoo - karcham Ckt II	-	-	-	-	-	-	-		
		400 kV Wangtoo - kala Amb Ckt	-	-	-	-	-	-	-		
		400 kV Wangtoo - Sorang Ckt	-	-	-	-	-	-	-		
		ICT I (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		ICT II (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		220 kV Wangtoo - Bhaba - Kunihar Ckt	-	-	-	-	-	-	-		
		220 kV Wangtoo - Kashang Ckt	-	-	-	-	-	-	-		
		220 kV Wangtoo-Kotla ckt.	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**Line tripped on Phase to Earth fault.**	
		220 kV Wangtoo-Bhoktoo	-	-	-	-	-	-	-		
		Trafo I (80/100 MVA, 220/66/33 kV)	-	-	-	-	-	-	-		
		Trafo II (80/100 MVA, 220/66/33 kV)	-	-	-	-	-	-	-		
2	400/220/33kV GIS Lahal, Distt Chamba	400 kV Lahal Rajera ckt.	-	-	-	-	-	-	-		
		400 kV Lahal Kutehar ckt.	-	-	-	-	-	-	-		
		ICT -I (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		ICT -2(315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		105 MVA Spare Transformer (400/220/33 kV)	-	-	-	-	-	-	-		
		220 kV Lahal -Budhil Ckt. 1	-	-	-	-	-	-	-		
		220 kV Lahal - Bajoli Holi Ckt.	-	-	-	-	-	-	-		
		220 kV Lahal - Heiling Ckt.	-	-	-	-	-	-	-		
		220/33 kV Transformer	-	-	-	-	-	-	-		
3	400/220/66kV GIS S/Stn GUMMA	**ICT-1 (315 MVA, 400/220/33 kV)**	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**Tripping occurred due to earth fault in NMHEP-Hatkoti line. However, the line (220 kV) failed to trip due to which the fault travelled upto ICTs at Gumma S/stn .**	
		ICT-2 (315 MVA, 400/220/33 kV)	**1**	**0**	**0**	**0**	**1**	**1**	**1**		
		400kV Bus-1	-	-	-	-	-	-	-		
		400kV Bus-2	-	-	-	-	-	-	-		
		400kV Gumma-Panchkula Ckt-I	-	-	-	-	-	-	-		
		400kV Gumma-Panchkula Ckt-II	-	-	-	-	-	-	-		
		400kV Gumma-Jhakri Ckt-1	-	-	-	-	-	-	-		
		400kV Gumma-Jhakri Ckt-II	-	-	-	-	-	-	-		
		220kV Gumma-Hatkoti Ckt-I	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**Earthfault occurred in Hatkoti-NMHEP line, however CB of the said line did not open at Hatkoti end, and also at Gumma end for Gumma -Hatkoti Ckt. 1&2.**	**Issue resolved** Relay setting for zone-3 were revised as per actual length
		220kV Gumma-Hatkoti Ckt-II	**0**	**1**	**0**	**0**	**0**	**0**	**0**		
4	220kV Switching S/Stn Hatkoti	220kV Hatkoti-Gumma Ckt-I	-	-	-	-	-	-	-		
		220kV Hatkoti-Gumma Ckt-II	-	-	-	-	-	-	-		
		220kV Hatkoti-Natwar Mori Ckt-I	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**Earthfault occurred in Hatkoti-NMHEP line, however CB of the said line did not open at Hatkoti end.**	**Issue resolved** Relay setting has been revised as per actual CT ratio of 1000/1 against 500/1 adopted earlier.
		220kV Hatkoti-Snail Ckt	-	-	-	-	-	-	-		
		220kV Hatkoti-Sunda Ckt-I	-	-	-	-	-	-	-		
		220kV Hatkoti-Sunda Ckt-II	-	-	-	-	-	-	-		

Assistant Engineer (E)
O/o DGM (Prot. Comm.)
HPPTCL, Hamirpur (H.P.)

5	220/132/66 kV, GIS Substation Sunda	220 kV Sunda-Hatkoti Ckt-1	-	-	-	-	-	-	-	-	
		220 kV Sunda-Hatkoti Ckt-2	-	-	-	-	-	-	-		
		220/132 kV, ICT-1	-	-	-	-	-	-	-		
		220/132 kV, ICT-2	-	-	-	-	-	-	-		
		220/66 kV Transformer.	-	-	-	-	-	-	-		
6	220/33 kV GIS S/Stn. Phozal	**220 kV Phojal to Nalagarh(Bay 205)**	**2**	**0**	**0**	**0**	**1**	**1**	**1**	**1. Line tripped on Phase to Earth fault (2 No.)**	
		220 kV Phojal to ADHPL(Bay 201)	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**Line tripped on Phase to Earth fault.**	
		220/33kV, 80/100 MVA Transformer Bank	-	-	-	-	-	-	-	Nil	
7	220/132/33kV Charor Substation	ICT - 220/132 kV Transformer	-	-	-	-	-	-	-		
		220/33 kV Power Transformer	-	-	-	-	-	-	-		
		220 kV Charor-Banala Ckt-1	**2**	**0**	**0**	**0**	**1**	**1**	**1**	**1. Line tripped on Phase to Phase fault (2 No.).**	
		220 kV Charor-Banala Ckt-2	**2**	**0**	**0**	**0**	**1**	**1**	**1**	**1. Line tripped on Phase to Phase fault (2 No.).**	
8	220/33 kV GIS S/Stn. Karian	220 KV Karian - Rajera Transmission Line	-	-	-	-	-	-	-	-	
		220 kV Karian-Mazra Ckt.	-	-	-	-	-	-	-		
		220/33 kV Power Transformer	-	-	-	-	-	-	-		
9	220/132 kV GIS S/Stn. Mazra	220/132/33 kV, 80/100 MVA ICT-1	-	-	-	-	-	-	-	-	
		220/132/33 kV, 80/100 MVA ICT-2	-	-	-	-	-	-	-		
		220 kV Mazra - Rajera Ckt.	-	-	-	-	-	-	-		
		220 kV Mazra-Karian Ckt.	-	-	-	-	-	-	-		
10	220/132 kV GIS S/stn. Dehan	220 kV Dehan-Tikkar Ckt. 1	-	-	-	-	-	-	-	-	
		220 kV Dehan- Tikkar Ckt. 2	-	-	-	-	-	-	-		
		220/132/33 kV, 60/80/100 MVA ICT-1	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**ICT tripped due to water ingresslon in gas density monitor.**	
		220/132/33 kV, 60/80/100 MVA ICT-2	-	-	-	-	-	-	-	-	
11	220/66/22 kV GIS S/stn. Bhoktoo	220/66 kV, 25/31.5 MVA Transformer	-	-	-	-	-	-	-	-	
		220 kV Bhoktoo-Kashang-Ckt.	-	-	-	-	-	-	-		
		220 kV Bhoktoo-Wangtoo Ckt.	-	-	-	-	-	-	-		
12	220/132/33 kV AIS S/stn. Kala Amb	220 kV Andheri-PKATL Ckt.1	-	-	-	-	-	-	-	-	
		220 kV Andheri-PKATL Ckt.2	-	-	-	-	-	-	-		
		3x53.33/66.66 MVA (223/132/33 kV Auto Transformer	-	-	-	-	-	-	-		
13	220/66 kV GIS S/stn. Heiling	**220/66 kV, 80/100 MVA Transformer**	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**Tranformer tripped due to flashover near 66 kV side NCT**	**Issue resolved after taking remedial action**
		220 kV Heiling-Holi Ckt.	-	-	-	-	-	-	-	-	
		220 kV Heiling-Lahal Ckt.	-	-	-	-	-	-	-		

Assistant Engineer (E)
O/o DGM (Prot. Comm.)
HPPTCL, Hamirpur (H.P.)

Reporting of Performance Indices for NHPC Power Stations In NR-Region
Month-AUGUST '2025

Sl No	Name of Utility	Name of PS	Elements (Line/ Unit)	From		To		Total Outage	Outage Reason	Nc	Nf	Nu	Ni	Dependability Index (D=Nc/(Nc+Nf))	Security Index (S=Nc/(Nc+Nu))	Reliability Index (R=Nc/(Nc+Ni))	Reason for wrong operation	Action Taken
1	NHPC Ltd	SEWA-II	132 KV Sewa-II-Hiranagar Line#3	24-Aug-25	03:11	24-Aug-25	04:42	1:31	Distance Protection Relay operated in Z1	1	0	0	0	1	1	1	NA	NA
2	NHPC Ltd	SEWA-II	132 KV Sewa-II-Hiranagar Line#3	24-Aug-25	05:05	24-Aug-25	06:58	1:53	Distance Protection Relay operated in Z1	1	0	0	0	1	1	1	NA	NA
3	NHPC Ltd	SEWA-II	132 KV Sewa-II-Hiranagar Line#4	24-Aug-25	05:05	24-Aug-25	06:59	1:54	Distance Protection Relay operated in Z1	1	0	0	0	1	1	1	NA	NA
4	NHPC Ltd	BAIRASUIL	220 KV Bairasuil-Jessure Line#2	24-Aug-25	04:12	24-Aug-25	07:42	3:30	Distance Protection Relay operated in Z1	1	0	1	1	1	0.5	0.5	CBF re-trip command activated and blocked the auto reclose operation.	The PSL is to be modified for DO contact (drop -off to pick up) within earliest opportunity
5	NHPC Ltd	CHAMERA-I	400 KV Chamera-I-Chamera-II Line#3	26-Aug-25	12:25	NR	NR	NR	Line CB opened manually from Chamera-I end	1	0	0	0	1	1	1	NA	Due to a severe landslide that caused damage and the collapse of a tower at Chamera-I end, CB opened manually.
6	NHPC Ltd	CHAMERA-II	400 KV Chamera-II-Chamera-I Line#2	26-Aug-25	12:25	NR	NR	NR	Line CB opened manually from Chamera-I end	1	0	0	0	1	1	1	NA	Due to a severe landslide that caused damage and the collapse of a tower at Chamera-I end, CB opened manually.
7	NHPC Ltd	CHAMERA-II	400 KV Chamera-II-Kishanpur Line#1	26-Aug-25	13:39	27-Aug-25	19:03	29:24	Line CB opened manually from Kishanpur end	1	0	0	0	1	1	1	NA	Due to a severe landslide that caused damage and left a tower at the Chamera-II end on the verge of collapse, CB opened manually

No Line tripping has been observed from other Power Stations of NHPC of NR region for Month of August'2025

PERFORMANCE INDICES										
Name of utility: Electricity Test & Commissioning Circle - Agra (TSW-AGRA)										
Month: Aug-2025										
S.N	**Sub-station**	**Unit/equipment**	**Nc**	**Nf**	**Nu**	**Ni**	**Dependability index(D)**	**Security index(S)**	**Reliability index (R)**	**Remarks**
1	220 KV Chhibramau	220 Kv Panki	1	0	0	0	1	1	1	
2		220 Kv Mainpuri	2	0	0	0	1	1	1	
3	220KV Kanpur South	60 MVA T/F- III	1	0	0	0	1	1	1	
4	220KV S/S Gokul	220KV Gokul-Mant (400KV) Line	1	0	0	0	1	1	1	
5	220KV S/S Kiraoli	220KV Kiraoli -Sikandra Line	1	0	0	0	1	1	1	
6	400KV S/S Mant	400KV Fatehabad CKT-II	1	0	0	0	1	1	1	
7		400 KV MURADNAGAR LINE	2	0	0	0	1	1	1	
8	400 KV S/S Panki	400 KV Panki - Unnao Line	0	0	1	1	0	0	0	Dt. 17.08.2025 17.:04Hrs. To 17.08.2025 19:18Hrs, During Synchronize work by Panel Engineer (Line Tripped at Panki End and Charge at Unnao End)
9	220 KV Panki S/S	220 KV Rania	1	0	0	0	1	1	1	
10	220 KV Kidwai nagar	220 KV Kidwai nagar -Panki line	1	0	0	0	1	1	1	
11		220 KV Bus Coupler	1	0	0	0	1	1	1	
12		220 KV Kidwai nagar -PGCIL line	1	0	0	0	1	1	1	
13	220 KV Sikandara S/S	132 KV Sikandra- Umari TSS-I	5	0	0	0	1	1	1	
14	220 KV RPH	60 MVA T/F -II	2	0	0	0	1	1	1	
15	765kV S/S Fatehabad Agra	400kV Agra-1	1	0	0	0	1	1	1	
16		400kV Mathura-2	1	0	0	0	1	1	1	
17	400 KV S/S AGRA	400 KV UNNAO	4	0	0	0	1	1	1	
18		400 KV FATEHABAD I	1	0	0	0	1	1	1	
19		220 KV AGRA I	1	0	0	0	1	1	1	
20		220 KV IOCL I	1	0	0	0	1	1	1	
21		220 KV SHAMSHABAD	1	0	0	0	1	1	1	
22	220 KV S/S SIRSAGANJ	220KV MNP UPPTCL LINE	1	0	0	0	1	1	1	
23	220 KV S/S BAH	220 KV Bah -Orai	2	0	0	0	1	1	1	
24		220 KV Bah -Mainpuri	2	0	0	0	1	1	1	
25	220 KV S/S SIKANDRA	220 KV Kirawali	1	0	0	0	1	1	1	

26	400kV S/S Aligarh	400kV Shamli line	1	0	1	1	1	0.5	0.5	Dt. 01.08.2025, 07:31Hrs. To 01.08.2025 16:15Hrs. Due to PU wiring issue, LBB operated and DT send to other end. Concerned PU was already discommunicated from central unit.
27		400kV Muradnagar	1	0	0	0	1	1	1	
28	220kV S/S Mainpuri	220kV Sirsaganj line	1	0	0	0	1	1	1	
29	220kV S/S Kasganj	220kV JTPS line	2	0	0	0	1	1	1	
30	220kV S/S Atrauli	220kV Aligarh-1 line	1	0	0	0	1	1	1	
		TOTAL	**42**	**0**	**2**	**2**				
Dependability index (D) D=(Nc/(Nc+Nf))			**1**							
Security Index (S) S=(Nc/(Nc+Nu))			**0.95**							
Relibality Index (R) R=(Nc/(Nc+Ni))			**0.95**							

Note-Justification for less than one index may be attached separately.
Nc is the number of correct operations at internal power system faults.
Nf is the number of failures to operate at internal power system faults.
Nu is the number of unwanted operations.
Ni is the number of incorrect operations and is the sum of Nf and Nu.

Arvind Kumar
Superintending Engineer

S.No.	Sub Station (TSW AGRA)	Element Name	Date & Time of the Tripping	Categorization (F/U) F = Failures to operate at internal power system faults U = Unwanted operations	Reason for failures/ Unwanted operation	Corrective action taken/ to be taken
1	400kV S/S Aligarh	400kV Shamli line	Dt. 01.08.2025, 07:31Hrs. To 01.08.2025, 16:15Hrs	U	Due to PU wiring issue, LBB operated and DT send to other end. Concerned PU was already discommunicated from central unit.	Informed to transmission wing for Shutdown.
2	400kV S/S Panki	400 KV Panki - Unnao Line	Dt. 17.08.2025 17.:04Hrs. To 17.08.2025, 19:18Hrs	U	During Synchronize work by Panel Engineer (Line Tripped at Panki End and Charge at Unnao End)	

Arvind Kumar

Superintending Engineer

S.No.	Substation	Element name	Date & Time of the tripping	Categorization (F/U) F = Failures to operate at internal power system faults U = Unwanted operations	Reason for failures/Unwanted operation	Corrective action taken/ to be taken
1	765/400/220kV jawaharpur	220kV Jawaharpur-kasganj line	04.08.2025,02:34	U	During a single-phase transient fault, Auto reclose operation recorded at jawahar end but no Auto reclose operation recorded at Kasganj end	An issue with the Kasganj end no autoreclose operation working properly inform to kasganj end to solve this problem
		220kV Jawaharpur-kasganj line	09.08.2025, 21:01	U	During a single-phase transient fault, Auto reclose operation recorded at jawahar end but no Auto reclose operation recorded at Kasganj end	An issue with the Kasganj end no autoreclose operation working properly inform to kasganj end to solve this problem

S.No.	Substation	Element name	Date & Time of the tripping	Categorization (F/U) F = Failures to operate at internal power system faults U = Unwanted operations	Reason for failures/Unwanted operation	Corrective action taken/ to be taken
1	PPGCL BARA	3X50 MVA 765/400 KV ICT2	08-08-2025, 21:32 Hrs	N/A	N/A	On dated 08.08.25 at 21:32 Hrs, 765kV switchyard at Bara experienced fault which led to operation of Main Bus-2 bus bar protection and tripping of all breakers connected to Main Bus-2. Further investigations revealed that R phase pole of 765kv breaker (710) was found failed and in completely damaged condition. There was no switching operation or any fault in the system prior to occurrence and particular breaker was in closed condition. After operation of bus bar protection, LBBU protection of 710 breaker got initiated and since the fault was still being fed through the TIE breaker (711), LBBU protection of 710 got operated which in turn opened the 711 TIE breaker after which the fault was completely isolated. Total time duration of fault was 283 ms as per DR and event log. After operation of bus bar protection of main bus-2, 96A and 96B lock out relay got actuated in ICT-2 704 relay panel which gave trip command to 704 (Main) as well as 705 (TIE) breakers thereby tripping of ICT-2 at 21:32:59. Meanwhile, 765kV Bara-Mainpuri Line-2 remained charged from Bara end through 708 TIE breaker but both breakers at Mainpuri end got opened which resulted in unloading of line. Sudden unloading of 765kV line resulted in severe load oscillations and operation of Load shedding relay (LSR) in all the 3 units. During the LSR operation process, U2 tripped on HP exhaust pressure ration protection at 21:34:43 hrs. 3-**Tripping of ICT 2 : After operation of bus bar protection of main bus-2, 96A and 96B lock out relay got actuated in ICT-2 704 relay panel which gave trip command to 704 (Main) as well as 705 (TIE) breakers thereby tripping of ICT-2. As per philosophy the tie CB 705 should not open on operation 96A and 96B. After investigation, some deficiencies were found in BHEL drawing scheme, which have been rectified and ICT2 taken in service.**

S.No.	Substation	Element name	Date & Time of the tripping	Categorization (F/U) F = Failures to operate at internal power system faults U = Unwanted operations	Reason for failures/Unwanted operation	Corrective action taken/ to be taken
1	400 KV Rosa	400 KV Rosa PG Ckt#1	07/08/2025, 01.55	U	Fault was in B-phase, Zone 1. A&C phase tripped before B phase could reclosed. This lead to 3phase tripping. No reason identified for tripping of A&C phase. As per events, the B phase reclosed after the tripping of A&C poles after this it tripped again.	Mail sent to OEM for assiginging service engineer for AR checking.

Reason for Performance Indices less than Unity- AUGUST 2025 (RVPN)

Case-1 400kv S/C Ajmer -Deedwana line at 400 KV GSS AJMER on 07.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

BCU Problem.

Corrective Action taken – YES

BCU problem rectified..

Case-2 400 KV JODHPUR-KANKANI 1ST LINE at 400 KV GSS JODHPUR on 08.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

Over voltage relay defective, giving tripping command without operation.

Corrective Action taken – YES

Over voltage relay replaced.

Case-3 400 KV Heerapura-Merta Line at 400 KV GSS Merta on 25.08.2025 & 28.08.2025,

400KV MERTA -KOTA PG LINE at 400 KV GSS Merta on 28.08.2025

No. of Unwanted operation – 3

Reason of unwanted operation –

DC problem due to damage of DC cable at 220 KV GSS Merta & rain water filled in trenches.

Corrective Action taken – YES

DC cable replaced & problem rectified.

Case-4 220kv Hamirgarh -Bhilwara line at 220KV GSS Hamirgarh on 05.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

CB tripped at Hamirgarh end due to DC cable problem.

Corrective Action taken – YES

DC cable replaced & problem rectified.

Case-5 220 KV INTER CONECTOR -II at 400 KV GSS HINDAUN on 07.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

Tripping occurred during work in panel.

Corrective Action taken – YES

Workmen asked to work carefully.

Case-6 220 KV KHETRI- RATANGARH -1st at 220 KV GSS KHETRI on 21.08.2025, 23.08.2025

No. of Unwanted operation – 3

Reason of unwanted operation –

DC cable defective.

Corrective Action taken – YES

DC cable replaced.

Case-7 220 kV Bhawad-- Bhopalgarh Ckt-I at 220 KV GSS BHAWAD on dated 21.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

DC fault due to rain water in trenches.

Corrective Action taken – YES

Rain water drained & problem rectified..

Case-8 220/132 KV 100 MVA Tr3 AT 220 KV GSS BIKANER on 05.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

Circuit Breaker Problem.

Corrective Action taken – YES

Circuit Breaker issue resolved and problem rectified.

Case-9 220/132 KV 100 MVA TR No 1 at 220KV GSS HAMIRGARH on 06.08.2025 and 07.08.2025

No. of Unwanted operation – 2

Reason of unwanted operation –

Circuit Breaker wiring burnt due to DC fault.

Corrective Action taken – YES

Circuit Breaker rewiring done and problem rectified.

Case-10 220/132 KV, 160 MVA Trf(Make- TAL) at 220KV GSS SITAPURA on 15.08.2025,
220/132 KV, 100 MVA Trf-II (Make-IMP) at 220 KV GSS TEHENDESAR on 18.08.2025,
220 /132 KV 100 MVA BHEL Make TR-II at 220 KV GSS CHAKSU on 24.08.2025,
220/132 KV TRF -1, 100 MVA at 220 KV GSS KUKAS on 31.08.2025

No. of Unwanted operation – 4

Reason of unwanted operation –

Water logging due to heavy rain.

Corrective Action taken – YES

Relay properly cleaned and covered.

Case-11 220/132KV,160MVA TRF-III at 220kV GSS PHALODI on 19.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

Cable defective.

Corrective Action taken – YES

Cable replaced and problem rectified.

Case-12 220/132 KV , 160 MVA Tr.-I, at 220 KV GSS AJMER on 23.08.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

Mechanical problem in CB.

Corrective Action taken – YES

CB attended and problem rectified.

												PROTECTION POWERGRID	PROTECTION OTHERS
NR240078	608084	400KV HAMIRPUR-BANALA	8/17/2025 8:38	8/17/2025 23:02	14:24	00:00	00:00	00:00	NR2508-3684	LHWT	Line tripped on YN fault due to snapping of cnductor at Location No 42-43.	NC	
NR222012	608123	220KV KISHENPUR-SARNA-I	8/24/2025 3:12	8/24/2025 11:17	00:00	00:00	08:05	00:00	NR2508-5091	LNCC	Line tripped on R-Y-B fault due to lightening strike at LOC No 263. During patrolling, flashover marks on insulator and hardware fitting indicate lightening. Fault data Sarna:12.6km,Ir=12.5ka,Iy=9.6ka,Ib=7.0ka. Following documents has been attached for reference: 1. GPS photo of tower name plate. 2. GPS tagged photo of tower showing flashover marks on insulator and hardware fittings. 3. Relay fault location data from Sarna PSTCL. 4. Tower Schedule and *.kmz file.	NC	
NR222013	608125	220KV KISHENPUR-SARNA-II	8/24/2025 3:12	8/24/2025 11:37	00:00	00:00	08:25	00:00	NR2508-5092	LNCC	Line tripped on Y-B-N fault due to lightening strike at LOC No 263. During patrolling, flashover marks on insulator and hardware fitting indicate lightening.Fault data Sarna :12.3km,Iy=7.6ka,Ib=7.2ka. Following documents has been attached for reference: 1. GPS photo of tower name plate. 2. GPS tagged photo of tower showing flashover marks on insulator and hardware fittings. 3. Relay fault location data from Sarna PSTCL. 4. Tower Schedule and *.kmz file.	NC	
NR240120	608148	400KV KISHENPUR- NEW WANPOH-III	8/26/2025 14:44	**9/1/2025 0:00**	00:00	00:00	####	00:00		LNCC	400KV Kishenpur Wanpoh-3 tripped on YB Faut at 14:44 Hrs of 26.08.2025 due to felling of trees from outside line corridor resulting in failure of 02 number cross arms at LOC No 111 and 112. Tower is located at Village Gondala in Udhampur District. Till 03.09.2025,Jammu Srinagar NH and are totally closed for traffic. Also 15KM link road from NH to to wer location found blocked at 8 to 9 number locations. However T/L team was able to reach site on 04.09.2025 and tower is being restored. The above failure is attibuted to unprecedented heavy rainfall in J&K during 26th August and onwards. Report attached.	NC	
NR2BRT30	608161	240MVAR MOGA SWITCHABLE L/R ON MOGA-BHIWANI	8/27/2025 21:52	8/28/2025 7:34	09:42	00:00	00:00	00:00	2508-5916, NL-2	OMST	Line Reactor tripped on Pole Discripency operated (710-52R) due to DC Earth Fault and Faulty core of TC-2 (B-Phase)	NU	
NR240106	608115	400KV PATIALA- PANCHKULA-I	8/22/2025 15:18	8/22/2025 18:06	00:00	02:48	00:00	00:00	NR2508-4904	OMSU	Line trippped on BN fault due to falling of high tree (Nilgiri / Eucalyptus) from outside line corridor after cut by locals. Geo tagged photo showing tree base cut which is Meters away from Line centre point . Faut data Panchkulla 8.5KM, 14.3KA	NC	
NR2ICT01	608001	ABDULLAPUR 315MVA ICT-I	8/1/2025 7:18	8/1/2025 10:01	02:43	00:00	00:00	00:00	NR2508-27	SBBT	There was fault in 220KV Abdullapur Tepla-1 line and 220KV Busbar protection maloperated resulting in complete blackout of 220KV Yard.	NC	BB NOT OPERATED AT HVPNL STATION
NR2ICT02	608002	ABDULLAPUR 315MVA ICT-II	8/1/2025 7:18	8/1/2025 11:13	03:55	00:00	00:00	00:00	NR2508-31	SBBT	There was fault in 220KV Abdullapur Tepla-1 line and 220KV Busbar protection maloperated resulting in complete blackout of 220KV Yard.	NC	BB NOT OPERATED AT HVPNL STATION
NR2ICT03	608003	ABDULLAPUR 315MVA ICT-III	8/1/2025 7:18	8/1/2025 11:04	03:46	00:00	00:00	00:00	NR2508-30	SBBT	There was fault in 220KV Abdullapur Tepla-1 line and 220KV Busbar protection maloperated resulting in complete blackout of 220KV Yard.	NC	BB NOT OPERATED AT HVPNL STATION
NR2ICT57	608004	ABDULLAPUR 315MVA ICT-IV	8/1/2025 7:18	8/1/2025 10:26	03:08	00:00	00:00	00:00	NR2508-29	SBBT	There was fault in 220KV Abdullapur Tepla-1 line and 220KV Busbar protection maloperated resulting in complete blackout of 220KV Yard.	NC	BB NOT OPERATED AT HVPNL STATION
NR2STCOM01	608120	-200/+200 MVAR STATCOM NAL	8/23/2025 16:42	8/24/2025 3:17	10:35	00:00	00:00	00:00	NR2508-5062	SICT	STATCOM tripped on operation of differential protection.	NC	
NR213201	608130	132KV SEWA2 - HIRANAGAR -II	8/24/2025 5:05	8/24/2025 6:59	00:00	01:54	00:00	00:00	NR2508-5103	SRMU	Line successfully Auto Reclosed on B-N fault from Hiranagar (JKPTCL) but tripped from Sewa2 (NHPC) due to maloperation of Auto reclose scheme at Sewa 2 (NHPC). Bay and protection at Sewa2 (NHPC) is owned by NHPC. 1. Hiranagar (JKPTCL) end DR showing successful A/R at HIranagar (JKPTCL) is attached here as Annexure.	NC	
NR213203	608122	132KV SEWA2 - HIRANAGAR -I	8/24/2025 3:11	8/24/2025 4:42	00:00	01:31	00:00	00:00	NR2508-5097	SRMU	Line successfully Auto Reclosed on Y-N fault from Hiranagar (JKPTCL) but tripped from Sewa2 (NHPC) due to maloperation of Auto reclose scheme at Sewa2 (NHPC). Bay and protection at Sewa2 (NHPC) is owned by NHPC. 1. Hiranagar (JKPTCL) end DR showing successful A/R at HIranagar (JKPTCL) is attached here as Annexure.	NC	
NR213203	608129	132KV SEWA2 - HIRANAGAR -I	8/24/2025 5:05	8/24/2025 6:58	00:00	01:53	00:00	00:00	NR2508-5102	SRMU	Line successfully Auto Reclosed on R-N fault from Hiranagar (JKPTCL) but tripped from Sewa2 (NHPC) due to maloperation of Auto reclose scheme at Sewa2 (NHPC). Bay and protection at Sewa2 (NHPC) is owned by NHPC. 1. Hiranagar (JKPTCL) end DR showing successful A/R at HIranagar (JKPTCL) is attached here as Annexure.	NC	
NR222001	608128	220KV BAIRASIUL-JESSORE	8/24/2025 4:12	8/24/2025 7:42	00:00	03:30	00:00	00:00	NR2508-5101	SRMU	Line remained charged from Jessore(HPPTCL) end but tripped from Bairasuil end on B-N fault.Bay and protection at Bairauil (NHPC) is owned by NHPC. 1. Jessore (JKPTCL) end DR. 2. Copy of mail from Jessore confirming A/R successful.	NC	AR NOT OPERATED AT NHPC Bairasuil
NR240086	608022	400KV DEHAR (BBMB) - PANCHKULA (PGCIL) LILO PORTION	8/3/2025 5:54	8/3/2025 6:56	00:00	01:02	00:00	00:00	NR2508-441	SRMU	Line successfully Auto Reclosed from Panchkula (PG) but tripped from Dehar(BBMB) due to maloperation of Auto reclose scheme at Dehar(BBMB). Bay and protection at Dehar(BBMB) is owned and maintained by BBMB. For reference, following documents attached : 1. Panchkula(PG) end DR showing successful A/R at Panchkula(PG). 2. Voltage graph at Panchkula(PG) showing the line remains charged from Panchkula(PG) end after successful auto reclosure.	NC	AR NOT OPERATED AT bbmb dehar

	Total tripping including LNCC & successful autoreclosures	16	
NC	Nc is the number of correct operations at internal power system faults	15	
NF	Nf is the number of failures to operate at internal power system faults,	0	
NU	Nu is the number of unwanted operations,	1	
NI	Ni is the number of incorrect operations and is the sum of Nf and Nu	0	
	The Dependability Index defined as $D = Nc/(Nc+Nf)$	100.00%	
	The Security Index defined as $S = Nc/(Nc+Nu)$	93.75%	
	The Reliability Index defined as $R = Nc/(Nc+Ni)$	100.00%	

Sl. No.	Month	SPS Operated	Details of SPS operated	No. of times operated in Month	No. of correct operations	No. of mal-operation	No. of times failed to operate	Remarks
1	May'25	SPS for safe evacuation of Lalitpur TPS Generation	**1.** i) At 15:32:37 hrs, B-N fault occurred on 765 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-1 and A/R started. At the same instant, 765 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-2 tripped on operation of OV stage-2 protection. As per DR of line, voltage of R-ph of 765kV Lalitpur-Agra Fatehabad line-II increased from 441kV to ~845kV for ~140msec. ii)Further, after dead time of A/R operation, 765 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-1 also tripped due to permanent nature of fault. iii)As per PMU at Agra765(PG), B-N phase to earth fault with delayed clearance of ~560msec is observed. iv)Due to tripping of both the 765kV evacuating lines, case-3 for SPS for safe evacuation of Lalitpur generation operated. As per SPS case-3, in case of tripping of both the 765kV lines, one 660MW unit, in this case unit-3 shall come to house load and remaining unit shall trip. 220kV lines to Lalitpur and Jhansi shall also trip. v)However, as 100MVA ST-2 already tripped at 15:26 hrs during LBB operation of 220kV Bus-1, BFP for Unit-3 was not available and therefore, 660MW Unit-3 also tripped along with 660MW Unit-1&2. 220kV line to Lalitpur(2nd ckt) also tripped on SPS operation. vi)Due to tripping of both the units and all the 220kV feeders on loss of evacuation path and SPS operation, complete 765/220kV Lalitpur S/s got blackout. vii)As per SCADA, generation loss of 1040MW at Lalitpur TPS (UP) and change in UP demand of ~90MW is observed. **2.** i)At 13:49 hrs, 765 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-2 tripped on R-B phase to phase fault. ii)Further at 13:56hrs, 765 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-1 tripped on R-N phase to earth fault. iii)Due to tripping of both the 765kV evacuating lines, case-3 for SPS for safe evacuation of Lalitpur generation operated. As per SPS case-3, in case of tripping of both the 765kV lines, one 660MW unit (in this case unit-3 shall come to house load and remaining unit shall trip. 220kV lines to Lalitpur and Jhansi shall also trip. iv)As a result, 660 MW Lalitpur Unit-1 & Unit-2 tripped alongwith, 220 KV Lalitpur –Jhansi (UP) CKT, 220kV Lalitpur-Lalitpur220 ckt-2, 220kV Lalitpur-Lalitpur220 ckt-1 and 220 KV Lalitpur –Babina (UP) CKT tripped on SPS. v)As per SPS, the generation of 660MW Unit-3 reduced to 70MW for house load operation. vi)As per PMU at 765KV Agra(PG), two consecutive R-N phase to phase faults with fault clearing time of 120ms is observed.	1 03.05.2025 at 15:32hrs 2 11.05.2025 at 13:49hrs	2	0	0	**During 1st event:** As 100MVA ST-2 already tripped at 15:26 hrs during LBB operation of 220kV Bus-1, BFP for Unit-3 was not available and therefore, 660MW Unit-3 also tripped along with 660MW Unit-1&2. 220kV line to Lalitpur(2nd ckt) also tripped on SPS operation.
2	May'25	HVDC Rihand-Dadri SPS	i)As reported at 20:21 hrs, during multiple elments tripping event in Dadri, Meerut complex on subsequent line faults,500 kV HVDC Rihand-Dadri (PG) Ckt-1 and Ckt-2 tripped due to commutation failure. At the time of tripping 500 kV HVDC Rihand-Dadri (PG) Ckt-1 and Ckt-2 were carrying total ~1150 MW. As a result of tripping of both the ckt, SPS condition 2 operated. ii)As per details received from POWERGRID, as per logic if commutation failure persists for more than 2600 ms then the Protection shall issue a Y Trip to the converters. Since starting from 20:20:58:2785 Hrs. 12 successive commutation failures were detected at a gap of less than 500ms, at 20:21:00:8782 both Poles of the Rihand Dadri HVDC Link tripped on Commutation failure protection from HVDC Dadri S/s. iii)As per SPS case-2 operation, there should be load shed in load group-A, B, C & D and generation back down of total ~500 MW at Rihand & Singrauli TPS. As per SCADA data, generation backdown of ~335MW is observed in Rihand Stage I and Stage II. However, there wasn't any significant generation back down (only ~30MW) in Singrauli observed. At load stations also, no siginificatn load relief was observed as per SCADA. As per status received from sites, SPS signal was sent from POWERGRID (Dadri S/s) however SPS action didn't occur at multiple stations due to issue in SPS system at load stations end.	1 21.05.2025 at 20:21hrs	1	0	0	As per details received from SLDCs and POWERGRID, SPS signal was sent from POWERGRID (Dadri S/s) however SPS action didn't occur at multiple stations due to issue in SPS system at load stations end. Non-operation of SPS at Singrauli, Malerkotla, Muzaffarnagar, Modipuram, Panipat(HR). Confirmation from some of the load stations not received yet.
3	Jul'25	SPS for reliable evacuation of power from N. Jhakri, Rampur, Karcham Wangtoo, Sawra Kuddu, Baspa, Sorang and Naitwar Mori HEP	At 06:25 hrs, case-1 of "SPS for reliable evacuation of power from N. Jhakri, Rampur, Karcham Wangtoo, Sawra Kuddu, Baspa, Sorang and Naitwar Mori HEP" operated. As per SPS logic, condition for SPS case-1 operation is "Load on any of the lines at Jhakri, Rampur or Gumma towards Nallagarh or Panchkula exceeds 900 MW". However, loading on all the evacuating lines were within permissiable limit (<900MW).	1 14.07.2025 at 06:25hrs	0	1		As confirmed, SPS operated due to faulty transducer of the 400kV Rampur–Nalagarh transmission line at the Rampur end and faulty transducer has been successfully replaced by the RHPS team
4	Aug'25	SPS for Transformers at 400KV Kashipur (PTCUL) substation to avoid overloading of Transformers	i)As reported, at 04:39 hrs, Y-N fault occurred on 220kV Kashipur-Jafarpur line. Due to non clearance of fault from Kashipur end due relay issue, 400/220kV ICTs at Kashipur tripped on overcurrent protection operation. At the same time, case-2 of SPS for ICTs at Kashipur also operated. This further led to tripping of 220kV Kashipur-Jafarpur line CB at Kashipur end and 132kV Kashipur-Jaspur line.	1 18.08.2025 at 04:39hrs	1	0		
	Total			**4**	**3**	**1**	**0**	

Status of Internal Protection Audit Plan for FY 2025 -26								
S. No.	**NRPC Member**	**Category**	**Status**	**Schedule submitted as per utililty**	**Present Status Comlpleted (yes/no)**	**Report Submission Date by audit party**	**Discussion held in PSC meeting number**	**Compliance status**
1	PGCIL	Central Government owned Transmission Company	Received (NR-1,2,3)					
2	NTPC	Central Generating Company	Received					
3	BBMB		Received					
4	THDC		Received	Tehri- March, 2026 Koteshwar- December, 2025				
5	SJVN		Received (NJHPS, RHPS)					
6	NHPC		Received					
7	NPCIL		Received (RAP C)	July, 2025				
			Conducted (RAPS-1,2)	Jun-25			61	
8	Delhi SLDC	SLDC						
9	Haryana SLDC							
10	Rajasthan SLDC							
11	Uttar Pradesh SLDC		Received (Jaypee Vishnuprayag, WUPPTCL, SEUPPTCL, Alaknanda, GTL)	GTL- Jan'2026 & Feb'2026				
12	Uttarakhand SLDC							
13	Punjab SLDC							
14	Himachal Pradesh SLDC							
15	DTL	State Transmission Utility	Received					
16	HVPNL		Received					
17	RRVPNL		Received					
18	UPPTCL		Received (All zones)	Jan-March 2026				
19	PTCUL		Received	July-December 2025				
20	PSTCL							
21	HPPTCL		Received					
22	IPGCL	State Generating Company	Received (PPS-III, I)					
23	HPGCL		Received	Aug'25				
24	RRVUNL		Received					
25	UPRVUNL		Received (Anpara B)	Jun-25				
			Received (Obra A & B)	Jan - March 2026				
			Received (Anpara D)	May-25				
			Received (Harduaganj)	April -May 2025				
			Received (Harduaganj D)	April -May 2025				
			Received (Harduaganj E)	April -May 2025				
			Received (Parichha)	May-25				
			Received (Parichha Ext)	Feb-26				
			Received (Obra C)	Mar-26				
			Received (Jawaharpur)	Jul-25				
26	UJVNL		Received (Chibro)	Oct-25				
			Received (Khodri)	Nov-25				
			Received (Vyasi)	Dec-25				
			Received (Dharashu, Tiloth)					
27	HPPCL		Received (Kasheng HEP, Sawara Kuddu, Sainj)	Nov'25-Mar'26				
28	PSPCL	State Generating Company & State owned Distribution Company	Received (GHTP, GGSSTP, GATP, RSD)					
29	HPSEBL	Distribution company having Transmission connectivity ownership	Received					
30	Prayagraj Power Generation Co. Ltd.	IPP having more than 1000 MW installed capacity	Received	Aug'25				
31	Aravali Power Company Pvt. Ltd							
32	Apraava Energy Private Limited		Received	May'25				
33	Talwandi Sabo Power Ltd.		Received	May'25				
34	Nabha Power Limited		Received	May'25				
35	MEIL Anpara Energy Ltd		Received	May'25				
36	Rosa Power Supply Company Ltd		Received	Jan'26				
37	Lalitpur Power Generation Company Ltd		Received	Oct - Nov 2025	Completed	25.08.2025	planned in 63	
38	MEJA Urja Nigam Ltd.							
39	Adani Power Rajasthan Limited							
40	JSW Energy Ltd. (KWHEP)		Received	Nov-25 to Feb 26				
41	UT of J&K	UT of Northern Region						
42	UT of Chandigarh							
	ISTS Transmission Utilities							
43	INDIGRID		Received	Aug-25 to March-26				
44	ADHPL							
45	Adani Transmission Limited		Received(400kV Mohindergarh SS)	October, 2025				
46	Bikaner Khetri Transmission Limited		Received (765 kV Bikaner and Khetri extension bays)	September, 2025				
47	Fatehgarh Bhadla Transmission Limited		Received (400 kV Fatehgarh SS)	September, 2025				
48	Powergrid Sikar Transmission Limited		Received	Sikar- August,25				

49	Powergrid Aligarh Sikar Transmission Limited		Received	Aligarh- April, 25 Sikar- August,25				
50	Powergrid Ajmer Phagi Transmission Limited		Received	March,2025				
51	Powergrid Bikaner Transmission System Limited		Received	Bikaner-II Feb,2025				
52	Powergrid Khetri Transmission System Limited		Received	Khetri-Feb,2025				
53	Powergrid Ramgarh Transmission Limited		Received	Fatehgarh-II Dec, 2025 Fatehgarh-III May, 2025				
54	Powergrid Fatehgarh Transmission Limited		Received	Fatehgarh-II Dec, 2025 Bhadla-II Jan, 2025				
55	Powergrid Bhadla Transmission Limited		Received	Fatehgarh-II Dec, 2025 Bhadla-II Jan, 2025				
56	Powergrid Meerut Simbhavli Transmission Limited		Received	Nov, 2025				
57	Powergrid Kala Amb Transmission Limited		Received	September, 2025				
	State Utilities							
	Uttar Pradesh							
58	Vishnuprayag Hydro Electric Plant (J.P.)		Received	Jun-25				
59	Alaknanda Hydro Electric Plant (GVK)		Received	Dec'25 -Mar'26				
60	Ghatampur TPS		Received	February, 26				
61	Khara Power House (Khara)		Received	Dec'25				
62	WUPPTCL		Received	Oct-25				
63	SEUPPTCL		Received	Jan-26				
64	ATSCL	**AESL**	Received (400/220KV Alwar SS)	September, 2025				
65	GTL	**AESL**	Received (765 kV Hapur extension bays**)**	September, 2025				
66	GTL	**AESL**	Received (765 kV Agra and Gr. Noida extension bays)	September, 2025				
67	HPTSL	**AESL**	Received (220kV Ranpur SS)	August, 2025				
68	MTSCL	**AESL**	Received (400/220/132KV Deedwana SS)	August, 2025				
69	OBTL	**AESL**	Received (400/220/132KV Badaun SS)	Jan'2026				
70	STSL	**AESL**						
	Rajasthan							
71	Barsingsar Plant	**NLC**						
72	Rajwest Plant	**JSW**						

	RE Utilities							
73	ABC Renewable Pvt. Ltd							
74	ACME Heeragarh powertech Pvt. Ltd		Received	Jun-25				
75	ACME Pholidi		Received	Jun-25				
76	ACME Deagarh		Received	Jun-25				
77	ACME Raisar		Received	Jun-25				
78	ACME Dhoulpar		Received	Jun-25				
79	ACME Chittorgarh Solar Energy Pvt Ltd							
80	Adani Hybrid Energy Jaisalmer One Ltd.		Received	Jul-25				
81	Adani Hybrid Energy Jaisalmer Two Ltd.		Received	Jul-25				
82	Adani Hybrid Energy Jaisalmer Three Ltd.		Received	Aug-25				
83	Adani Hybrid Energy Jaisalmer Four Ltd.		Received	Aug-25				
84	Adani Renewable Energy (RJ) limited Rawara		Received	Sep-25				
85	Adani Solar Energy Jaisalmer One Pvt. Ltd. 450MW (Solar)		Received	Oct-25				
86	Adani Solar Enegry Four Private Limited		Received	Sep-25				
87	Adani Hybrid Energy Jaisalmer Four Ltd. (AEML 2-350)		Received	Sep-25				
88	Adani Solar Energy Jaisalmer Two Private Limited Project Two		Received	Oct-25				
89	SB Energy Six Private Limited, Bhadla		Received	Oct-25				
90	Adani Solar Enegry Jodhpur Two Limited, Rawara		Received	Sep-25				
91	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)		Received	Nov-25				
92	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)		Received	Nov-25				
93	Adani Green Energy 24 Limited (Bhimsar)		Received	Nov-25				
94	Adani Green Twenty-Five Limited (Badisid)		Received	Dec-25				
95	Altra Xergi Pvt. Ltd.							
96	AMP Energy Green Five Pvt. Ltd.		Received	Completed			62	
97	AMP Energy Green Six Pvt. Ltd.		Received	Completed			62	
98	Amplus Ages Private Limited							
99	Avaada RJHN 240MW		Received	Oct-25				
100	Avaada sunce energy Pvt limited		Received	Oct-25				
101	Avaada Sunrays Pvt. Ltd.		Received	Oct-25				
102	Avaada Sustainable RJ Pvt. Ltd.		Received	Oct-25				
103	Ayana Renewable Power Three Private Limited							
104	Ayaana Renewable Power One Pvt. Ltd.							
105	Azure Power Forty One Pvt limited							
106	Azure Power Forty Three Pvt. Ltd. RSS							
107	Azure Maple Pvt. Ltd.							
108	AZURE POWER INDIA Pvt. Ltd., Bhadla							
109	Azure Power Thirty Four Pvt. Ltd.							
110	Clean Solar Power (Jodhpur) Pvt. Ltd.							
111	Eden Renewable Cite Private Limited							
112	Grian Energy private limited							
113	Mahindra Renewable Private Limited							
114	Mega Surya Urja Pvt. Ltd. (MSUPL)							
115	AURAIYA Solar							
116	DADRI SOLAR							
117	SINGRAULI SOLAR							
118	Anta Solar							
119	Unchahar Solar							
120	NTPC Devikot Solar plant 240MW							
121	NTPC Kolayat 400kV							
122	Nedan Solar NTPC							
123	NTPC Nokhra 300MW							
124	One Volt energy Pvt. Ltd.							
125	ReNew Solar Energy (Jharkhand Three) Private Limited		Received	19-11-2025				
126	RENEW SOLAR POWER Pvt. Ltd. Bikaner		Received	17-11-2025				
127	ReNew Solar Urja Private Limited							
128	Renew Sun Bright Pvt. Ltd. (RSBPL)		Received	20-11-2025				
129	Renew Surya Partap Pvt. Ltd.		Received	21-11-2025				
130	Renew Surya Ravi Pvt. Ltd.		Received	18-11-2025				
131	Renew Surya Roshni Pvt. Ltd.		Received	24-11-2025				
132	Renew Surya Vihan Pvt. Ltd.		Received	28.11.2025				
133	Renew Surya Ayaan Pvt. Ltd.							
134	Renew Solar Photovoltaic Pvt Ltd		Received	25-11-2025				
135	Renew Hans Urja Pvt Ltd		Received	26-11-2025				
136	Renew Surya Jyoti Pvt Ltd		Received	27-11-2025				
137	RENEW SOLAR POWER Pvt. Ltd. Bhadla							
138	Rising Sun Energy-K Pvt. Ltd.							
139	Serentica Renewables India 4 Private Limited							
140	Solzen Urja Private Limited		Received	Oct-25				
141	Tata Power Green Energy Ltd. (TPGEL) (225MW)		Received	30-1-2026				
142	Tata Power Renewable Energy Ltd. (TPREL) (300MW)		Received	28-1-2026				
143	Thar Surya Pvt. Ltd.							
144	TP Surya Ltd., Noorsar (110MW)		Received	30-1-2026				
145	Banderwala Solar Plant TP Surya Ltd. (300MW)		Received	28-02-2026				
146	TRANSITION ENERGY SERVICES PRIVATE LIMITED							
147	Transition Green Energy Private Limited							
148	Transition Sustainable Energy Services Private Limited							

Status of 3rd Party Protection Audit Plan								
S. No.	**NRPC Member**	**Category**	**Status**	**Schedule submitted as per utililty**	**Present Status Comlpleted (yes/no)**	**Report Submission Date by audit party**	**Discussion held in PSC meeting number**	**Compliance status**
1	PGCIL	Central Government owned Transmission Company	Received (7 S/s of NR-1, 1 S/s of NR-2, 4 S/s of Nr-3)	By Jan 2025				
2	NTPC	Central Generating Company	Received (Singrauli, Rihand, Unchahar, Dadri, Dadri Gas, Auraiya Gas, Faridabad Gas, Anta Gas Power Station)	By Oct 2028				
			Received (Tanda)	By 17.07.2025				
3	BBMB		Received	Feb-27				
4	THDC		Received	March 2026-Tehri, F.Y. 2025-26- Koteshwar				
5	SJVN		Received	Nov-Dec 2025 for RHPS, Nov 24- March 25 for NJHPS				
6	NHPC		Received	FY-2025-26	Completed (Dulhasti, Salal, Bairasul)		Planned in 63	
7	NPCIL		Completed (220kV) (NAPS)	Jan'25	Completed	18.01.2025	57	
			RAPS-C (6&&)	-	Completed	23.06.2025	62	
8	Delhi SLDC	SLDC						
9	Haryana SLDC							
10	Rajasthan SLDC							
11	Uttar Pradesh SLDC		Received (Tanda extension)	17.07.2025				
			Received (Tanda)	17.07.2025				
12	Uttarakhand SLDC							
13	Punjab SLDC							
14	Himachal Pradesh SLDC							
15	DTL	State Transmission Utility	Received	September, 2025 to November, 2026				
16	HVPNL		Received	June-Oct 2025				
17	RRVPNL		Received	Mar-26				
18	UPPTCL		Received	2025;	Under tendering; GKP-cpmpleed but report awaited			
19	PTCUL		Received	By Jan 2025				
20	PSTCL							
21	HPPTCL		Received	FY 25-26				
22	IPGCL		Received (PPS-III)	FY 25-26				
23	HPGCL		Received	Oct'25				
24	RRVUNL		Received		KSTPS -Completed	Aug-25	Planned in 63	
25	UPRVUNL		Obra-B	2026-27				
			Obra-C	Feb-26				
			Anpara D	2025	Under tendering			
			Anpara B	2025	Under tendering			
			Harduaganj	2025	Under tendering			
			Harduaganj D	2025	Under tendering			
			Parichha	2025	Under tendering			
			Parichha Ext	2025	Under tendering			
			Jawaharpur	2025	Under tendering			
			Paricha BTPS	2026				
			Panki	2025				
26	UJVNL		Dharasu		Completed in Nov, 2024		56	submitted
			Others					
27	HPPCL		Swara Kuddu	2026				
			Kashang HEP	FY 2025-26				
28	PSPCL	State Generating Company & State owned Distribution Company	Reeceived (GHTP)	Dec. 2025				
			Received (GATP)	May 2025				
			GGSSTP	2026				
			RSD/ Sahapur Kandi	Mar'26				
29	HPSEBL	Distribution company having Transmission connectivity ownership	Kunihar	Conducted			55	
			Upper Nangal	Conducted			61	
			Baddi	Conducted			61	
30	Prayagraj Power Generation Co. Ltd.	IPP having more than 1000 MW installed capacity	Received	Dec-24	Januray 2025	08.01.2025	59	
31	Aravali Power Company Pvt. Ltd							
32	Apraava Energy Private Limited		Received	By May, 2025	Completed	Jun-25	Planned in 63	
33	Talwandi Sabo Power Ltd.		Conducted	Dec'22	completed	20.12.2024	60	
34	Nabha Power Limited		Received	By December, 2025				
35	MEIL Anpara Energy Ltd		Received	* May 2025				
36	Rosa Power Supply Company Ltd		Conducted	By 30.09.2024	08.08.2024	13.01.2025	57	
37	Lalitpur Power Generation Company Ltd		Conducted	26.03.2024				
38	MEJA Urja Nigam Ltd.		Conducted		Completed in Oct, 2024	22.03.2025	59	
39	Adani Power Rajasthan Limited		Conducted	November, 2024	Kawai		56	Pending
40	JSW Energy Ltd. (KWHEP)		Received	December 2024 to March 2025	Completed		57	Pending

41	UT of J&K (JKPTCL)	UT of Northern Region						
42	UT of Chandigarh (CDPL)							
	ISTS Transmission Utilities							
43	INDIGRID		Received (PTCL)	FY 25-26				
			Received (NRSS 29)	FY 24-25				
44	ADHPL		Received	* September 2026				
45	Adani Transmission Limited		Received (400kV Mohindergarh SS)	October, 2025				
46	Bikaner Khetri Transmission Limited		Received (765 kV Bikaner and Khetri extension bays)	September, 2025				
47	Fatehgarh Bhadla Transmission Limited		Received (400 kV Fatehgarh SS)	September, 2025				
48	Powergrid Sikar Transmission Limited							
49	Powergrid Aligarh Sikar Transmission Limited							
50	Powergrid Ajmer Phagi Transmission Limited							
51	Powergrid Bikaner Transmission System Limited							
52	Powergrid Khetri Transmission System Limited							
53	Powergrid Ramgarh Transmission Limited							
54	Powergrid Fatehgarh Transmission Limited							
55	Powergrid Bhadla Transmission Limited							
56	Powergrid Meerut Simbhavli Transmission Limited							
57	Powergrid Kala Amb Transmission Limited							
	State Utilities							
	Uttar Pradesh							
58	Vishnuprayag Hydro Electric Plant (J.P.)		Received	December, 2028				
59	Alaknanda Hydro Electric Plant (GVK)		Received	Mar-25				
60	Ghatampur TPS		Received	FY 27-28				
61	Khara Power House (Khara)		Received	Dec-25				
62	WUPPTCL		Conducted		Completed		59	
63	SEUPPTCL		Completed on Oct 2024		Completed		59	
64	ATSCL	**AESL**	Received (400/220KV Alwar SS)	September, 2025				
65	GTL	**AESL**	Received (765 kV Hapur extension bays)	September, 2025				
66	GTL	**AESL**	Received (765 kV Agra and Gr. Noida extension bays)	September, 2025				
67	HPTSL	**AESL**	Received (220kV Ranpur SS)	August, 2025				
68	MTSCL	**AESL**	Received (400/220/132KV Deedwana SS)	August, 2025				
69	OCBTL	**AESL**	Received (400/220/132KV Badaun SS)	FY 24-25	Completed			
70	STSL	**AESL**						
	Rajasthan							
71	Barsingsar Plant	**NLC**						
72	Rajwest Plant	**JSW**						
	RE Utilities							
73	ABC Renewable Pvt. Ltd							
74	ACME Heeragarh powertech Pvt. Ltd							
75	ACME Pholidi							
76	ACME Deagarh							
77	ACME Raisar							
78	ACME Dhoulpar							
79	ACME Chittorgarh Solar Energy Pvt Ltd							
80	Adani Hybrid Energy Jaisalmer One Ltd.							
81	Adani Hybrid Energy Jaisalmer Two Ltd.							
82	Adani Hybrid Energy Jaisalmer Three Ltd.							
83	Adani Hybrid Energy Jaisalmer Four Ltd.							
84	Adani Renewable Energy (RJ) limited Rawara							
85	Adani Solar Energy Jaisalmer One Pvt. Ltd._450MW (Solar)							
86	Adani Solar Enegry Four Private Limited							
87	Adani Hybrid Energy Jaisalmer Four Ltd. (AEML 2-350)							
88	Adani Solar Energy Jaisalmer Two Private Limited Project Two							
89	SB Energy Six Private Limited, Bhadla							
90	Adani Solar Enegry Jodhpur Two Limited, Rawara							
91	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)							
92	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)							
93	Adani Green Energy 24 Limited (Bhimsar)							
94	Adani Green Twenty-Five Limited (Badisid)							
95	Altra Xergi Pvt. Ltd.		Conducted		Completed	03.02.2025-04.02.2025	60	

96	AMP Energy Green Four Pvt. Ltd.				Completed for common substation			
97	AMP Energy Green Five Pvt. Ltd.		Received	Nov-27				
98	AMP Energy Green Six Pvt. Ltd.		Received	Nov-27		02.09.2025	Planned in 63	
99	Amplus Ages Private Limited							
100	Avaada RJHN_240MW		Received	Aug-26				
101	Avaada sunce energy Pvt limited		Received	Aug-26				
102	Avaada Sunrays Pvt. Ltd.		Received	Aug-27				
103	Avaada Sustainable RJ Pvt. Ltd.		Received	Aug-26				
104	Ayana Renewable Power Three Private Limited		Conducted		18.05.2025		61	
105	Ayaana Renewable Power One Pvt. Ltd.		Conducted		09.03.2025		59	
106	Azure Power Forty One Pvt limited							
107	Azure Power Forty Three Pvt. Ltd. RSS							
108	Azure Maple Pvt. Ltd.							
109	AZURE POWER INDIA Pvt. Ltd., Bhadla							
110	Azure Power Thirty Four Pvt. Ltd.							
111	Clean Solar Power (Jodhpur) Pvt. Ltd.							
112	Clean Solar Power (Bhadla) Pvt. Ltd							
113	Eden Renewable Cite Private Limited							
114	Grian Energy private limited							
115	Mahindra Renewable Private Limited							
116	Mega Surya Urja Pvt. Ltd. (MSUPL)							
117	AURAIYA Solar							
118	DADRI SOLAR							
119	SINGRAULI SOLAR							
120	Anta Solar							
121	Unchahar Solar							
122	NTPC Devikot Solar plant_240MW							
123	NTPC Kolayat 400kV							
124	Nedan Solar NTPC							
125	NTPC Nokhra_300MW							
126	One Volt energy Pvt. Ltd.							
127	ReNew Solar Energy (Jharkhand Three) Private Limited							
128	RENEW SOLAR POWER Pvt. Ltd. Bhadla							
129	ReNew Solar Urja Private Limited							
130	Renew Sun Bright Pvt. Ltd. (RSBPL)							
131	Renew Surya Partap Pvt. Ltd.							
132	Renew Surya Ravi Pvt. Ltd.							
133	Renew Surya Roshni Pvt. Ltd.							
134	Renew Surya Vihan Pvt. Ltd.							
135	Renew Surya Ayaan Pvt. Ltd.							
136	Renew Solar Photovoltaic Pvt Ltd							
137	RENEW SOLAR POWER Pvt. Ltd. Bikaner							
138	Rising Sun Energy-K Pvt. Ltd.							
139	Serentica Renewables India 4 Private Limited							
140	Solzen Urja Private Limited		Received	Oct-26				
141	Tata Power Green Energy Ltd. (TPGEL) (225MW)		Received	31-03-2027				
142	Tata Power Renewable Energy Ltd. (TPREL) (300MW)		Received	31-03-2027				
143	Thar Surya Pvt. Ltd.							
144	TP Surya Ltd., Noorsar (110MW)		Received	31-03-2027				
145	Banderwala Solar Plant TP Surya Ltd. (300MW)		Received	31-03-2027				
146	TRANSITION ENERGY SERVICES PRIVATE LIMITED							
147	Transition Green Energy Private Limited							
148	Transition Sustainable Energy Services Private Limited							

Annex-A

Qualification Requirements for selection of prospective Bidders for Third Party Protection Audit

Qualifying Criteria for this bid shall be as mentioned as under herein and shall prevail over other conditions in the bid, in case of any conflict or inconsistency.

The bidders must fulfill the following minimum Qualifying Criteria:

1. **Technical Criteria –**

(a) To ensure that the selected contractor has the technical expertise and resources to execute the protection audit effectively, the following technical qualification criteria must be met:

Experience in Protection System Audits

The bidder must have extensive experience in conducting protection system audits, relay coordination studies, and testing of protection devices.

- Project Experience:

The bidder must have successfully completed at least:

Two (2) protection system audit projects for 132 k V and above substations each since 2019 for generation/ transmission utility.

- Works carried out under Sub-Contract without consent from Principal Client/Owner will not be considered as Similar Completed Work

- Bidder shall upload statutory requirement as per extant rules

Project References and Testimonials

The bidder must provide references and testimonials from previous clients to demonstrate their expertise and reliability. Each reference must include:

- Name of the client organization.
- Contact details of the project manager or point of contact.
- Brief description of the project scope and deliverables.
- Contract value and project duration.
- A completion certificate and performance report from the client mentioning details of designated team.

Personnel Requirements

The bidder must have a dedicated team of qualified and experienced personnel to execute the project. The team must include one team leader and at least three protection engineers:

- Team Leader:
  - Nationality should be Indian

- Bachelor's degree in Electrical Engineering/ Electrical and Electronics Engineering with minimum of 10 years of experience in protection systems, protection audit etc including experience as team leader in minimum 2 no of protection audit projects of 132 k V system and above.

  Or

  Master's degree in fields associated with Electrical Engineering and Bachelor's degree in Electrical Engineering/ Electrical and Electronics Engineering with minimum of 7 years of experience in protection systems, protection audit etc including experience as team leader in minimum 2 no of protection audit projects of 132 k V system and above.

  Or

  PhD. in fields associated with Electrical Engineering, Master's degree in fields associated with Electrical Engineering and Bachelor's degree in Electrical Engineering/ Electrical and Electronics Engineering with minimum of 3 years of experience in protection systems, protection audit etc including experience as team leader in minimum 2 no of protection audit projects of 132 k V system and above.

- Protection Engineers:

- Nationality should be Indian
- Bachelor's degree in Electrical Engineering/ Electrical and Electronics Engineering with minimum of 7 years of experience in protection systems, protection audit etc

  Or
- Master's degree in fields associated with Electrical Engineering and Bachelor's degree in Electrical Engineering/ Electrical and Electronics Engineering with minimum of 5 years of experience in protection systems, protection audit etc

  Or
- PhD. in fields associated with Electrical Engineering, Master's degree in fields associated with Electrical Engineering and Bachelor's degree in Electrical Engineering/ Electrical and Electronics Engineering with minimum of 3 years of experience in protection systems, protection audit etc

- List of copies of documents given below signed by the proposed professional staff attested by current employer must be submitted by bidder-

a) Identity Proof (PAN Card/ Voter ID)
b) Proof of Qualification (Degree / Mark Sheet)
c) Proof of Experience (Experience Certificate by employer / client)
d) CV

- Bidder needs to ensure that team member whose Profile is being submitted along with the bid, shall only be allowed to conduct protection audit. In case of change in any team member within contract, decision will be solely on decision of Member Secretary, RPC.

2. Financial Criteria / turnover:

The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year should be (as per contract).

Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant

indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.

The certificate from Chartered Accountant/Cost Accountant indicating the turnover details for the relevant period should also contain UDIN.

Note: MSEs and Start-ups are exempted only from Prior Turnover criteria as mentioned at Sl. No. 2 above. However, qualifying requirements mentioned at Sl. No. 1 above is mandatory for all bidders including MSEs & start-ups.

3. Evaluation and Selection Criteria

The evaluation and selection of the bidder for the protection audit project will be based on a comprehensive assessment of technical, financial, and operational capabilities. The criteria are designed to ensure the selection of a competent, experienced, and reliable bidder.

Pre-Qualification Criteria

Bidders must meet the following pre-qualification criteria to be considered for further evaluation:

a) Legal Eligibility:

- The bidder must be a registered legal entity in India or a recognized international organization with authorization to operate in India.
- Valid registration certificates and statutory clearances (if any) must be submitted.
- Bidder should not be the OEM or its authorized representative of any protection system. Self-Declaration shall be submitted in this regard.
- Bidders should not have Joint venture with OEM of any protection system. Self-Declaration shall be submitted in this regard.

b) Technical manpower strength:

- Minimum technically qualified team strength of the organization should be 15 nos with the min. qualification of BE/B. Tech in Electrical Engineering/ Electrical and Electronics Engineering. Minimum strength of personnel passing eligibility criteria of team leader as defined above should be 3. Minimum strength of personnel passing eligibility criteria of protection engineer as defined above should be 10.

- Experience:
- Minimum 7 years of experience in conducting protection audits or similar projects in the power sector.
- The bidder must have successfully completed at least:

  Two (2) protection system audit project for 132 k V and above substations since 2019 for generation/ transmission utility.

- Financial Stability:
- Average annual turnover of (as per contract) over the last 3 financial years.

- Positive net worth and a valid solvency certificate.

c) Technical proposals shall contain the complete details of experience of the Bidder along with a detailed description about the methodology and work plan for performing the assignment along with timelines.

- **Technical Evaluation Criteria**

Mode of Tendering – QCBS.
The technical evaluation will be based on the bidder's expertise, approach, and resources.

Criteria	Description	Weightage
Experience	**Number of protection audit projects for 132 k V and above S/s each completed since 2019**	**30**
	Greater than or equal to 4 completed projects	30
	completed 3 projects	20
	completed 2 projects	10
	Below 2 projects	Not eligible
	Scale of protection audit for 132 k V and above S/s each completed since 2019	**20**
	Greater than or equal to 20 number of bays and major elements (ICT/ Reactor/ Bus/Generator) for particular station having maximum number of bays and major elements covered in protection audit project.	20
	Less than 20 numbers of bays and major elements (ICT/ Reactor/ Bus/ Generator) for particular station having maximum number of bays and major elements covered in protection audit project.	10
	Nature of protection audit for 132 k V and above S/s each completed since 2019	**20**
	Protection audit had been done for greater than or equal to 3 numbers of generating stations	20
	Protection audit had been done for at least 1 number of generating station however less than 3 numbers of generating stations	10
	Protection audit had not been done for any generating station	0
Technical Expertise	**Experience of the project team**	**30**
	Team Lead	**20**
	Experience as team lead in more than 4 no. of Protection audit projects of 132 k V and above S/s each.	20
	Experience as team lead in less than or equal to 4 no. and at least 2 no. of Protection audit projects of 132 k V and above S/s each.	15
	Experience as team lead in less than 2 no. of Protection audit projects of 132 k V and above S/s each.	Not eligible
	Protection Engineer	**10**

	7 years of experience in protection systems, protection audit etc for each member.	10
	7 years of experience in protection systems, protection audit etc for at least 2 members	5

- **Financial Evaluation Criteria**

The financial evaluation will be based on the total bid price (exclusive of GST)

- **Final Selection**

The final selection will be based on the combined score from the technical and financial evaluations.

Weightage

- Technical Score: 70%
- Financial Score: 30%

The bidder with the highest combined score will be awarded the contract.

- The bidders, who have participated in any of the tender of Central/State Govt. Departments Bids earlier during last 1 year and evaluated as L-1 bidder, either refused to execute the job on their quoted bids or whose bids were unworkable for minimum wages or any other statutory compliances, will be made disqualified in the Technical Evaluation of this tender without assigning any further reason. The past 1-year period will be reckoned from the due date of this tender to the due date of previous tenders

Documents to be furnished as proof of eligibility

- In support of work experience, bidder shall submit the copy of Supply Orders/ Work Orders/Letter of award with BOQ along with copy of successful completion certificate and performance certificate issued containing the name/designation and contact details of the officials issuing the performance certificate. The performance certificate should clearly indicate period of contract and actual executed value of the contract.
- In case of experience certificate produced by the Contractors for having executed works for private organizations, TDS certificates shall also be produced along with experience certificate.
- Valid registration certificates and statutory clearances (if any) must be submitted.
- Self-Declaration shall be submitted stating that bidder should not be the OEM or its authorized representative of any protection system equipment.
- Self-Declaration shall be submitted stating that bidders should not have Joint venture with OEM of any protection system equipment.
- Auditor certificate regarding average annual turnover of at least INR 140 lakhs over the last 3 financial years.
- Positive net worth and a valid solvency certificate.
- List of documents given below for designated team signed by the proposed professional staff attested by current employer must be submitted by bidder-
  - Identity Proof (PAN Card/ Voter ID)
  - Proof of Qualification (Degree / Mark Sheet)
  - Proof of Experience (Experience Certificate by employer / client)
  - CV
- Any other document as required as per QR

Status of actions points recommended during previous PSC meetings (to be discussed in 62nd PSC meeting)

S. No	Agenda	Remdial actions recommended during PSC meeting	Status of remdial action taken	
			62nd PSC (26.08.2025)	63rd PSC (29.09.2025)
1	Frequent multiple elements tripping at 220kV Kunihar, Baddi, Upperla Nangal complex and load loss event in HP control area	**51 PSC:** PSC Forum requested HP to complete the protection audit as per mentioned timelines (protection audit of 220kV Kunihar has been awarded and it would be completed within next 15-20 days. In next phase, by 15th September, protection audit of substations in downstream and upstream of 220kV Kunihar S/s would be completed.) and resolve the protection related issues. HP was also requested to share the reports of protection audit to NRPC & NRLDC after completion of audits.	HPSEBL stated that status is same and approval of own funding to complete the work is in process. *PSC forum requested HPSEBL to take expeditious actions at their end and ensure the healthiness of protection system in this complex.*	
2	Multiple elements tripping at 220kV Hissar(BBMB) 07th May 2024, 11:16 hrs	**51 PSC:** a) Expedite the implementation of differential protection in short lines to avoid undesired operation of distance protection.	HVPNL representative informed that all the differential protection requirement in state is compiled and tendering process is in progress. *PSC forum recommended HVPNL to expedite the implementation of differential protection in short lines and also share the expected timeline.*	
3	Multiple elements tripping at 400kV Sainj (HP), 400kV Parbati2 & Parbti3 (NHPC) Stations on 07th May 2024, 16:17 hrs	**51 PSC:** a) NHPC shall follow up with the relay engineer and taken necessary remedial actions to ensure proper operation of A/R scheme at Parbati2 end. b) NHPC and HPPTCL shall review the healthiness of PLCC at Parbati3 and Sainj end and take necessary actions to ensure their proper operation. c) Expedite the implementation of differential protection in 400kV Parbati2-Sainj line. d) Standardisation of recording instruments (DR/EL) need to be ensured.	NHPC representaitve stated that status is same. Estimated time for completion of OPGW work and differential protection implementation is by Oct-Nov 2025. HPPCL representative stated that 3 PLCC card were found faulty and they would complete the work within next one-two months. *PSC forum recommended NHPC & HPPCL to take expeditious action at their end and ensure healthiness of protection system.*	
4	Multiple elements tripping at 400kV Koteshwar(PG) on 17th May 2024, 17:21 hrs	**51 PSC:** a) In view of short line length of 400KV Koteshwar(PG)-Tehri D/C, POWERGRID shall plan for the differential protection in the line on priority in near future to avoid overreach of distance protection.	POWERGID(NR-1) representative informed that status is same as previous meeting, estimated time for completion of work is ~6 months i.e., by Feb'26. *PSC forum requested POWERGID to expedite the work related to implementation of differential protection scheme on 400kV Koteshwar(PG)-Tehri(TH) D/C.*	
5	Multiple elements tripping at 220kV Sarna (PS) on 04th May 2024, 07:10 hrs	**51 PSC:** a) Punjab shall expedite the commissioning of new bus scheme. B) POWERGRID shall revise the Z-4 time delay setting of Kishenpur lines at Sarna (PS) end as 160msec till bus bar get operational.	PSTCL representative informed that new panel for busbar scheme is already delivered and commissioning activity will be started soon. It would be completed by October'25. *PSC forum requested PSTCL to expedite the work related to implementation of bus bar protection at Sarna S/s.*	
6	Multiple elements tripping at 220kV KTPS (RVUN) on 21st June 2024, 11:37 hrs	**51 PSC:** a) Commissioning of bus coupler between 220kV Bus-3 & 5 need to be expedited.	RVUNL representatives were not present. *PSC forum requested RVUNL for expeditious actions at their end.*	
7	Frequent tripping of 220 KV Anta(NT)-Sakatpura(RS) (RS) Ckt-1	**52 & 53 PSC:** RVPN was requested to expedite the process of relay replacement and rectification of issues related to A/R operation.	RVPNL representative informed that work is getting delayed due to trench issue in yard. However, work would be completed by Novemeber'25. *PSC forum requested RVPNL to expedite the actions at their end.*	
8	Frequent tripping of 220 KV Khara(UP)-Saharanpur(PG) (UP) Ckt-1	**52 & 53 PSC:** UP was requested to expedite the process of relay replacement at Khara end. POWERGRID shall review and ensure the A/R operation at their end.	SLDC UP informed that Unit-1 related work has been done, AR Relay replacement for 220kV Saharanpur- Behat line is also done, Unit-2 and Unit-3 relay replacement work will start after October 2025. *PSC forum requested UPPTCL to expedite the replacement of relay at Khara(UP) end.*	
9	Multiple elements tripping at 220kV Khodri HEP & Chibro HEP on 5th, 11th & 19th September 2024 and 15th & 20th July 2025	**53 & 62 PSC:** a)Timely submission of disturbance recorder (DR) and event logger (EL) files need to be ensured. As per IEGC clause 37.2 (c), Disturbance Recorder (DR), station Event Logger (EL), Data Acquisition System (DAS) shall be submitted within 24 hrs of the event. b)HPPTCL shall taken necessary actions to rectify the protection related issue in 220kV Khdori-Majri ckt-2. c)OV protection needs to be disabled in 220kV lines at the earliest. d)Over frequency and over current protection operation in units at Khodri HEP need to be reviewed. e)A/R should be made operational in Sarsawan line at the earliest. f)UJVNL shall share the CPRI audit report and details of remedial action taken within one week. g)Replacement of Units breakers need to be expedited.	UJVUNL representative informed that current status is same as tender for A/R is at approval stage. At present maintenance of protection system of 220kV Khodri-Majri line-II at Khodri end is under jurisdiction of HPSEB. Necessary actions to rectify the protection related issues in 220kV Khdori-Majri ckt-2 is to be taken by HPSEB. *PSC forum requested UJVNL to share the audit report of CPRI and also requested to mutually resolve the protection related pending issues at the earliest.*	
10	Multiple elements tripping at 400/220kV Obra_A(UP) on 9th October 2024	**54 PSC Recommendations:** a)UPPTCL & Obra_A(UP) shall ensure the implementation of LBB protection at the earliest at 220kV side. b)GPS scheme shall be implemented at Obra_B(UP) by the **end of January 2025** and time sync of recording devices will be ensured.	UPPTCL representative informed that status is same as previous meeting, work will be completed within 4 months and LBB relay will be replaced by FY 2026-27. *PSC forum requested UPPTCL for expedited corrective actions.*	
11	Multiple elements tripping at 220/132kV Obra_A(UP) on 9th October 2024	**54 PSC Recommendations:** Commissioning and Implementation of numerical relays in 132kV ICT-1&2 at Obra_A(UP) need to be expedited. Timely commissioning of the same need to be ensured.	UPPTCL representative informed that status is same as previous meeting, work will be completed within 4 months and LBB relay will be replaced by FY 2026-27. *PSC forum requested UPPTCL for expedited corrective actions.*	
12	Frequent tripping of 220 KV RAPS_A(NP)-Sakatpura (RS) (RS) Ckt-1 &2	**55 PSC Recommendations: E**xpeditious corrective actions to minimise frequent faults in line.	RAPS represenative stated that A/R scheme is not available at RAPS-A end. Issue has been raised to the NPCIL design team and estimated to complete by September 2025. *PSC forum requested RAPS to expedite the necessary remedial actions.*	
13	Frequent tripping of 400 KV Amritsar(PG)-Makhu(PS) (PSTCL) Ckt-1 & 400 KV Talwandi Saboo(PSG)-Nakodar (PSG) (PS) Ckt-1	**55 PSC Recommendations:** PSTCL was requested to plan replacement of porcelain insulators with polymer type.	PSTCL representative informed that insulator replacement work of 400 KV Talwandi Saboo(PSG)-Nakodar (PSG) (PS) Ckt-1 has been completed and replacement work of 400 KV Amritsar(PG)-Makhu(PS) (PSTCL) Ckt-1 will be completed by October 2025. *PSC forum requested PSTCL for expeditious actions to avoid frequent trippings during fog.*	
14	Multiple element tripping event at 400kV Aligarh(UP) on 02nd November, 2024	**55 PSC Recommendations:** UPPTCL shall ensure the healthiness of carrier communication and A/R operation at Muradnagar_1(UP) end.	UPPTCL representative informed that one pair of Digital PLCC (50W) has been allotted for Muradnagar and Aligarh ends through diversion from Bareilly, yet to be installed and commissioned. *PSC forum requested UPPTCL for expedited corrective actions.*	
15	Frequent tripping of 400 KV Anpara_B(UPUN)-Sarnath(UP) (UP) Ckt-2	**57 PSC Recommendations:** Healthiness of carrier communication need to be reviewed.	UPPTCL representative informed that status is same as previous meeting, carrier cabinets are yet to be alloted. *PSC forum requested UPPTCL for expedited corrective actions.*	

16	Multiple elements tripping at 220/132kV Ropar(PS) on 06th January, 2025	**57 PSC Recommendations:** PSTCL need to share the DR/EL & tripping details within one week	PSPCL representative did not respond regarding this point. *PSC forum requested PSPCL to share detailed report along with observations and remedial action taken at the earliest.*	
17	Multiple elements tripping at 400/220KV Heerapura(RS) on 10th January, 2025	**57 PSC Recommendations:** a) Instantaneous OC relay (High set) settings of ICTs at Heerapura(RS) may be reviewed. b) Replacement of remaining electromechanical/ static relays & schemes with numerical relay need to be expedited at Heerapura(RS).	RVPNL representative informed that busbar replacement scheme has been sanctioned from corporate and expected time of completion is by Nov'25. *PSC forum requested RVPNL to expedite corrective actions at their end.*	
18	Frequent tripping of 220 KV Debari(RS)-RAPS_A(NP) (RS) Ckt-1	**58 PSC Recommendations: E**xpeditious corrective actions to minimise frequent faults in line.	RVPNL representative informed that tender has been floated for 2-3 towers replacement. The estimate time required for completion of work is 6 months (by end of Dec'25). *PSC forum requested RVPNL to take expeditious corrective action to minimise frequent faults in line.*	
19	Frequent tripping of 400 KV Merta-Kankani (RS) Ckt-1	**59 PSC Recommendations:** A/R operation need to be reviewed at both the ends.	RVPNL representative informed that shutdown of this line is yet to be availed and A/R operation would be reviewed accordingly. *PSC forum requested RVPNL to review A/R operation at Kankani end at the earliest.*	
20	Multiple elements tripping at 400kV AGE25L & 220kV Nokhra(IP) at 10:00 hrs on 18th March, 2025	**59 PSC Recommendations:** NTPC need to ensure over-voltage is disabled at Nokhra end of 220kV Nokhra-Bhadla2 Ckt.	NTPC representative informed that this issue has been resolved by OEM. Presently, tripping at the line breaker will occur only if: Line voltage remains above 112% for more than 5 seconds, or Line voltage exceeds 140% for more than 100 ms. These settings, already in use for other NTPC solar plants, ensure adequate protection of the equipment installed at the solar plant while providing sufficient time for inverters installed at project to meet LVRT/HVRT requirements. *PSC recommended to maintain the relay setting as per philosophy. Same can only be changed after taking approval in PSC for case to case basis. NTPC is requested to take this as separate agenda in next PSC for approval of such settings.*	
21	Multiple elements tripping at 765/220 kV Lalitpur TPS(UP) at 15:32 hrs on 03rd May, 2025	**61 PSC Recommendation:** a) In line with the NRPC protection philosophy, UPPTCL shall implement the DT scheme at 220kV level also. b) A/R need to be reviewed in 220kV Lalitpur-Jhansi line and 220kV Lalitpur-Dunara line.	Lalitpur TPS representative was not present in the meeting.	
22	Multiple elements tripping at 400 kV Uri-II HEP (NHPC) at 21:35 hrs on 18th May, 202	**61 PSC Recommendation:** NHPC in coordination with the POWERGRID(NR-2) shall review the healthiness of carrier protection in 400kV Uri_2-Wagoora line	NHPC representaitve stated that shutdown of the said element is required and in view of high hydro season, work would be completed by Oct'25. *PSC forum requested to complete the work within the stipulated time.*	
23	Multiple elements tripping at 765/400 kV Meerut(PG) and 400kV Dadri TPS(NTPC) at 19:55 hrs & 20:00 hrs respectively on 21st May, 2025	**61 PSC Recommendation:** a) DTL shall review whether any UFR relay is still in service at 400kV Dadri, Mandola complex or any other stations which is not part of present Delhi islanding scheme. b) POWERGRID shall study the philosophy for implementing O/C E/F relay as back up in case of VT fuse fail in both Main-I & II relay to avoid such major grid event.	POWERGRID representative stated that study is being done for finalizing setting of non directional O/C E/F protection in case of VT fail alarm in both Main-&II. Once it is finalised same shall be shared and implemented accordingly. *PSC forum agreed with this proposal and requested to expedite the process.*	
24	Multiple elements tripping at 220kV Maharanibagh(DTL) & 220/66kV Pragati(DTL) at 03:48 hrs on 15.06.2025	**62 PSC Recommendation:** a) Old REB 500 scheme of bus bar protection need to be up-graded & replaced by PGCIL in coordination with DTL. b) Distance protection settings need to be reviewed at 220kV Maharanibagh-Pragati Ckt-2. c) DR nomenclatures need to be corrected and time synchronisation issue need to be resolved at the earliest at Maharanibagh.	DTL representative stated that Peripheral unit (PU) of ABB make Bus-Bar Protection Scheme which is an old scheme wrongly issued tripping commands to the circuits in 200ms. NRLDC representative also highlighted that it is also observed that all the DR files i.e., bus bar relay DR of Pragati end, line protection relay DR w.r.t. Maharanibagh lines tripping are not in standard format. DRs nomenclature are not as per standard, time is not GPS synced. DTL and PGCIL agreed to correct the same.	
25	Multiple elements tripping at 220/132kV Pampore(J&K) at 23:25 hrs on 20.06.2025	**62 PSC Recommendation:** a) DR/EL along with detailed tripping report along with remedial action taken details need to be shared within one week. b) Healthiness of protection system and other auxiliary equipments need to be ensured at 220/132kV Pampore(J&K). c) Line protection settings at 220/132kV Pampore(J&K) need to be reviewed in line with NRPC Protection philosophy.	J&K representative was not present during the meeting.	
26	Multiple elements tripping at 220/132kV Moga(PS), 220 kV /66kV Badhni kalan(PS) & 220/66 kV Himmatpura(PS) at 11:06 hrs on 01.07.2025	**62 PSC Recommendation:** a) Healthiness of bus bar protection need to be ensured at Baghapurana and Ajitwal S/s. b) New busbar protection need to be installed at Moga PSTCL at the earliest. c) Line protection settings at 220/132kV Moga(PS), 220 kV /66kV Badhni kalan(PS) & 220/66 kV Himmatpura(PS) need to be reviewed in line with NRPC Protection philosophy. d) CT mismatch issue at both the ends of 220 kV Moga PSTCL – Moga ckt-2 need to be addressed and differential protection need to be installed at the earliest by PSTCL in co-ordination with PGCIL.	PSTCL representative informed the following points: a) Due to mismatch in CT ratios of both ends of ckt-2, settings have been suggested by OEM, the approval of which is pending from PGCIL end. b) 220 kV Busbar protection at 220 kV Baghapurana has been checked for any false initiation and differential current and now in Healthy condition. c) New Busbar Protection Panel has arrived at 220 kV Moga PSTCL and work of commissioning will start after paddy season.	
27	Multiple elements tripping at 220/66kV Narela(DTL) at 15:41 hrs on 10.07.2025	**62 PSC Recommendation:** a) Tele-protection communication need to be restored at 220kV Narela at the earliest. b) Line protection settings need to be reviewed at 220kV Narela-Mandola D/C as per NRPC protection philosophy. c) Availability and healthiness of SCADA data at 220kV Narela need to be ensured.	DTL representative stated that Zone 1 reach extended to 90% of PL till Tele-protection communication restoration.	
28	Multiple elements tripping at 220/132kV Ziankote(J&K) at 10:18 hrs on 24.07.2025	**62 PSC Recommendation:** a) DR/EL along with detailed tripping report along with remedial action taken details need to be shared within one week. b) Zone-2 settings need to be revised to 160ms at Amargarh end of 220kV Amargarh-Ziankote D/C. c) Healthiness of protection system and other auxiliary equipments need to be ensured at 220/132kV Ziankote(J&K). d) Line protection settings at 220/132kV Ziankote(J&K) need to be reviewed in line with NRPC Protection philosophy.	J&K representative was not present during the meeting.	

Annexure-B.II

S.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Outage		Loss of generation / loss of load during the Grid Disturbance		Fault Clearance time (in ms)	Compliance of Protection Protocol/Standard		
	(GI-I to GD-V)				Date	Time	Generation Loss(MW)	Load Loss (MW)		Flash Report Submission (Y/N)	DR/EL Submission (Y/N)	Detail Tripping Report Submission (Y/N)
1	GI-2	1) 220kV Bus-1 at Abdullapur (PG) 2) 220kV Bus-2 at Abdullapur (PG) 3) 400/220 kV 315 MVA ICT 1 at Abdullapur(PG) 4) 400/220 kV 315 MVA ICT 2 at Abdullapur(PG) 5) 400/220 kV 315 MVA ICT 3 at Abdullapur(PG) 6) 400/220 kV 315 MVA ICT 4 at Abdullapur(PG) 7) 220kV Abdullapur-Joria Ckt-I 8) 220kV Abdullapur-Joria Ckt-II 9) 220kV Abdullapur-Jagadahri Ckt-I 10) 220kV Abdullapur- Jagadahri Ckt-II 11) 220kV Abdullapur-Tepla Ckt-I 12) 220kV Abdullapur-Tepla Ckt-II 13) 220kV Abdullapur-Rampur Ckt-I 14) 220kV Abdullapur-Rampur Ckt-II 15) 220kV Abdullapur-Rajokheri Ckt-I 16) 220kV Abdullapur-Rajokheri Ckt-II 17) 220kV Abdullapur-Railway Ckt-I 18) 220kV Abdullapur-Railway Ckt-II	Haryana	PGCIL, HVPNL	1-Aug-25	07:18	0	50	120	Y(d)	Y(d)	Y(d)
2	GD-1	1) 220kV CB Ganj-Pantnagar Ckt 2) 220kV Kashipur-Pantnagar Ckt 3) 220kV Kashipur-Jafarpur Ckt 4) 132kV Bazpur-Haldwani Ckt 5) 132kV Pithoragarh-Chandak Ckt	Uttarakhand	PTCUL	1-Aug-25	20:06	0	440	80	Y	Y	Y
3	GD-1	1) 220kV Naitwar Mori- Hatkot iCkt 2) 220kV Naitwar Mori- Sawra Kuddu Ckt 3) 220kV Sawra Kuddu- Hatkoti Ckt 4) 400/220 KV 315 MVA ICT 1 AT GUMMA (HP) 5) 400/220 KV 315 MVA ICT 2 AT GUMMA (HP)	Himachal Pradesh	HPPTCL	6-Aug-25	07:04	111	37	4080	Y(d)	Y(d)	Y(d)
4	GD-1	1) 220 KV AD Hydro(AD)-Phozal(HP) (ADHPL) Ckt 2) 220 KV AD Hydro(AD)-Nallagarh(PG) (ADHPL) Ckt 3) 96 MW Unit-1 at AD Hydro HEP 4) 96 MW Unit-2 at AD Hydro HEP	Himachal Pradesh	HPPTCL, PGCIL, ADHPL	7-Aug-25	16:38	210	0	80	Y	Y	Y
5	GD-1	1) 220 KV AD Hydro(AD)-Nallagarh(PG) (ADHPL) Ckt 2) 96 MW Unit-1 at AD Hydro HEP 3) 96 MW Unit-2 at AD Hydro HEP	Himachal Pradesh	PGCIL, ADHPL	7-Aug-25	23:33	210	0	160	Y	Y	Y
6	GI-2	1) 765KV Bus 2 at Bara(UP) 2) 765/400 kV 1500 MVA ICT 2 at Bara(UP) 3) 765 KV Bara-Mainpuri (UP) Ckt-2 4) 660 MW Bara PPGCL TPS - UNIT 2	Uttar Pradesh	UPPTCL, PPGCL	8-Aug-25	21:33	610	0	360	Y	Y	Y(d)
7	GI-1	1)220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 2)220 KV Khodri(UK)-Majri(HP) (UK) Ckt-2 3)220/132 kV 100 MVA ICT at Khodri(UK) 4)30 MW Unit-1 at Khodri(UK) 5)30 MW Unit-2 at Khodri(UK) 6)30 MW Unit-3 at Khodri(UK) 7)30 MW Unit-4 at Khodri(UK) 8)60 MW Unit-3 at Chhibro(UK) 9)60 MW Unit-4 at Chhibro(UK)	Uttarakhand	HPPTCL, PTCUL	17-Aug-25	03:03	185	0	520	Y(d)	Y	Y
8	GI-2	1) 220kV Kashipur-Jafarpur line 2) 220kV Kashipur-Pantnagar Line 3) 400/220kV 315 MVA ICT-1 at Kashipur(UK) 4) 400/220kV 315 MVA ICT-2 at Kashipur(UK) 5) 132kV Kashipur-Jaspur Line	Uttarakhand	PTCUL	18-Aug-25	04:39	0	250	1640	Y	N	Y
9	GI-2	1) 220kV Kashipur-Jafarpur line 2) 400/220kV 315 MVA ICT-1 at Kashipur(UK) 3) 400/220kV 315 MVA ICT-2 at Kashipur(UK) 4) 400kV Kashipur(UK)-Moradabad(UP) (UK) Line	Uttarakhand	PTCUL	18-Aug-25	05:27	0	85	1440	Y	N	Y
10	GI-2	1) 400 KV Vindhyachal(PG)-Vindhyachal(NT) (PG) Ckt-1 2) 70 KV Vindhyachal(PG) Pole-1 3) 70 KV Vindhyachal(PG) Pole-2	Uttar Pradesh	PGCIL, NTPC	19-Aug-25	03:12	0	0	NA	Y(d)	Y(d)	Y(d)
11	GD-1	1) 220 KV AD Hydro(AD)-Nallagarh(PG) (ADHPL) Ckt 2) 220 KV Phozal(HP)-Nallagarh(PG) (ADHPL) Ckt 3) 96 MW Unit-1 at AD Hydro HEP 4) 96 MW Unit-2 at AD Hydro HEP	Himachal Pradesh	PGCIL, ADHPL, HPPTCL	20-Aug-25	11:08	210	0	80	Y	N	N

S.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Outage		Loss of generation / loss of load during the Grid Disturbance		Fault Clearance time (in ms)	Compliance of Protection Protocol/Standard		
	(GI-I to GD-V)				Date	Time	Generation Loss(MW)	Load Loss (MW)		Flash Report Submission (Y/N)	DR/EL Submission (Y/N)	Detail Tripping Report Submission (Y/N)
12	GD-1	1) 220 KV Bhadla_2 (PG)-AEGPL_SL_BHD2_PG (AMP Energy Green Private Limited) Ckt-1 2) 220/33 kV 150 MVA ICT 1 at AEGPL_SL_BHD2_PG 3) 220/33 kV 150 MVA ICT 2 at AEGPL_SL_BHD2_PG	Rajasthan	PGCIL, AEGPL	20-Aug-25	15:53	274	0	80	Y(d)	N (Partial details received)	N
13	GI-2	1) 400/220kV 215 MVA ICT-4 at Bawana(DTL) 2) 220kV Bawana-Shalimarbagh (DTL) Ckt-1 3) 220kV Bawana-Shalimarbagh (DTL) Ckt-2 4) 220kV Bawana-Rohini-I (DTL) Ckt-1 5) 220kV Bawana-Rohini-I (DTL) Ckt-2 6) 220kV Rohini-I--Shalimarbagh (DTL) Ckt-1	Delhi	DTL	22-Aug-25	18:13	0	470	520	N	N	Y(d)
14	GD-1	1) 220 KV Bhakra_R-Jamalpur (BB) Ckt-1 2) 220 KV Bhakra_R-Jamalpur (BB) Ckt-2 3) 220 KV Bhakra_R(BB)-Mahilpur(PS) (PS) Ckt-1 4) 220 KV Bhakra_R(BB)-Mahilpur(PS) (PS) Ckt-2 5) 220 KV Bhakra_R-Ganguwal (BB) Ckt-1 6) 220 KV Bhakra_R-Ganguwal (BB) Ckt-2 7) 126 MW Unit-1 at Bhakra Right(BB) 8) 157 MW Unit-6 at Bhakra Right(BB) 9) 157 MW Unit-7 at Bhakra Right(BB) 10 157 MW Unit-8 at Bhakra Right(BB) 11) 157 MW Unit-9 at Bhakra Right(BB) 12) 157 MW Unit-10 at Bhakra Right(BB)	Himachal Pradesh	BBMB, PSTCL	24-Aug-25	15:48	756	0	120	Y(d)	N	N
15	GI-2	1) 765 KV Gr.Noida_2(UP)-Meerut(PG) (PG) Ckt-1 2) 250 MW (PSP) TEHRI HPS - UNIT 5 3) 250 MW (PSP) TEHRI HPS - UNIT 6	Uttarakhand	UPPTCL, PGCIL, THDC	24-Aug-25	17:42	470	0	80	Y(d)	Y(d)	Y(d)
16	GD-1	1) 220 KV Fatehgarh_II(PG)-Devikot SL_FTGH2 (NTPC_DEVIKOT) (NTPC_DEVIKOT) Ckt-1	Rajasthan	PGCIL, NTPC Green	29-Aug-25	10:31	183	0	NA	N	N	N
17	GI-2	1) 220kV Bus-1 at Samaypur (BBMB) 2) 220kV Bus-2A at Samaypur (BBMB) 3) 400/220kV 500 MVA ICT-2 at Ballabhgarh(PG) 4) 400/220kV 500 MVA ICT-3 at Ballabhgarh(PG) 5) 400/220kV 500 MVA ICT-4 at Ballabhgarh(PG) 6) 220kV Samaypur-Charkhi Dadri line 7) 220kV Samaypur- Ballabhgarh line-1 8) 220kV Samaypur- Ballabhgarh line-2 9) 220kV Samaypur- Ballabhgarh line-3 10) 220kV Samaypur- Badshahpur line-1 11) 220kV Samaypur- Faridabad Sec58 line-1 12) 220kV Samaypur- Faridabad Sec58 line-2 13) 220kV Samaypur- Harfali line	Haryana	PGCIL, BBMB, HVPNL	29-Aug-25	00:11	0	345	120	Partial details received	Partial details received	Partial details received
18	GD-1	1) 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-1 2) 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-2 3) 220 kV Laltokalan – Ferozpur Road (PS) Ckt 4) 220 kV Laltokalan – Hambran (PS) Ckt 5) 220 kV Laltokalan – Jagraon (PS) Ckt	Punjab	PGCIL, PSTCL	30-Aug-25	04:35	0	180	400	Y(d)	N(PS), Y(PG)	Y(d)

Annexure-B.III

Grid Event summary for August 2025

S.No.	Category of Grid Incident/ Disturbance (GI-I to GD-V)	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Outage		Event (As reported)	Loss of generation / loss of load during the Grid Disturbance		Fault Clearance time (in ms)	Points of Discussion
					Date	Time		Generation Loss(MW)	Load Loss (MW)		
1	GI-2	1) 220kV Bus-1 at Abdullapur (PG) 2) 220kV Bus-2 at Abdullapur (PG) 3) 400/220 kV 315 MVA ICT 1 at Abdullapur(PG) 4) 400/220 kV 315 MVA ICT 2 at Abdullapur(PG) 5) 400/220 kV 315 MVA ICT 3 at Abdullapur(PG) 6) 400/220 kV 315 MVA ICT 4 at Abdullapur(PG) 7) 220kV Abdullapur-Joria Ckt-I 8) 220kV Abdullapur-Joria Ckt-II 9) 220kV Abdullapur-Jagadahri Ckt-I 10) 220kV Abdullapur- Jagadahri Ckt-II 11) 220kV Abdullapur-Tepla Ckt-I 12) 220kV Abdullapur-Tepla Ckt-II 13) 220kV Abdullapur-Rampur Ckt-I 14) 220kV Abdullapur-Rampur Ckt-II 15) 220kV Abdullapur-Rajokheri Ckt-I 16) 220kV Abdullapur-Rajokheri Ckt-II 17) 220kV Abdullapur-Railway Ckt-I 18) 220kV Abdullapur-Railway Ckt-II	Haryana	PGCIL, HVPNL	1-Aug-25	07:18	i)400/220 kV Abdullapur(PG) has double main & transfer bus scheme at 220KV level. ii)During antecedent condition, 400/220kV 315 MVA ICT-1, 2, 3 & 4 were carrying 89 MW, 86 MW, 85 MW & 77 MW respectively. iii)As reported at 07:18 hrs, R-N phase to earth fault occurred on 220kV Abdullapur-Tepla line-I. iv)As per PMU, R-N phase to earth fault which cleared within 120 msec is observed. v)At the same time, bus bar Z-1 & Z-2 protection of 220kV bus at Abdullapur(PG) operated leading to tripping of all the elements connected at 220kV level. As informed, bus bar protection mal-operated on through fault. Protection setting of bus bar protection has been reviewed and tested, protection was found OK. Bus bar protection has bene put under observation. vi)As per DR of Abdullapur end of Abdullapur-Tepla line-I, R-N phase to earth fault in Z-1 with fault current of ~20kA is observed. R-ph A/R started but line tripped on bus bar protection operation. vii)As per SCADA, change in demand of approx. 50 MW was observed in Haryana control area. viii)As reported by Punjab, line differential along with distance protection installation will be completed within one week for 220 kV Moga(PG)-Moga(PS) (PSTCL) Ckt-1, 2, 3 & 4. ix)Majority of the elements were revived by 10:30 hrs.	0	50	120	i)Reason of maloperation of bus bar protection needs to be shared. The case may be discussed with relay engineer / OEM also to identify the root cause and avoid such event in future. ii)Station event logger details of Abdullapur S/s during the event period need to be shared. iii)Remedial action taken report needs to be shared.
2	GD-1	1) 220kV Naitwar Mori- Hatkot ickt 2) 220kV Naitwar Mori- Sawra Kuddu Ckt 3) 220kV Sawra Kuddu- Hatkoti Ckt 4) 400/220 KV 315 MVA ICT 1 AT GUMMA (HP) 5) 400/220 KV 315 MVA ICT 2 AT GUMMA (HP)	Himachal Pradesh	HPPTCL	6-Aug-25	07:04	i)Generation of Naitwar Mori HEP and Sawrakuddu HEP evacuates through 400/220kV Gumma ICTs via 220kV Hatkoti-Gumma D/C. Sawrakuddu is directly connected to Hatkoti from one line and with LILO at Naitwar Mori in second line. ii)During antecedent condition, 3*37 MW Sawrakuddu HEP was generating approx. 111 MW total and generation of Naitwar Mori HEP was under outage due to high silt. iii)As reported, at 07:03 hrs, 220kV Naitwar Mori-Hatkoti line tripped on phase to earth fault due to tree fell on the line during inclement weather condition. Due to non-clearance of fault from the line protection, 400/220kV 315 MVA ICT-1&2 at Gumma(HP) tripped on O/C E/F protection. iv)As per PMU at Gumma(HP), Y-B fault converted into R-Y-B fault with delayed clearance of approx. 4 sec 80 msec is observed. v)Due to tripping of both 315 MVA ICTs at Gumma(HP), 37 MW Unit-1, 2 & 3 at Sawrakuddu HEP tripped due to loss of evacuation path. vi)As per SCADA, generation loss of approx. 111 MW at Sawrakuddu HEP and change in demand of approx. 37 MW in HP control area is observed.	111	37	4080	i)Exact reason, location and nature of fault need to be shared. ii)Exact reason of non-clearance of fault from line protection and reason for delayed clearance of fault need to be shared. iii)DR/EL (.dat/.cfg file) of all tripped elements along with tripping reports need to be shared from both the ends. iv)Remedial action taken report needs to be shared.
3	GD-1	1) 220 KV AD Hydro(AD)-Nallagarh(PG) (ADHPL) Ckt 2) 96 MW Unit-1 at AD Hydro HEP 3) 96 MW Unit-2 at AD Hydro HEP	Himachal Pradesh	PGCIL, ADHPL	7-Aug-25	23:33	i)Generation of AD Hydro HEP (2*96 MW) evacuates through 220kV AD Hydro-Nallagarh line (~175km) and 220kV AD Hydro-Phozal line(~14km)--> 220kV Phozal-Nallagarh Line. Both the lines are on same tower. There is LILO portion at 220/33kV Phozal in second line. ii)During antecedent condition, 96 MW Unit-1 and Unit-2 at AD Hydro HEP(IP) were generating approx. 210 MW. 220kV AD Hydro-Phozal line was already under tripped condition since 16:38 hrs due to snapping of conductor between tower location no. 27 & 28. Generation of AD Hydro was evacuating through 220kV AD Hydro-Nallagarh line only. iii)As reported at 23:33 hrs, 220 KV AD Hydro(AD)-Nallagarh(PG) (ADHPL) Ckt tripped due to B-N phase to earth fault. Line successfully autoreclosed from AD Hydro end however it tripped from Nallagarh end due to pole discrepancy (issue in A/R operation). iv)As per DR of AD Hydro end, B-N fault (1.5kA) was sensed in Z-1(120km from Nallagarh end) and line successfully autoreclosed after dead time. However, line tripped from Nallagarh end due to issue in A/R operation. v)At the same time, 96 MW Unit-1 and Unit-2 at AD Hydro HEP (generating ~210 MW) also tripped due to loss of evacuation path. vi)As per SCADA plot of AD Hydro HEP generation, loss of ~210 MW is observed and as per SCADA plot of HP demand, no change in HP demand is observed during the event time. vii)Line patrolling was done and no abnormalities was found. Further, line was charged at 00:20 hrs on 08.08.2025 and evacuation path to AD Hydro HEP restored.	210	0	160	i)Issue related to A/R operation at Nallagarh end need to be rectified and proper A/R operation on single phase to earth fault need to be ensured. ii)DR/EL and tripping details of Nallagarh end yet to be received. iii)Remedial action taken report needs to be shared.
4	GI-2	1) 765KV Bus 2 at Bara(UP) 2) 765/400 kV 1500 MVA ICT 2 at Bara(UP) 3) 765 KV Bara-Mainpuri (UP) Ckt-2 4) 660 MW Bara PPGCL TPS - UNIT 2	Uttar Pradesh	UPPTCL, PPGCL	8-Aug-25	21:33	i)765/400kV Bara(UP) S/s has one and half breaker bus scheme at both 765kV and 400kV level. During antecedent condition, 660 MW Bara PPGCL TPS - UNIT 1, 2 & 3 were carrying 614 MW, 610 MW and 546 MW. ii)As reported, at 21:33 hrs, R-phase pole of 710 main circuit breaker got damaged. This has triggered the Bus Bar Protection operation at 765KV Bus 2 at Bara(UP) resulting in the tripping of all main CBs connected to Bus-2. iii)However, Tie CB of 765/400 kV 1500 MVA ICT-2 at Bara (UP) has also tripped resulting in tripping of ICT-2 (wrong busbar logic suspected). iv)During the same time, 765 KV Bara-Mainpuri (UP) Ckt-2 tripped from Mainpuri end only due to Zone-2 distance protection operation at the Mainpuri end. However, line remained charged through the tie bay from the Bara end. v)Due to tripping of 765 KV Bara-Mainpuri (UP) Ckt-2 and 765/400 kV 1500 MVA ICT-2 at Bara (UP) and as total Ex-Bus Generation at Bara TPS was more than 1400MW during antecedent condition, Case-3 of "SPS for safe evacuation of Bara TPS Generation" operated resulting in tripping of 660 MW Bara PPGCL TPS - UNIT 2. vi)As per PMU at Mainpuri(PG), R-N phase to earth fault was observed with delayed fault clearing time of 360 ms. vii)As per SCADA, no change in demand of UP control area and generation loss of approx. 610 MW at Bara TPS was observed.	610	0	360	i)Exact reason, location and nature of fault need to be shared. ii)Reason of delayed clearance of fault need to be shared. iii)Exact reason of tripping of tie CB of 765/400 kV 1500 MVA ICT-2 at Bara (UP) and main & tie CBs at Mainpuri end of 765 KV Bara-Mainpuri (UP) Ckt-2 need to be shared. iv)SCADA data was suspected during the event at 765/400kV Bara(UP). Healthiness and Availability of SCADA data need to be ensured. v)Remedial action taken report need to be shared.
5	GI-1	1)220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 2)220 KV Khodri(UK)-Majri(HP) (UK) Ckt-2 3)220/132 kV 100 MVA ICT at Khodri(UK) 4)30 MW Unit-1 at Khodri(UK) 5)30 MW Unit-2 at Khodri(UK) 6)30 MW Unit-3 at Khodri(UK) 7)30 MW Unit-4 at Khodri(UK) 8)60 MW Unit-3 at Chhibro(UK) 9)60 MW Unit-4 at Chhibro(UK)	Uttarakhand	HPPTCL, PTCUL	17-Aug-25	03:03	i)220KV Khodri(UK) and 220kV Chhibro(UK) generating station have 4 generating units each of 30MW and 60MW respectively and have double main bus scheme. ii)During antecedent condition, 30 MW Unit-1, 2, 3 & 4 at Khodri(UK) were in running condition and were generating approx. 23 MW, 22 MW, 23 MW and 22 MW respectively. Also, 60 MW Unit-1, 2, 3 & 4 at Chhibro(UK) were in running condition and were generating approx. 52 MW, 54 MW, 45 MW and 50 MW respectively (as per SCADA). iii)As reported, at 03:03 hrs, fault occurred at 220kV Majri-VISCO feeder as VISCO 220kV overhead panel caught fire due to overheating at VISCO end. It led to the tripping of 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 & 2. iv)As per FIR and TR received, 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 tripped on zone-4 distance protection operation at Majri end and zone-3 distance protection operation at Khodri end sensing the fault at a distance of 38.24 km from Khodri end. As per DR, fault current was Ir=~1171A, Iy=~1185A and Ib=~1156A from Khodri end. v)220 KV Khodri(UK)-Majri(HP) (UK) Ckt-2 tripped from Majri(HP) end only due to over-current protection operation at Majri end. As per DR, fault current was Ir=~608A, Iy=~622A and Ib=~608A from Khodri end and fault persisted for 1.518s in this ckt. vi)During the same time, 220/132 kV 100 MVA ICT at Khodri(UK) tripped on Earth fault Protection Operation. vii)Further, 30 MW Unit-1, 2, 3 & 4 at Khodri(UK) tripped on GT Stand-by E/F protection and 60 MW Unit-3 & 4 at Chhibro(UK) tripped on GT Instantaneous Earth fault protection (50NT) operation and Generator Negative phase Sequence Protection operation respectively. viii)As per PMU at Dehradun(PG), R-N phase to earth fault with delayed fault clearing time of 520 msec was observed. ix)As per SCADA, Reduction in Generation of approx. 234 MW in Uttarakhand control area including generation loss of 185 MW [90 MW at Khodri(UK) and 95 MW at Chhibro(UK)] was observed.	185	0	520	i)Exact reason, nature and location of fault need to be shared. ii)Distance protection settings needs to be reviewed at Khodri(UK) and Majri(HP) end. iii)Reason of delayed clearance of fault need to be shared. iv)Reason of tripping of units need to be analysed. v)Protection co-ordination need to be reviewed at Khodri(UK). Healthiness of protection system need to be ensured. vi)SCADA data was freezed during the event. Availability and healthiness of SCADA data need to be ensured. vii)DR/EL(.dat/.cfg file) of all tripped units need to be shared along with detailed tripping report. viii)Remedial action taken report need to be shared.
6	GI-2	1) 400/220kV 215 MVA ICT-4 at Bawana(DTL) 2) 220kV Bawana-Shalimarbagh (DTL) Ckt-1 3) 220kV Bawana-Shalimarbagh (DTL) Ckt-2 4) 220kV Bawana-Rohini-I (DTL) Ckt-1 5) 220kV Bawana-Rohini-I (DTL) Ckt-2 6) 220kV Rohini-I--Shalimarbagh (DTL) Ckt-1	Delhi	DTL	22-Aug-25	18:13	i)400/220/66kV Bawana(DTL) has one and half breaker scheme at 400kV level and double main and transfer bus scheme at 220kV level. ii)During antecedent condition, bus wise arrangement at 220kV Bawana was as follows: a.220kV Bus-I: 220kV I/C of 315 MVA ICT-2, 200/66kV 100MVA Pr. Tr., 220kV Rohini-II ckt-1 & 2. b.220kV Bus-II: 220kV I/C of 315 MVA ICT-3, 220kV Khanjawala ckt-1 & 2 c.220kV Bus-III: 220kV I/C of 315 MVA ICT-1, 220kV Rohini-I ckt-1, 220kV Shalimarbagh Ckt-1 d.220kV Bus-IV: 220kV I/C of 315 MVA ICT-4, 220kV Rohini-I ckt-2, 220kV Shalimarbagh Ckt-2 e.220kV Bus-V: 220kV I/C of 315 MVA ICT-5, 220kV DSIDC Bawana Ckt-1 f.220kV Bus-VI: 220kV I/C of 315 MVA ICT-6, 220kV DSIDC Bawana Ckt-2 g.220kV Bus Section and Bus Coupler were closed. iii)As reported, at 18:13 hrs, 400/220kV 215 MVA ICT-4 at Bawana(DTL) tripped on overflux protection operation. iv)During the same time, 220kV Bawana-Shalimarbagh (DTL) Ckt-1 & 2 tripped on zone-1 distance protection operation. During patrolling, OPGW between tower no. N-2, N-3, N-4 was found broken. v)220kV Bawana-Rohini-I (DTL) Ckt-1 also tripped due to B-ph CT clamp damaged. vi)Further, at 18:25 hrs, 220kV Bawana-Rohini-I (DTL) Ckt-2 was manually opened from Bawana end to protection the line from overloading. vii)At 18:35 hours, 220kV Rohini-I--Shalimarbagh (DTL) Ckt-1 was manually opened from Rohini-I end due to flash in Y-ph bus isolator at Shalimarbagh(DTL). viii)As per PMU at Maharahibagh(PG), R-N phase to earth fault followed by B-N phase to earth fault with fault clearance time of respectively 480 ms (delayed) and 520 ms (delayed) was observed. ix)As per SCADA, change in demand of approx. 540 MW in Delhi control area was observed. But as reported by SLDC Delhi, load loss of approx. 470 MW occurred.	0	470	520	i)Exact nature, location and reason of fault need to be shared. ii)Exact sequence of events need to be shared. iii)Reason of delayed clearance of fault need to be shared. iv)DR/EL (.dat/.cfg file) of all tripped elements along with detailed tripping report need to be shared. v)Remedial action taken report need to be shared.
7	GI-2	1) 220kV Bus-1 at Samaypur (BBMB) 2) 220kV Bus-2A at Samaypur (BBMB) 3) 400/220kV 500 MVA ICT-2 at Ballabhgarh(PG) 4) 400/220kV 500 MVA ICT-3 at Ballabhgarh(PG) 5) 400/220kV 500 MVA ICT-4 at Ballabhgarh(PG) 6) 220kV Samaypur-Charkhi Dadri line 7) 220kV Samaypur- Ballabhgarh line-1 8) 220kV Samaypur- Ballabhgarh line-2 9) 220kV Samaypur- Ballabhgarh line-3 10) 220kV Samaypur- Badshahpur line-1 11) 220kV Samaypur- Faridabad Sec58 line-1 12) 220kV Samaypur- Faridabad Sec58 line-2 13) 220kV Samaypur- Harfali line	Haryana	PGCIL, BBMB, HVPNL	29-Aug-25	00:11	i)220KV Samaypur(BBMB) has double main bus scheme. There are 03 (three) 220kV Buses i.e., Bus-1, Bus-2A and Bus-2B. 400/220kV 500 MVA ICT-1,2,3&4 at Ballabhgarh(PG) feeds the 220kV Samaypur S/s. ii)During the antecedent condition, bus sectionliser CB between 220kV Bus-2A and 2B was under shutdown for replacement of R-ph CT due to high Tan Delta value. 400/220kV 500 MVA ICT-1,2,3&4 at Ballabhgarh(PG) were carrying ~200 MW each. iii)As reported, at 00:11 hrs, B-ph CT at 220kV side of 400/220kV 500 MVA ICT-2 damaged and created bus fault on 220kV Bus-1. On this fault, Bus bar protection of 220kV Bus-1 operated. At the same time, bus bar protection of 220kV Bus-2A also operated due to isolator status issue of Faridabad Sec58 line-2. 220kV Bus-2B remained in service. iv)Due to the bus bar protection operation, all the elements connected to 220kV Bus-1 & Bus-2A i.e., 400/220kV ICT-2,3&4 at Ballabhgarh(PG), 220kV feeders to Ballabhgarh-I, II, III, Badshahpur-I, Faridabad sec58-I,II, and Charkhi Dadri tripped. Elements connected to 220kV Bus-2B i.e., 400/220kV ICT-1 at Ballabhgarh(PG), 220kV feeders to Palli-I, II, Badshahpur-II remained in service. v)At the same time, 220kV Samaypur-Harfali line tripped from Harfali end only (recorded in SCADA SOE). Reason of the same yet to be received. vi)As per PMU at Ballabhgarh(PG), B-N phase to earth fault which cleared within 120 msec is observed. vii)As per SCADA, change in demand of ~345 MW in Haryana control area is observed. viii)As informed by BBMB, during investigation it was found that isolator status of Faridabad sec58 line-2 was absent due to LOGIC INPUT Card Faulty. As per scheme logic, in absence of Isolator Status the numerical BUS Bar Protection issues the trip command to both parallel buses. Further, the faulty LOGIC INPUT Card of Faridabad sec58 line-2 at Samaypur S/s has been replaced with the healthy card on date 30.08.2025. 400/220kV ICT-2 at Ballabhgarh(PG) is under shutdown for replacement of damaged CT.	0	345	120	i)Significant number of grid events due to CT failure have been recorded in BBMB control area. Necessary maintenance activities, routing testing of equipment's and other necessary measures need to be taken to avoid such events in future. ii)Proper isolator status and its communication is crucial for correct operation of bus bar protection operation. Unwanted operation of bus bar protection has been observed in past also due to incorrect isolator status. Frequent review of isolator status and prompt attending of any alarm related to the same may be done to avoid such events in future. iii)Reason of tripping of 220kV Samaypur-Harfali line from Harfali end despite of timely clearance of fault need to be investigated and shared. Any protection related issues if any, need to be rectified. iv)DR/EL(.dat/.cfg file) of all the tripped elements need to be shared. No DR/EL received as on 02.09.2025.
8	GD-1	1) 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-1 2) 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-2 3) 220 kV Laltokalan – Ferozpur Road (PS) Ckt 4) 220 kV Laltokalan – Hambran (PS) Ckt 5) 220 kV Laltokalan – Jagraon (PS) Ckt	Punjab	PGCIL, PSTCL	30-Aug-25	04:35	i)220kV Laltokalan(PS) has double main bus arrangement at 220kV side. ii)During antecedent condition, 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-2, 220 kV Laltokalan – Hambran (PS) Ckt, 220 kV Laltokalan – Jagraon (PS) Ckt and 220/66 kV 160 MVA ICT-1 at Laltokalan(PS) were connected to 220kV Bus-1 at Laltokalan(PS) and remaining elements were connected to 220kV Bus-2 at Laltokalan(PS). iii)As reported, at 04:35 hrs, Y-ph CT clamp of 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-2 broke at Laltokalan end. As per DR, 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-2 tripped on Y-N phase to earth fault with fault distance of 2.14km and fault current of 25.78kA from Ludhiana(PG) end; zone-2 distance protection operated at Ludhiana(PG) end. iv)Distance protection relay at Laltokalan(PS) of 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-2 didn't pick up during this fault hence other lines connected to Bus-1 (220 kV Laltokalan – Hambran (PS) Ckt and 220 kV Laltokalan – Jagraon (PS) Ckt) tripped from remote end with zone-2 indications. v)Busbar protection at Laltokalan was not healthy and zone-4 time delays of lines at Laltokalan end were also not modified to 160ms, zone-4 delays were kept as 350ms, hence lines tripped from remote ends. vi)Further after 720 ms of occurrence of this fault (as per PMU), 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-1 tripped on R-N phase to earth fault with fault distance of 2.79km and fault current of 27.96kA from Ludhiana(PG) end (as per DR); zone-1 distance protection operated at Ludhiana(PG) end and carrier sent to Laltokalan(PS) end. No A/R operation observed on this fault. As reported by Punjab, Laltokalan end picked E/F on this fault, but unpicked after 407ms. vii)220 kV Laltokalan – Ferozpur Road (PS) Ckt sensed this fault in zone-4 at Laltokalan end and in zone-2 at Ferozpur end. However, as R-ph limb of CB at Laltokalan end got stuck, fault cleared in zone-2 from remote end. This line was taken under shutdown to address this CB issue. viii)Due to tripping of all 220kV lines at Laltokalan(PS) S/s, supply to 220/66kV 160 MVA ICT-1 and 100MVA ICT-4 & 5 got failed and ICTs are manually opened. Complete blackout occurred at 220kV Laltokalan(PS) S/s. ix)As per PMU, Y-N phase to earth fault followed by R-N phase to earth fault was observed with fault clearing time of 400ms (delayed) and 80ms respectively. x)As per SCADA, change in demand of approx. 180 MW in Punjab control area was observed.	0	180	400	i)Healthiness of busbar protection and auxiliary system at Laltokalan(PS) need to be ensured. Self-audit may be arranged at the earliest. ii)Distance protection need to be reviewed in 220kV lines emanating from Laltokalan(PS). iii)Reason of delayed clearance of fault need to be shared. iv)DR/EL (.dat/.cfg file) of all the tripped elements need to be shared from Punjab. v)DR nomenclature need to be corrected by PG at 220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-1 & 2. vi)Trippings at Punjab end were not recorded in SCADA SOE. Healthiness and availability of SCADA data need to be ensured at S/s of Punjab. vii)Remedial action taken report need to be shared.

Sr No	Element Name	Outage Date	Outage Time	Reason
1	132 KV Rihand(UP)-Garwa(JS) (UP) Ckt-1	02-Aug-25	11:05	Phase to earth fault R-N
		05-Aug-25	09:28	Phase to earth fault B-N
		09-Aug-25	04:38	Phase to earth fault B-N
		10-Aug-25	11:05	Phase to earth fault R-N
		12-Aug-25	05:03	Phase to earth fault B-N
		12-Aug-25	18:34	Phase to earth fault B-N
		13-Aug-25	22:20	Phase to earth fault B-N
		15-Aug-25	20:03	Phase to earth fault B-N
		23-Aug-25	04:44	Transient fault
		23-Aug-25	16:22	Phase to Ground Fault B-N
		27-Aug-25	23:05	Phase to earth fault B-N
2	250 MW (PSP) TEHRI HPS - UNIT 6	01-Aug-25	09:15	Unit Speed was in dead band ,Unit tripped via QSD
		02-Aug-25	09:19	Turbine Problem
		07-Aug-25	20:00	Oil Leakage
		08-Aug-25	10:46	Due to Partial discharge in condition monitoring system (CMS), QSD was initiated
		11-Aug-25	11:46	Due to significant leakage from main firefighting header common for Tehri HPP and Tehri PSP GSU transformers.
		24-Aug-25	17:42	AC excitation system (VSI) detected voltage dip in the 400kV Grid voltage which led to unit tripping.
		21-Aug-25	09:15	Generator Fault
		20-Aug-25	09:15	Turbine Problem
		27-Aug-25	11:30	During the starting sequence in PU mode, machine got tripped on Quick shutdown due to Too Late To Execute (TLTE) of runner rewatering process.
		29-Aug-25	14:45	Tripped due to malfunctioning of float valve level gauge of oil leakage tank of MIV/ Governing system.
3	220 KV NAPP(NP)-Simbholi(UP) (UP) Ckt-1	04-Aug-25	05:37	Phase to earth fault R-N
		01-Aug-25	10:04	Phase to earth fault Y-N
		01-Aug-25	22:10	Phase to earth fault B-N
		04-Aug-25	09:12	Phase to earth fault Y-N
		14-Aug-25	22:42	Phase to earth fault B-N
		15-Aug-25	21:09	Phase to earth fault B-N
		27-Aug-25	14:08	Phase to earth fault R-N
4	250 MW (PSP) TEHRI HPS - UNIT 5	07-Aug-25	22:18	Due to machine operation in dead band range.
		08-Aug-25	19:11	Due to stopping sequence test as a part of test at higher head.
		08-Aug-25	21:07	Due to stopping sequence test as a part of tests at higher head.
		11-Aug-25	11:48	Due to significant leakage from main firefighting header common for Tehri HPP and Tehri PSP GSU transformers.
		24-Aug-25	17:42	AC excitation system (VSI) detected voltage dip in the 400kV Grid voltage which led to unit tripping.
		17-Aug-25	09:31	Fault in relay of VSI cooling skid.
5	132 KV Pilibhit(UP)-Sitarganj(PTCUL) (PTCUL) Ckt-1	06-Aug-25	18:19	Phase to earth fault R-N
		06-Aug-25	20:46	Phase to earth fault Y-N
		20-Aug-25	22:35	Phase to earth fault R-N
		21-Aug-25	00:46	Phase to earth fault R-N
		23-Aug-25	01:01	Phase to earth fault R-N
		27-Aug-25	17:16	Phase to earth fault R-N
6	132 KV Khatima(UK)-Pilibhit(UP) (PTCUL) Ckt-1	06-Aug-25	05:24	Phase to earth fault Y-N
		06-Aug-25	18:21	Phase to earth fault R-N
		06-Aug-25	20:46	Phase to earth fault Y-N
		17-Aug-25	08:42	Phase to earth fault Y-N
		19-Aug-25	08:44	Phase to earth fault B-N
7	132 KV Rihand(UP)-Nagar Untari(JS) (UP) Ckt-1	11-Aug-25	02:30	Phase to earth fault R-N
		25-Aug-25	05:14	Transient fault
		31-Aug-25	04:43	Phase to earth fault R-N
		31-Aug-25	12:00	Phase to earth fault R-N
8	200 MW Parbati II HEP - UNIT 3	09-Aug-25	19:45	Generator Transformer protection operated
		12-Aug-25	06:52	GT trip
		14-Aug-25	06:29	Generator Fault
		16-Aug-25	10:12	Maloperation of Butterfly valve.

Annexure-B.V

S. No.	Name of Transmission Element Tripped	Owner/ Utility	Outage		Load Loss/ Gen. Loss	Brief Reason (As reported)	Category as per CEA Grid standards	# Fault Clearance Time (>100 ms for 400 kV and 160 ms for 220 kV)	*FIR Furnished (YES/NO)	DR/EL provided in 24 hrs (YES/NO)	Other Protection Issues and Non Compliance (inference from PMU, utility details)	Remarks
			Date	Time								
1	800 KV HVDC Agra(PG) Pole-3	POWERGRID	01-Aug-25	09:55	Nil	Earth fault	NA	80	Yes	Yes		As per PMU, fluctuation in voltage is observed. As reported, 800 KV HVDC Agra(PG) Pole-3 tripped on Valve Short Circuit Protection operation.
2	400 KV Gorakhpur(PG)-Motihari(BS) (PG) Ckt-1	POWERGRID	05-Aug-25	20:52	Nil	Phase to earth fault Y-N	NA	80	Yes	Yes		As per PMU and DR, Y-N phase to earth fault with unsuccessful A/R is observed. Fault current was ~3.25kA (zone-1) from Gorakhpur(PG).
3		POWERGRID	07-Aug-25	04:58	Nil	Phase to earth fault Y-N	NA	80	Yes	Yes		As per PMU and DR, Y-N phase to earth fault with unsuccessful A/R is observed. Fault current was 11.18kA (zone-1) from Gorakhpur(PG).
4		POWERGRID	09-Aug-25	01:12	Nil	Phase to earth fault Y-N	NA	80	Yes	Yes		As per PMU and DR, Y-N phase to earth fault with unsuccessful A/R is observed. Fault current was 2.18kA (zone-2) from Gorakhpur(PG).
5	400 KV Gorakhpur(PG)-Motihari(BS) (PG) Ckt-2	POWERGRID	11-Aug-25	05:27	Nil	Phase to earth fault R-N	NA	80	Yes	Yes		As per PMU and DR, R-N phase to earth fault with unsuccessful A/R is observed. Fault current was 3.5kA (zone-1) from Gorakhpur(PG).
6	765 KV Phagi(RS)-Gwalior(PG) (PG) Ckt-1	POWERGRID	21-Aug-25	02:52	Nil	Phase to earth fault B-N	NA	80	Yes	Yes	DR time window is not as per standard.	As per PMU and DR, B-N phase to earth fault with successful A/R followed by another B-N phase to earth fault within A/R reclaim time is observed. Fault current was ~2.59kA from Phagi(RS).
7	765 KV Chittorgarh-Banaskantha (PG) Ckt-1	POWERGRID	28-Aug-25	13:08	Nil	Phase to earth fault B-N	NA	80	Yes (After 24 hours)	Yes (After 24 hours)		As per PMU and DR, B-N phase to earth fault with unsuccessful A/R is observed. Fault current was ~4.53kA (zone-1) from Chittorgarh(PG).

 # Fault Clearance time has been computed using PMU Data from nearest node available and/or DR provided by respective utilities (*Annexure- II)***

****Yes, if written Preliminary report furnished by constituent(s)***

R-Y-B phase sequencing (Red, Yellow, Blue) is used in the list content.All information is as per Northern Region unless specified.

^^ tripping seems to be in order as per PMU data, reported information. However, further details may be awaited.

Reporting of Violation of Regulation for various issues for above tripping

1	Fault Clearance time(>100ms for 400kV and >160ms for 220kV)	1. CEA Grid Standard-3.e 2. CEA Transmission Planning Criteria
2	DR/EL Not provided in 24hrs	1. IEGC 37.2(c) 2. CEA Grid Standard 15.3
3	FIR Not Furnished	1. IEGC 37.2(b) 2. CEA Grid Standard 12.2 (Applicable for SLDC, ALDC only)
4	Protection System Mal/Non Operation	1. CEA Technical Standard of Electrical Plants and Electric Lines: 43.4.A 2. CEA (Technical Standards for connectivity to the Grid) Regulation, 2007: Schedule Part 1. (6.1, 6.2, 6.3)
5	A/R non operation	1. CEA Technical Standard of Electrical Plants and Electric Lines: 43.4.C 2. CEA Technical Planning Criteria

Status of Mock Test of SPS in NR during 2025-26

Sr. No.	Scheme Name	Owner / Agency	Commission Year	Last Review	Mock testing conducted before 2025-26	Tentative Schedule of SPS Mock testing to be conducted during 2025-26	Date of SPS Mock testing conducted during 2025-26	Remarks
1	SPS for WR-NR corridor - 765kV Agra-Gwalior D/C	POWERGRID			27-03-2025	Schedule awaited		
2	SPS for contingency due to tripping of HVDC Mundra-Mahendergarh	ADANI				SPS Unhealthy		As reported by ADANI, work order has been placed and action plan also have been rceived. Tentative timeline for revival of SPS is by December 2025.
3	SPS for high capacity 400 kV Muzaffarpur-Gorakhpur D/C Inter-regional tie-line related contingency	POWERGRID				Schedule awaited		Not conducted in 2024-25 also.
4	SPS for 1500 MW HVDC Rihand-Dadri Bipole related contingency	POWERGRID			19-03-2025 and 20-03-2025	Schedule awaited		During mock testing, issue identified at Singrauli, Malerkotla. During recent operation on 21.05.2025, non-operation of SPS at Muradnagar, Modipuram, Malerkotla, Singrauli observed.
5	System Protection Scheme (SPS) for HVDC Balia-Bhiwadi Bipole	POWERGRID				Schedule awaited		Not conducted in 2024-25 also
6	SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wangtoo HEP	SJVN/HPPTCL/JSW/POWERGRID/SORANG			19-12-2024	Dec-25	04-09-2025 (Partial: Case-1, 3 & 5 conducted)	Case-6(i): Under implemetation stage (tentative by 15th August 2025), Case 6(ii): communication card issue at Wangtoo(HP)
7	SPS for Reliable Evacuation of Ropar Generation	PSTCL				SPS Unhealthy		As reported by PSTCL, SPS need to be reviewed whether it is requird or not.
8	SPS for Reliable Evacuation of Rosa Generation	UPPTCL			20-04-2024	conducted	12-04-2025	Mock test report received (Review to be done in view of commissioning of 400kV Rosa-Badaun D/C in April 2021.)
9	SPS for evacuation of Kawai TPS, Kalisindh TPS generation complex	RVPNL			14-03-2025 (Partial)	conducted	26-04-2025	Study w.r.t. Automatic load shedding part has been done. Proposed Will be put up in 234 OCC
10	SPS for evacuation of Anpara Generation Complex	UPPTCL			08-10-2024 (unit-7) and 19-10-2024 (unit-6)	Schedule awaited		
11	SPS for evacuation of Lalitpur TPS Generation	UPPTCL			21-05-2024	conducted	09-04-2025	Mock test report received
12	SPS for Reliable Evacuation of Bara TPS Generation	UPPTCL			20-11-2024	conducted	23-05-2025	Mock test report received
13	SPS for Transformers at Maharanibagh (PG) substation	POWERGRID				conducted	Apr-25	Mock test report received
14	SPS for Transformers at Mandola (PG) substation	POWERGRID				conducted	Apr-25	Mock test report received
15	SPS for Transformers at Moradabad (UPPTCL) Substation	Uttar Pradesh			20-04-2024	conducted	02-04-2025	Mock test report pending
16	SPS for Transformers at Muradnagar (UPPTCL) Substation	UPPTCL			27-03-2025	Mar-26		
17	SPS for Transformers at Agra (UPPTCL) Substation	UPPTCL			21-03-2025	Schedule awaited		
18	SPS for Transformers at 400kV Sarojininagar (UPPTCL) Substation	UPPTCL			15-05-2024	conducted	23-07-2025	Mock test report received
19	SPS for Transformers at 220kV Sarojininagar (UPPTCL) Substation	UPPTCL			06-06-2024	conducted	23-07-2025	Mock test report received
20	SPS for Transformers at 400kV Unnao (UPPTCL) Substation	UPPTCL			19-05-2023	SPS made healthy on 27.05.2025	27.05.2025	Mock test report received
21	SPS for Transformers at 400kV Bareilly (UPPTCL) Substation	UPPTCL				Revised SPS approved in 234 OCC		SPS yet to be implemented
22	SPS for Transformers at 400kV Azamgarh (UPPTCL) Substation	UPPTCL			06-05-2024	conducted	19-04-2025	Mock test report received
23	SPS for Transformers at 400kV Mau (UPPTCL) Substation	UPPTCL			27-04-2024	conducted	21-04-2025	Mock test report received
24	SPS for Transformers at 400kV Sarnath (UPPTCL) Substation	UPPTCL			23-05-2024	conducted	01-04-2025	Mock test report received
25	SPS for Transformer at 400kV Rajpura (PSTCL) Substation	PSTCL			31-01-2025	Schedule awaited		
26	SPS for Transformers at 400kV Mundka (DTL) Substation	DTL			03-02-2025	Schedule awaited		
27	SPS for Transformers at 400kV Deepalpur (JKTPL) Substation	HVPNL				conducted	08-05-2025	Mock test report pending
28	SPS for Transformers at 400kV Ajmer (RVPN) Substation	RVPNL			10-09-2024	10-09-2025		
29	SPS for Transformers at 400kV Merta (RVPN) Substation	RVPNL			12-09-2024	12-09-2025		
30	SPS for Transformers at 400kV Chittorgarh (RVPN) Substation	RVPNL			31-08-2024 and 05-09-2024	05-09-2025		

31	SPS for Transformers at 400kV Jodhpur (RVPN) Substation	RVPNL			24-09-2024	24-09-2025		
32	SPS for Transformers at 400kV Bhadla (RVPN) Substation	RVPNL			27-09-2024	27-09-2025		
33	SPS for Transformers at 400kV Ratangarh (RVPN) Substation	RVPNL			20-09-2024	20-09-2025		
34	SPS for Transformers at 400kV Nehtaur(WUPPTCL) Substation	UPPTCL			11-01-2025	**Schedule awaited**		
35	SPS for Transformers at Obra TPS	UPPTCL			20-05-2024	**Schedule awaited**		
36	SPS for Transformers at 400KV Kashipur (PTCUL) substation	PTCUL			Septemeber 2024	Sep-25		
37	**SPS for Transformers at 400KV Fatehgarh Solar Park (AREPRL)**	**ADANI**				**conducted**	**19-04-2025**	**Mock test report received.**
38	**SPS to relive transmission congestion in RE complex (Bhadla2)**	**POWERGRID**				**conducted**	**26-08-2025**	**Mock test report pending**
39	SPS for Transformers at 400kV Bikaner (RVPN) Substation	RVPNL			26-09-2024	26-09-2025		
40	SPS for Transformers at 400kV Bawana (DTL) Substation	DTL			04-01-2025	Dec-25		
41	SPS for Transformers at 400kV Bhilwara (RVPN) Substation	RVPNL			09-07-2024 and 10-07-2024	10-07-2025		
42	SPS for Transformers at 400kV Hinduan (RVPN) Substation	RVPNL			26-09-2024	26-09-2025		
43	SPS for Transformers at 400kV Suratgarh (RVPN) Substation	RVPNL			20-10-2024	20-10-2025		
44	SPS for Transformers at 400kV Babai(RS) Substation	RVPNL			20-10-2024	20-10-2025		
45	SPS for Transformers at 400kV Allahabad(PG) Substation	UPPTCL			25.07.2024	**Schedule awaited**		
46	SPS for Transformers at 400kV Jaunpur(UP) Substation	UPPTCL						**Yet to be implemented**
47	**SPS for Transformers at 765kV Jhatikara(PG) Substation (Bamnauli section)**	**POWERGRID**				**conducted**	**Jun-25**	**Mock test report received.**
	SPS for Transformers at 765kV Jhatikara(PG) Substation (Mundka section)					**conducted**	**Jun-25**	
48	**SPS for Transformers at 765kV Bhiwani(PG) Substation**	**POWERGRID**				**SPS implemented**		**Mock test report received.**
49	SPS for Transformers at 400kV Panki (UPPTCL) Substation	UPPTCL				**Approved in 234 OCC**		**Yet to be implemented**
50	SPS for Transformers at 400kV Agra(PG) Substation	POWERGRID/UPPTCL				**Approved in 234 OCC**		**Yet to be implemented**

Annexure-B.VII

Fw: Mundra-Mohindergarh HVDC , SPS-NR defect resolutions

Deepak Kumar

Tue 04-Feb-25 17:04

To:Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>;

1 attachments (23 KB)

Revised Schedule for Site Visit.xlsx;

From: Sumeet Sharma <Sumeet.Sharma@adani.com>
Sent: Monday, February 3, 2025 6:58 PM
To: aen.com; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Cc: NRLDC SO 2; Somara Lakra (सोमारा लाकरा); Mahavir Prasad Singh (महावीर प्रसाद सिंह); Deepak Kumar; Sunil Kumar Raval; Namandeep Matta; Kali Charan Sahu; RAVINDRA ATALE; Nihar Raj; Milan Popat; Abhishek Kukreja; Naman Vyas; Abhishek Kumar Singh
Subject: Mundra-Mohindergarh HVDC , SPS-NR defect resolutions

Dear Sirs,

This refers to the matter discussed during recent Protection subcommittee (PSC) meetings with regards to the requirement of rectifications of SPS-NR implemented for Mundra-Mohindergarh HVDC transmission. We have awarded the service to M/s commtel for survey and restoration of possible elements installed at the locations.

Please note that Engineers from M/s Commtel shall be visiting your stations as per the attached schedule and necessary coordination shall be done by Mr. Abhishek Singh (Station -in charge) of Mohindergarh HVDC station (AESL-GD). He can be contacted at Mobile: 9671306831.

We request your kind permission and necessary support in carrying out the observations/possible restorations of the installations at your respective stations.

Thank you.

Regards,

Sumeet Sharma
Head- Automation, Communications , OT-Cyber & Technology
Adani Energy Solutions Limited.(Grid Division)
Mob +91 90990 05648 | sumeet.sharma@adani.com | www.adani.com
KP Epitome|10th Floor South Wing | SG Highway |Ahmedabad-382421| Gujarat

Project : To check Sytem healthiness anc configuration of system installed Under M/s Adani

S. No	Site name	Region	Site visit
1	laltokalan	Punjab	03.02.2025
2	Gobidngarh		04.02.2025
3	Malerkotla		05.02.2025
4	Mandula	UP	06.02.2025
5	Bamnauli	DTL	07.02.2025
6	Ratangarh	Rajasthan	06.02.2025
7	Bhilwara		07.02.2025
8	Merta		07.02.2025
9	Alwar		08.02.2025
10	PG Bhiwani	Haryana	10.02.2025
11	BBMB bhiwani		10.02.2025
12	Hissar		11.02.2025
13	Dadri		11.02.2025
14	Bahadurgah		12.02.2025
15	Dhanoda		12.02.2025
16	Shamli	UP	12.02.2025

RE: Mock testing of SPS of 500kV HVDC Mundra-Mahindergarh link

Thu 8/29/2024 7:29 PM

To:NRLDC SO 2 <nrldcso2@grid-india.in>; CPCC1 <rtamc.nr1@powergrid.in>;

Cc:seo-nrpc <seo-nrpc@nic.in>; Somara Lakra (सोमारा लाकरा) <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Arunkumar P <Arunkumar.P@adani.com>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; Deepak Kumar <deepak.kr@grid-india.in>; AMIT SHARMA <amsharma@grid-india.in>; Bikas Kumar Jha (बिकास कुमार झा) <bikaskjha@grid-india.in>; Manas Ranjan Chand (मानस रंजन चंद) <manas@grid-india.in>; Aman Gautam (अमन गौतम) <amangautam@grid-india.in>; Gnanaguru . <Gnanaguru.1@adani.com>; Sumeet Sharma <Sumeet.Sharma@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Milan Popat <Milan.Popat@adani.com>; Nihar Raj <nihar.raj@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>;

5 attachments (9 MB)

Counter (2).jpg; Counter.jpg; TPS (2).jpg; TPS.jpg; 220KV Alwar ss.jpg;

Dear Sir,

Please find the attached Photos. on 28-08-2024, a representative from M/s. Commtel Networks visited the Mahendragarh site and confirmed the healthiness of the SDH and TPS, along with their associated cards.

All SPS System equipment are functioning properly. The 15 TPS installed in the remote substation.

The details and status of TPS and Counter at Mahendragarh End.

S.No	TPS	TPS Status	Counter	Counter Status
1	PG Hissar	ON	17	OKAY
2	Bhiwani	ON	17	OKAY
3	Dadari	ON	17	OKAY
4	Alwar	ON	-	OFF
5	Bhilwara	ON	12	OKAY
6	Merta	ON	14	OKAY
7	Ratangarh	ON	-	OFF
8	Gobinugarg	ON	-	OFF
9	Malerkotla	ON	-	OFF
10	Laton Kalan	ON	6	OKAY
11	Mandula	ON	12	OKAY
12	Bamnauli	ON	-	OFF
13	Shamli	ON	-	OFF
14	Bahadurgarh	ON	10	OKAY

15	Dhanonda	ON	-	OFF

There alarms on the system are due to the following reasons.

1. Equipment Failure/ card failure/ power failure at Remote Sites.
2. Cable connectivity break between the remote System and cable coming from Field.
3. E1 connectivity outage at remote Sites.

Our team, with support from Commtel Networks, visited the nearest TPS installed at the 220/132 kV Alwar Substation to check its healthiness. However, during the inspection, the panel was found to be de-energized, necessitating an end-to-end test. (Photo Attached) Similarly, each substation needs to be ensured the healthiness of the TPS by respective Substation owner.

We request you to please confirm the healthiness of the Sr no 1 and 2 .

Thanks and Regards,

Kalicharan Sahu
(O&M) HVDC & EHV Substations,
Adani Energy Solutions Limited
| ±500kV HVDC Mahendragarh Terminal Sub Station I
Village-Kheri- Aghiyar, Taluka- Kanina, Mahendragarh 123 029, Haryana, India
Mob +91 9764006167| Off +91 1285 277326

From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Tuesday, August 27, 2024 10:07 AM
To: SLDC Punjab <se-sldcprojects@pstcl.org>; PC PSTCL SLDC PUNJAB <pcpstcl@gmail.com>; Haryana <sldcharyanacr@gmail.com>; Delhi <sldcmintoroad@gmail.com>; UP <sera@upsldc.org>; Rajasthan <SE.LDRVPNL@RVPN.CO.IN>; ce.ld@rvpn.co.in; CPCC1 <rtamc.nr1@powergrid.in>; neerajk@powergrid.in; setncmrt@upptcl.org; bharatlalgujar@gmail.com; akashdeep3433786@gmail.com; xenemtcbhpp2@bbmb.nic.in; PC Control Room <pccont@bbmb.nic.in>; se.prot.engg@rvpn.co.in; Arunkumar P <Arunkumar.P@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; rajbir-walia79@yahoo.com; ase-sldcop@pstcl.org; sesldcop@hvpn.org.in; cepso@upsldc.org; se-sldcop <se-sldcop@pstcl.org>; SICHVDC Controlroom <SICHVDC.Controlroom@adani.com>
Cc: seo-nrpc <seo-nrpc@nic.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; AMIT SHARMA <amsharma@grid-india.in>; bikaskjha <bikaskjha@grid-india.in>; Manas Ranjan Chand (मानस रंजन चंद) <manas@grid-india.in>; Aman Gautam (अमन गौतम) <amangautam@grid-india.in>
Subject: Re: Mock testing of SPS of 500kV HVDC Mundra-Mahindergarh link

Sir,

उत्तर प्रदेश राज्य भार प्रेषण केन्द्र लि०
यू०पी०एस०एल०डी०सी०परिसर, विभूति
खण्ड II,गोमती नगर, लखनऊ–226010
ई मेल : sera@upsldc.org

U.P. State Load Despatch Centre Ltd.
UPSLDC Complex, Vibhuti Khand II
Gomti Nagar, Lucknow- 226010
E-mail: sera@upsldc.org

No: - 2661 /SE(R&A)/EE-II/SPS Dated:- 07/08/ 2024

General Manager, NRLDC18-A,
SJSS Marg, Katwaria Sarai,
New Delhi – 110016

Subject- Regarding SPS of HVDC Mundra-Mahendargarh line

Kindly refer to SE (ETC) Muzaffarnagar letter no/062/E.T.C./MZN/400 kV S/S Shamli dated 05.05.2024. (copy enclosed) regarding feeder wise load of Shamli area. As per the letter, at present complete load relief (i.e. 300MW) may not be provided by 220 kV Shamli, so that alternatively feeder and load details of 400 kV Shamli has also been provided. Also it is informed that at present SPS system at 220 kV Shamli is not healthy which is being maintained by PGCIL.

It is therefore requested to kindly instruct the concerned to incorporate 132 kV feeders of 220 kV Shamli & 400 kV Shamli in SPS of HVDC Mundra-Mahendargarh line so that appropriated load relief may be provided from UP Control area and take necessary action regarding healthiness of SPS system

Sangeet
(Sangeeta)
Superintending Engineer (R&A)

No: - /SE(R&A)/EE-II/SPS Dated: - 2024

Copy forwarded to following via e-mail for kind information and necessary action:-

1. Director, UPSLDC, Vibhuti Khand – II, Gomti Nagar, Lucknow.
2. Director (Operation), UPPTCL, 11th Floor, Shakti Bhawan Extn., Lucknow.
3. Chief Engineer (PSO), Vibhuti Khand – II, Gomti Nagar, Lucknow.
4. Chief Engineer (Trans. West),PareshanBhawan, 130D, Hydel Colony, Victoria Park, Meerut 250001.
5. SE (Operations), 18 – A SJSS Marg, Katwaria Sarai, New Delhi, 110016.

(Sangeeta)
Superintending Engineer (R&A)

कार्यालय
अधीक्षण अभियन्ता
विद्युत पारेषण मण्डल
उ०प्र०पावर ट्रांसमिशन कारपोरेशन लि०
132 के०वी० भोपारोड उपकेन्द्र
मुजफ्फरनगर-251001

OFFICE OF THE
SUPERINTENDING ENGINEER
Electricity Transmission Circle
U.P. Power Transmission Corporation Ltd.
132 KV Bhopa Road Sub-station
Muzaffarnagar-251001

दूरभाष : 0131-2608038 Ph. 0131-2608038
E-mail : seetcmzn@upptcl.org, seetcmzn@gmail.com

संख्या / No. 1062 /E.T.C./MZN/400 KV S/S Shamli दिनांक / DATED 05/08/24

Subject: - Regarding SPS of HVDC Mundra-Mahendargarh.

Superintending Engineer (R & A)
U.P State Load Despatch Centre Ltd.
UPSLDC Complex, Vibhuti Khand-II
Gomti Nagar, Lucknow.
Email. sera@upsldc.org

Please refer to your office letter no. 2187 dt. 01.07.2024, forwarded to this office by SE (T&C), Meerut vide endorsement no. 2237/CE(TW)/MT/SPS dt. 23.07.2024 vide which it has been requested to provide details of 132 KV feeders for planned relief to HVDC Mundra-Mahendargarh SPS.

In this reference, it is to apprise that following is the details of 132 KV feeders being fed from 220 KV Sub-Station Shamli.

S.No.	Name of feeder	Connected Load (MVA)	Maximum Load (MW)	Average Load (MW)
1	132 KV Lalukheri	63+63	72	47
2	132 KV Jhinjhana	63+40+40	80	52
3	132 KV Kairana-I/II	63+63	41	27
4	132 KV Jasala	63+40	58	38
	Total		251	164

1. Following Case wise Trippings of 132 KV Feeders at 220 KV Sub-Station, Shamli for tripping of HVDC Mundra-Mahendergarh Line may be used.

(A) In Maximum Load Condition:-

S. No.	State.L.S quantum	Name of feeding substation	Feeder/line/ equipment	MW	Case-1 50 MW	Case-2 100 MW	Case-3 200MW	Case-4 300 MW
1	Uttar Pradesh Case-1 =50 MW Case-2 =100 MW Case-3 =200 MW Case-4 =300 MW	220 KV Subsatatio n, Shamli	132 KV Jasala	58	1	1	1	1
2			132 KV Kairana-I	20.5		1		1
3			132 KV Kairana-II	20.5	-	1		1
4			132 KV Lalukheri	72	-	-	1	1
5			132 KV Jinjhana	80	-		1	1
			Total Relief	251	58	99	210	251

(B) In Average Load Condition :-

S. No.	State.L.S quantum	Name of feeding substation	Feeder/line/ equipment	MW	Case-1 50 MW	Case-2 100 MW	Case-3 200MW	Case-4 300 MW
1	Uttar Pradesh Case-1 =50 MW Case-2 =100 MW Case-3 =200 MW Case-4 =300 MW	220 KV Subsatatio n, Shamli	132 KV Jasala	38	1		1	1
2			132 KV Kairana-I	13.5	1		1	1
3			132 KV Kairana-II	13.5	-		1	1
4			132 KV Lalukheri	47	-	1	1	1
5			132 KV Jinjhana	52	-	1	1	1
			Total Relief	164	51.5	99	164	164

Alternatively HVDC Mundra-Mahendargarh SPS may be shifted to 400 KV Sub-Station Shamli, details of 132 KV feeders from 400 KV Sub-Station Shamli with its Maximum and Average load is as follows :

S.No.	Name of feeder	Connected Load (MVA)	Maximum Load (MW)	Average Load (MW)
1	132 KV Budhana	63+40	82	53
2	132 KV Kharad	63+40	78	51
3	132 KV Jalalpur	40+40	41	27
4	132 KV Thanabhawan	63+63+40	74	48
5	132 KV Kaniyan	40+40	35	23
	Total		310	202

2. Following Case wise Trippings of 132 KV Feeders at 400 KV Sub-Station, Shamli for tripping of HVDC Mundra-Mahendergarh Line is hereby recommended

(A). In Maximum Load Condition :-

S. No.	State.L.S quantum	Name of feeding substation	Feeder/line/ equipment	MW	Case-1 50 MW	Case-2 100 MW	Case-3 200MW	Case-4 300 MW
1	Uttar Pradesh Case-1 =50 MW Case-2 =100 MW Case-3 =200 MW Case-4 =300 MW	400 KV Subsatation, Shamli	132 KV Budhana	82	-	-	1	1
2			132 KV Kharad	78	-	-	1	1
3			132 KV Jalalpur	41	1	-	1	1
4			132 KV Thanabhawan	74	-	1	-	1
5			132 KV Kaniyan	35	1	1	-	1
			Total Relief	310	76	109	201	310

(B). In Average Load Condition :-

S. No.	State.L.S quantum	Name of feeding substation	Feeder/line/ equipment	MW	Case-1 50 MW	Case-2 100 MW	Case-3 200MW	Case-4 300 MW
1	Uttar Pradesh Case-1 =50 MW Case-2 =100 MW Case-3 =200 MW Case-4 =300 MW	400 KV Subsatation, Shamli	132 KV Budhana	53	-	1	1	1
2			132 KV Kharad	51	1	1	1	1
3			132 KV Jalalpur	27	-	-	1	1
4			132 KV Thanabhawan	48	-	-	1	1
5			132 KV Kaniyan	23	-	-	1	1
			Total Relief	202	51	104	202	202

Submitted for information and necessary action

(Nikhil Kumar)
Superintending Engineer

संख्या / No. /E.T.C./MZN/ दिनांक / DATED

Copy forwarded to the following for information and necessary action :

1. Chief Engineer (TW) UPPTCL Meerut.
2. Superintending Engineer, Electricity (T&C) Circle, UPPTCL Meerut.
3. Executive Engineer Electricity Transmission Division, Shamli

(Nikhil Kumar)
Superintending Engineer

कार्यालय
अधीक्षण अभियन्ता
विद्युत परीक्षण एवं परिचालन मण्डल
उ0प्र0 पावर ट्रांसमिशन कारपोरेशन लि0
प्रथम तल पारेषण भवन, 130–डी, विक्टोरिया पार्क
मेरठ– 250 003
मोबाइल: 9412749817

OFFICE OF THE
SUPERINTENDING ENGINEER
Electricity Test & Commissioning Circle
U.P. POWER TRANSMISSION CORPORATION LTD.
1st Floor Pareshan Bhawan, 130-D, Victoria Park,
Meerut 250 003
Mobile: 9412749817

No. 82 / ETCC-MT / Dated- 30/05/24

Sub :- SPS related to HVDC Mundra-Mahendargarh.

Superintending Engineer (R&A) **(By e-mail)**
UPSLDC Vibhuti Khand ,
Gomti Nagar,
Lucknow.

In reference to the above cited subject, UPSLDC via email on 22.05.2024 informed that on 17.05.2024 at 16:20 hrs, Case-3 of SPS related to HVDC Mundra - Mahendergarh operated. As per action in case-3 operation of this line SPS, 200MW load relief at 220kV Shamli (UP) is desired. However, no load relief at 220kV Shamli was observed at given date and time. It is to bring in your notice that due to commissioning of 400kV Shamli S/s entire power flow scenario has been changed. Current situation is summarized as below.

At 220kV Shamli S/s feeders shown in the list	Planned load relief (MW)	Current situation
Thana Bhawan -1	25	The only line cateting Thana Bhawan has been made LILO at 132kV Jalalpur. Now Jalalpur is fed from 220kV Shamli S/s while load of Thana Bhawan is fed from 400kV Shamli S/s.
Thana Bhawan -2	25	
Jasala-1	25	Only one line exists.
Jasala-2	25	
Kharad-1	50	Only one line exists which is normally kept open at Kharad and load of Kharad is normally fed from 400kV Shamli S/s.
Kharad-2	50	
Baraut-1	150 (case-4)	No such line exist at 220kV Shamli S/s.
Baraut-2	150 (case-4)	

In view of the above facts, entire load relief strategy needs to be reviewed and redesigned for SPS. On 17.05.2024 at 16:20 hrs, no tripping observed at 220kV S/S Shamli as SPS system is unhealthy, which is being maintained by M/s PGCIL.

Hence it is requested to you to kindly coordinate with M/s PGCIL for modification of the scheme and rectification of the fault in SPS.

(Pramod Kumar Mishra)
Superintending Engineer

No. 82 /ETCC-MT/ Dated/– 30/05/24

Copy forwarded to the following for information & necessary action:-

1. Chief Engineer (TW), UPPTCL Victoria Park, Meerut.
2. Executive Engineer, Electricity Test & Commissioning Div., Muzaffarnagar.

(Pramod Kumar Mishra)
Superintending Engineer

SK/SENew/NewEngLetter01

Rajasthan Details

Revised updated feeder details (radial) along with expected average Load Relief

S.No.	Name of Sub- Station	Feeder name as per existing detail	Revised name of Existing Feeder /Line/Equipment	Average Load relief (MW)	Remark
1	220 kV GSS Alwar	132 kV GSS Mundawar	132 kV GSS Pinan	25	
		132 kv GSS Bansoor	132 kV GSS Telco	45	
		132 kV GSS Ramgarh	132 kV GSS Ramgarh	65	
		132 kV GSS Malakhera	132 kV GSS Malakhera	50	
		132 kV Alwar (LOCAL)	132 kV GSS Alwar (LOCAL)	120	
2	220 kV GSS Ratangarh	132 kV Sardar Sher			Generally Feed from 220 kV Halasar
3	220 kV GSSV Bhilwara	132 kV GSS Gangapur	132 kv GSS Karoi	15	
		132 kV GSS Danta	132 kV GSS Danta	30	
		132 kV GSS Devgarh	132 kV GSS Bankali	18	
		132 kV GSS Kareda			
4	400 kV GSS Merta	132 kV GSS Kuchera	132 kV GSS Dhawa	25	
		132 kV GSS Lamba	132 kV GSS Lamba jatan	55	
		132 kV GSS Gotan			

Email **Control Room CONTROL ROOM SLDC**

Re: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

From : Executive Engineer TS Rewari <xentsrwr@hvpn.org.in> Thu, Aug 29, 2024 01:20 PM

Subject : Re: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

To : Control Room CONTROL ROOM SLDC <controlroomsldc@hvpn.org.in>

Cc : SE TS GGN <setsggn@hvpn.org.in>, Executive Engineer Executive Engineer <xen400kvdhanoda@hvpn.org.in>, Substation Engineer <sse220kvlulaahir@hvpn.org.in>

In continuation of trailing email and discussion held today telephonically, it is gathered that desired load relief shall not get as load of 220 kV Lula Ahir shall be fed through 220 kV Dadri-Lula Ahir line being synchronized. Therefore, it is proposed that in the existing scheme SPS, the tripping of 220 kV D/C Lula Ahir line at 400 kV Dhanonda end may be removed and tripping of all incomers (2 no. 132 kV Incomers of 100 MVA 220/132 kV TFs and one no. 33 kV incomer of 100 MVA 220/33 kV TF) at 220 kV Lula Ahir substation may be added.

The maximum load (for FY 2023-24) on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 53.46 MVA, 86.26 MVA and 87.02 MVA

The average load on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 50 MVA, 70 MVA and 70 MVA

From: "Executive Engineer TS Rewari" <xentsrwr@hvpn.org.in>
To: "Control Room CONTROL ROOM SLDC" <controlroomsldc@hvpn.org.in>
Cc: "SE TS GGN" <setsggn@hvpn.org.in>, "Executive Engineer Executive Engineer" <xen400kvdhanoda@hvpn.org.in>, "Substation Engineer" <sse220kvnarnaul@hvpn.org.in>
Sent: Wednesday, August 28, 2024 12:46:13 PM
Subject: Re: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

In reference of trailing email it is submitted that 220 kV Lula Ahir is connected with 400 kV Dhanonda through 220kV D/C line and with 220 kV Dadri through 220kV S/C line and with 220 kV Rewari with 220kV S/C line.
In general circuits of 400 kV Dhanonda and 220 kV Dadri runs in synchronization. The maximum load (for FY 2023-24) on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 53.46 MVA, 86.26 MVA and 87.02 MVA. It is further added that in general 220 kV Dadri takes load from 220 kV Lula Ahir substation and thus act as sink.

In case of operation of SPS at 400 kV Dhanonda, the desired load relief as mentioned in trailing email (90+95 MW) can be achieved through existing scheme (by outage of three no. 100 MVA TFs and 220 kV Dadri (acting as sink)).

Regards
XEN/TS Division
HVPNL Rewari.

From: "Control Room CONTROL ROOM SLDC" <controlroomsldc@hvpn.org.in>
To: "Executive Engineer TS Rewari" <xentsrwr@hvpn.org.in>, "Executive Engineer TS Rohtak" <xentsrtk@hvpn.org.in>, "Executive Engineer Ts Bhiwani" <xentsbhw@hvpn.org.in>, "Executive Engineer Executive Engineer" <xen400kvdhanoda@hvpn.org.in>, xendhanonda@gmail.com
Cc: "Chief Engineer SO Commercial" <cesocomml@hvpn.org.in>, "Chief Engineer TS Panchkula" <cetspkl@hvpn.org.in>, "Chief Engineer TS Hisar" <cetshsr@hvpn.org.in>, "Superintending Engineer SLDC OP" <sesldcop@hvpn.org.in>, "SE TS Rohtak" <setsrtk@hvpn.org.in>, "SE TS GGN" <setsggn@hvpn.org.in>, "Superintending Engineer TS Hisar" <setshsr@hvpn.org.in>, "Superintending Engineer MP CC Dhulkote" <sempccdkt@hvpn.org.in>, "Superintending Engineer MP CC Delhi" <sempccdelhi@hvpn.org.in>, "Executive Engineer MP Rohtak" <xenmpccrtk@hvpn.org.in>, "XEN MP Hisar" <xenmpcchsr@hvpn.org.in>, "XEN MP CC" <xenmpccggn@hvpn.org.in>
Sent: Wednesday, August 21, 2024 11:57:59 AM
Subject: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

Sir,

Please see the attachments.

--
Regards,
SCE (पाली प्रभारी अभियंता)/SLDC Control room,
HVPNL Panipat
Contact No- 9053090722,9053090721,0180-2664095

Fwd: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

Control Room CONTROL ROOM SLDC <controlroomsldc@hvpn.org.in>

Fri 8/30/2024 12:44 PM

To:NRLDC SO 2 <nrldcso2@grid-india.in>; NRLDC SO-II <nrldcso2@gmail.com>; Deepak Kumar <deepak.kr@grid-india.in>;

Cc:Superintending Engineer SLDC OP <sesldcop@hvpn.org.in>;

2 attachments (209 KB)

Email SPS Rewari.pdf; Regarding SPS Bhiwani.pdf;

Sir,

In reference to the SPS installed for 500kV HVDC Munda - Mahindergarh link the information received from TS wing (copy attached) is as under:

1. At 400kV Dhanonda through Lula Ahir substation:- It is proposed that in the existing scheme SPS, the tripping of 220 kV D/C Lula Ahir line at 400 kV Dhanonda end may be removed and tripping of all incomers (2 no. 132 kV Incomers of 100 MVA 220/132 kV TFs and one no. 33 kV incomer of 100 MVA 220/33 kV TF) at 220 kV Lula Ahir substation may be added. The maximum load (for FY 2023-24) on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 53.46 MVA, 86.26 MVA and 87.02 MVA. The average load on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 50 MVA, 70 MVA and 70 MVA.

2. At 400/220kV Bhiwani BBMB: It is proposed that in the existing scheme SPS, the tripping of 220 kV Bapora (Bhiwani HVPNL) D/C line at Bhiwani BBMB end may be removed and tripping of all incomers (2 no. 132 kV Incomers of 100 MVA 220/132 kV T-1 & T-2 TFs) at 220 kV Bapora (Bhiwani HVPNL) substation may be added. The maximum load on two no. 100 MVA TFs installed at 220kV Bhiwani HVPNL is 80 MW and 85 MW respectively. The average load on two no. 100 MVA TFs installed at 220kV Bhiwani HVPNL is 70 MW and 70 MW respectively.

3. At 132kV Charkhi Dadri: It is proposed that in the existing scheme SPS, the tripping of 132kV Kalanaur line at Dadri BBMB end may be removed and tripping of 132kV Haluwas & 132kV Dadri old at Dadri BBMB may be added. The maximum load on 132kV Haluwas & 132kV Dadri old line is 45 MW and 50 MW respectively. The average load on 132kV Haluwas & 132kV Dadri old line is 40 MW and 40 MW respectively.

Rest information kept unchanged. It is also added here that the fiber connectivity is also available on all the above substations.
It is also pertinent to mention here that 700 MW load relief is expected from Haryana. Rest of the states have been allotted with a relative less amount of relief as compared to Haryana for 500kV HVDC Mundra - Mahendargarh link. The Haryana share from APL Mundra has also been reduced now. In view of the above, the expected load relief from the NR states is required to be reviewed accordingly. The same was also pointed out by this office during the online meeting held on dated 20.08.2024.

This is for information & further necessary action please.

From: "Executive Engineer TS Rewari" <xentsrwr@hvpn.org.in>
To: "Control Room CONTROL ROOM SLDC" <controlroomsldc@hvpn.org.in>
Cc: "SE TS GGN" <setsggn@hvpn.org.in>, "Executive Engineer Executive Engineer" <xen400kvdhanoda@hvpn.org.in>, "Substation Engineer" <sse220kvlulaahir@hvpn.org.in>
Sent: Thursday, August 29, 2024 1:20:08 PM
Subject: Re: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

In continuation of trailing email and discussion held today telephonically, it is gathered that desired load relief shall not get as load of 220 kV Lula Ahir shall be fed through 220 kV Dadri-Lula Ahir line being synchronized. Therefore, it is proposed that in the existing scheme SPS, the tripping of 220 kV D/C Lula Ahir line at 400 kV Dhanonda end may be removed and tripping of all incomers (2 no. 132 kV Incomers of 100 MVA 220/132 kV TFs and one no. 33 kV incomer of 100 MVA 220/33 kV TF) at 220 kV Lula Ahir substation may be added.

The maximum load (for FY 2023-24) on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 53.46 MVA, 86.26 MVA and 87.02 MVA
The average load on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 50 MVA, 70 MVA and 70 MVA

From: "Executive Engineer TS Rewari" <xentsrwr@hvpn.org.in>
To: "Control Room CONTROL ROOM SLDC" <controlroomsldc@hvpn.org.in>
Cc: "SE TS GGN" <setsggn@hvpn.org.in>, "Executive Engineer Executive Engineer" <xen400kvdhanoda@hvpn.org.in>, "Substation Engineer" <sse220kvnarnaul@hvpn.org.in>
Sent: Wednesday, August 28, 2024 12:46:13 PM
Subject: Re: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

In reference of trailing email it is submitted that 220 kV Lula Ahir is connected with 400 kV Dhanonda through 220kV D/C line and with 220 kV Dadri through 220kV S/C line and with 220 kV Rewari with 220kV S/C line.
In general circuits of 400 kV Dhanonda and 220 kV Dadri runs in synchronization. The maximum load (for FY 2023-24) on three no. 100 MVA TFs installed at 220 kV Lula Ahir is 53.46 MVA, 86.26 MVA and 87.02 MVA. It is further added that in general 220 kV Dadri takes load from 220 kV Lula Ahir substation and thus act as sink.

In case of operation of SPS at 400 kV Dhanonda, the desired load relief as mentioned in trailing email (90+95 MW) can be achieved through existing scheme (by outage of three no. 100 MVA TFs and 220 kV Dadri (acting as sink)).

Regards
XEN/TS Division
HVPNL Rewari.

From: "Control Room CONTROL ROOM SLDC" <controlroomsldc@hvpn.org.in>
To: "Executive Engineer TS Rewari" <xentsrwr@hvpn.org.in>, "Executive Engineer TS Rohtak" <xentsrtk@hvpn.org.in>, "Executive Engineer Ts Bhiwani" <xentsbhw@hvpn.org.in>, "Executive Engineer Executive Engineer" <xen400kvdhanoda@hvpn.org.in>, xendhanonda@gmail.com
Cc: "Chief Engineer SO Commercial" <cesocomml@hvpn.org.in>, "Chief Engineer TS Panchkula" <cetspkl@hvpn.org.in>, "Chief Engineer TS Hisar" <cetshsr@hvpn.org.in>, "Superintending Engineer SLDC OP" <sesldcop@hvpn.org.in>, "SE TS Rohtak" <setsrtk@hvpn.org.in>, "SE TS GGN" <setsggn@hvpn.org.in>, "Superintending Engineer TS Hisar" <setshsr@hvpn.org.in>, "Superintending Engineer MP CC Dhulkote" <sempccdkt@hvpn.org.in>, "Superintending Engineer MP CC Delhi" <sempccdelhi@hvpn.org.in>, "Executive Engineer MP Rohtak" <xenmpccrtk@hvpn.org.in>, "XEN MP Hisar" <xenmpcchsr@hvpn.org.in>, "XEN MP CC" <xenmpccggn@hvpn.org.in>
Sent: Wednesday, August 21, 2024 11:57:59 AM
Subject: Review of SPS installed for 500kV HVDC Mundra - Mahindergarh.

Sir,

Please see the attachments.

--
Regards,
SCE (पाली प्रभारी अभियंता)/SLDC Control room,
HVPNL Panipat
Contact No- 9053090722,9053090721,0180-2664095

--
Regards,
SCE (पाली प्रभारी अभियंता)/SLDC Control room,
HVPNL Panipat
Contact No- 9053090722,9053090721,0180-2664095

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HARYANA VIDYUT PRASARAN NIGAM LIMITED

Regd. Office: Shakti Bhawan, Plot No. C-4, Sector-6, Panchkula, 134109.
Corporate Identity Number: U40101HR1997SGC033683
Website: www.hvpn.org.in, E-mail - xentsbhw@hvpn.org.in
Phone No: 01664-242797(O)

To

The Executive Engineer,
LDPC, HVPNL,
Panipat.

Memo No.Ch-116/OMBE-7 Dated: 29.08.2024

Subject: SPS scheme at HVPNL substations for getting load relief due to tripping of 500Kv HVDC Mundra – Mahendargarh

Please refer to this O/Memo No. 108/OMBE-7 dated 27.08.2024 and O/Email dated 09.08.2024 on the subject cited matter.

In this continuation to above, the details of SPS under TS division, HVPNL, Bhiwani is as under:

S No.	Name of feeding S/Stn	Feeder/Line/Equipment	SPS Installed	Max. Load	Load Relief (Avg Load)	Remarks
1	220KV S/Stn Bhiwani	132KV IA Bhiwani Line	UFR	50MW	40 MW	SPS (UFR)Installed and healthy
2	220KV S/Stn Bhiwani	132KV Bhiwani Ckt 2	UFR	50MW	40 MW	SPS (UFR)Installed and healthy
3	220KV S/Stn Bhiwani	132KV Tosham	UFR	-	-	SPS (UFR) Installed and healthy but line is running on No load as 2nd source to 132KV Tosham
4	220KV S/Stn Bhiwani	132KV Incomer of Transformer 100MVA Transformer T2	-	85MW	70 MW	SPS may be provided for load relief as mentioned on subject above.
5	220KV S/Stn Bhiwani	132KV Incomer of 100MVA Transformer T1	-	80MW	70 MW	SPS may be provided for load relief as mentioned on subject above.
6	132kV substation Dadri-2	132kV Dadri-kalanaur ckt	Yes		Nil	SPS Installed and healthy but line is running on No load as 2nd source to 132KV Kalanaur
7	132kV substation Dadri-2	132kV Dadri-Makrani ckt	Yes		Nil	SPS Installed and healthy but line is running on No load as 2nd source to 132KV Makrani
8	132kV substation Dadri-2	132kV Dadri-Haluwas ckt	-	45MW	40MW	SPS may be provided for load relief as mentioned on subject above.
9	132kV substation Dadri-2	132kV Dadri-Dadri old	-	50MW	40MW	SPS may be provided for load relief as mentioned on subject above.

This is for kind information and necessary action please.

Executive Engineer,
Transmission System Division,
HVPNL, Bhiwani

CC to:

1. SE/TS Circle, HVPNL, Hisar for kind information, please.

Delhi Details

Re: Mock testing of SPS of 500kV HVDC Mundra-Mahindergarh link

SLDC, DELHI <sldcmintoroad@gmail.com>

Wed 8/28/2024 3:48 PM

To:NRLDC SO 2 <nrldcso2@grid-india.in>;

Cc:sinha.surendra <sinha.surendra@yahoo.com>; dgmsodelhisldc@gmail.com <dgmsodelhisldc@gmail.com>; Manager (T) SO <managersogd@gmail.com>;

In reference to trailing mail, the maximum load on 220kV feeders covered under SPS of 500kV HVDC Mundra-Mahindergarh link are as under:

S. No.	Name of the Element	MW
1	220 KV BAMNAULI-PAPANKALAN-I CKT.-I	120
2	220 KV BAMNAULI-PAPANKALAN-I CKT.-II	120
3	220 KV MANDAULA- GOPALPUR CKT.-I	212
4	220 KV MANDAULA- GOPALPUR CKT.-II	214

Regards,
SLDC Delhi

On Tue, Aug 27, 2024 at 10:07 AM NRLDC SO 2 <nrldcso2@grid-india.in> wrote:

> Sir,
>
> In reference of the trailing mail, it is to be mentioned that inputs have received from Rajasthan only. Members agreed to shared the details by 22nd August 2024, however no further details received from Haryana, Punjab, Delhi, UP & ADANI.
>
> Kindly share the details as discussed during the meeting held on 20th August 2024, so that further remedial actions can be initiated on the basis of those details.
>
> सादर धन्यवाद/ Thanks & Regards
> प्रणाली संचालन-II/ System Operation-II
> उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC
> ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
> Formerly known as
> पोसोको / POSOCO

Punjab Details

	Name of S/S	66kV Feeders	Average Demand(Amp.)	Maximum Demand(Amp.)
Punjab Control Area	220/66kV Gobindgarh	66kV Talwara-19(ADANI SPS)	375	430
		66kV Talwara-2(ADANI SPS)	375	430
	220/66kV Lalton kalan	66kV Gill road-1(DADRI SPS)	543	610
		66kV Gill Road-2(DADRI SPS)	518	692
		66kV Dugri(DADRI SPS)	325	450
	220/66kV Malerkotla	66kV Malerkotla(ADANI SPS)	213	403
		66kV Amargarh(ADANI SPS)	238	405
		66kV Malaud ckt 1(DTPC SPS)	257	356

Note: 66kV Malaud at 220kV S/S Malerkotla was bifurcated into two circuits in the month of July 2024.

Nodal officers details

Control Area	Station Name	Nodal Person (SPS, communication system)	Contact details	Email Id
Rajasthan	220/132kV Alwar	Sh. Vijaypal Yadav XEN (Prot.) Ms. Pooja Verma AEN (Comm)	9413361407 9413375366	xen.prot.alwar@rvpn.co.in aen.comm.alwar@rvpn.co.in
	220/132kV Ratangarh	Sh. Mukesh Somra AEN (MPT&S) , Sh. Dharmender Singh (Comm.)	9414061442 9413383246	aen.mpt&s.rtg@rvpn.co.in aen.comm.ratangarh@rvpn.co.in
	220/132kV Bhilwara	Sh. Madhusudan Sharma, AEN (SLDC-comm Sh. Suresh Garg, XEN (MPT&S)	9413383176 9414061424	aen.subsldc.bhl@rvpn.co.in xen.mpts.bhl@rvpn.co.in
	220/132kV Merta	Mukesh Kumar (AEN Prot.) Mahip Singh (Aen) Comm)	7734806466 9413362995	aen.prot.mertacity@RVPN.CO.IN aen.comm.merta@RVPN.CO.IN
BBMB	400/220kV Bhiwani(BBMB)			
POWERGRID	400/220kV Hissar(PG)			
	Bhiwani(PG)			
	400/220kV Bahadurgarh(PG)			
Haryana	400/220kV Dhanonda	Gautam / SSE, 400kV Dhanonda	9313472669	dhanonda400kv@gmail.com
	220kV Lulahir	Er. Subhash Chander	9416373135	sse220kvlulaahir@hvpn.org.in
	220kV Rewari	Er. Kavinder Yadav	9315315649	sse220kvrwr@hvpn.org.in
	132kV Charkhi Dadri	Vivek Sangwan	9034459489	sse132kvdadri@hvpn.org.in
Punjab	220/66kV Gobindgarh	Er. Harwinder Singh	96461-18184	ae-220kvg1-mgg@pstcl.org
	220/66kV Laltokalan	Er. Supinder Singh	96461-24495	sse-pm-lalton@pstcl.org
	220/66kV Malerkotla	Er. Sanju Bala	96461-64007	sse-pm-mlrk@pstcl.org
UP	Shamli	Er. Krishna Nand	9412756631	eeetdshamli@upptcl.org,
	400kV Muradnagar	Er. D.S. Sengar	9412748666	ee400mrd2@upptcl.org
Delhi	400/220kV Bamnauli			
	400/220kV Mandola			

ULDC network for SPS Mundra-Mohindergarh 500kV HVDC

Sumeet Sharma <Sumeet.Sharma@adani.com>

Thu 4/10/2025 5:42 PM

To:nkmeena@powergrid.in <nkmeena@powergrid.in>;

Cc:Deepak Kumar <deepak.kr@grid-india.in>; seo-nrpc <seo-nrpc@nic.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Somara Lakra (सोमारा लाकरा) <somara.lakra@grid-india.in>; Afak Pothiawala <afak.pothiawala@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>;

1 attachments (323 KB)

20250408 ULDC discussion..pdf;

Dear Meena ji,

Kindly accept my sincere thanks for the courtesy extended during our meeting on 08-Apr-25 with regards to the subject requirements.

I also express my thanks on the confirmation from your end with regards to availability of the 'E1' links between Mohindergarh and respective locations where the SPS commands are being extended. Kindly find attached the list discussed and agreed, for our reference.

Looking forward to your continued support and cooperation during the execution of this activity.

Regards,

Sumeet Sharma
Head- Automation, Communications & OT-Cyber Technology
Adani Energy Solutions Limited.(Grid Division)
Mob +91 90990 05648 | sumeet.sharma@adani.com | www.adani.com
KP Epitome|10th Floor South Wing | SG Highway |Ahmedabad-382421| Gujarat

SPS Protection scheme for Mohindergarh-Mundra HVDC Transmisison System

Sr. No.	Load Station	Equipment Make	Tripping command Station	Equipment Make	Remarks	Comments
1	Mohindergarh	Tejas	Bhiwani BBMB	Tejas		
2	Mohindergarh	Tejas	Hissar PG	Tejas		
3	Mohindergarh	Tejas	Bahadurgarh- PG	Tejas		
4	Mohindergarh	Tejas	HVPNL Charki Dadri	Fibrehome	HVPNL Network	Inter-Patching at nearest Tejas Site
5	Mohindergarh	Tejas	Gobindgarh PSTCL	Fibrehome	PSTCL Network	Inter-Patching at nearest Tejas Site
6	Mohindergarh	Tejas	Lalokalan PSTCL	Fibrehome	PSTCL Network	Inter-Patching at nearest Tejas Site
7	Mohindergarh	Tejas	Malerkotla PSTCL	Fibrehome	PSTCL Network	Inter-Patching at nearest Tejas Site
8	Mohindergarh	Tejas	Alwar	Tejas		
9	Mohindergarh	Tejas	Ratangarh	Fibrehome	New Tejas equipment is being installed within 3 months	
10	Mohindergarh	Tejas	Bhilwada	Tejas		
11	Mohindergarh	Tejas	Merta City	Fibrehome	New Tejas equipment is being installed within 3 months	
12	Mohindergarh	Tejas	Samli - UPPTCL	Fibrehome	UPPTCL Network	Inter-Patching at nearest Tejas Site
13	Mohindergarh	Tejas	Bamnauli	Tejas		
14	Mohindergarh	Tejas	Mondola PG	Tejas		

adani
Energy Solutions

Ref No. : ATIL_NRPC_SPS-NR_20250410_1 10-Apr-25

To,
The Deputy General Manager (Grid-Operations)
Northern Region Load Dispatch Center
18-A, Shaheed Jeet Singh Marg
Katwaria Sarai
New Delhi,110016

Ref: Your letter # NRLDC/TS-15, dated 02-Apr-25

Subject: Corrective action for healthiness of +/- 500kV HVDC Mundra-Mohindergarh SPS

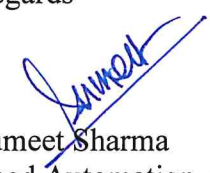
Sir,
We acknowledge the receipt of your letter mentioned in the reference above with regards to ensuring the healthiness of the SPS scheme implemented in 2012 during commissioning of the subject HVDC link.

It is to be noted that the systems and components installed at the commissioning time have lived their life and are now declared obsolete by the partner who has commissioned this system. Also the ULDC network which had been used to provide the E1 communication for the DTPCs to execute the commands and provide the required relief, has also undergone changes impacting the communication between the DTPCs. We are in discussion with ULDC for allocation of necessary links between the locations.

In order to make the scheme operational again in full, we had ordered a survey of the scheme by the original systems provider who have reverted with their observations and recommendations for upgrading the systems by the latest one. This upgrade requires activities from basics i.e. Designing, Manufacturing, Testing, transporting, installation , configuration and final field testing. We have initiated the internal approval for placing necessary orders to the partner for execution under RTM. We expect that complete execution of this activity in totality shall take 4-5 months in collaboration with all the stake holders from respective utilities and ULDC team.

We assure you of our best efforts towards comprehensive and timely completion of this scheme at the earliest and seek your guidance and support for necessary coordination between the respective stake holders during this process.

Regards



Sumeet Sharma
Head Automation, Communication and OT-Cyber
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RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Sumeet Sharma <Sumeet.Sharma@adani.com>

Wed 7/30/2025 6:54 PM

To:NRLDC SO 2 <nrldcso2@grid-india.in>;

Cc:NARESH BHANDARI <ms-nrpc@nic.in>; seo-nrpc <seo-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; S Usha (एस उषा) <susha@grid-india.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; Somara Lakra (सोमारा लाकरा) <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; Deepak Kumar <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in <m.alwar@rvpn.co.in>; aen.mpt&s.rtg@rvpn.co.in <aen.mpt&s.rtg@rvpn.co.in>; aen.comm.ratangarh@rvpn.co.in <aen.comm.ratangarh@rvpn.co.in>; aen.subsldc.bhl@rvpn.co.in <aen.subsldc.bhl@rvpn.co.in>; xen.mpts.bhl@rvpn.co.in <xen.mpts.bhl@rvpn.co.in>; aen.prot.mertacity@RVPN.CO.IN <aen.prot.mertacity@RVPN.CO.IN>; aen.comm.merta@RVPN.CO.IN <aen.comm.merta@RVPN.CO.IN>; nainwal@powergrid.in <nainwal@powergrid.in>; vinaykumargupta@powergrid.in <vinaykumargupta@powergrid.in>; ravindra_kumar@powergrid.in <ravindra_kumar@powergrid.in>; smahajan1999@powergrid.in <smahajan1999@powergrid.in>; rkagrawal83@powergrid.in <rkagrawal83@powergrid.in>; dharmendrameena@powergrid.in <dharmendrameena@powergrid.in>; vineet@powergrid.in <vineet@powergrid.in>; bhakalramjash@powergrid.in <bhakalramjash@powergrid.in>; dhanonda400kv@gmail.com <dhanonda400kv@gmail.com>; sse220kvlulaahir@hvpn.org.in <sse220kvlulaahir@hvpn.org.in>; sse220kvrwr@hvpn.org.in <sse220kvrwr@hvpn.org.in>; sse132kvdadri@hvpn.org.in <sse132kvdadri@hvpn.org.in>; ae-220kvg1-mgg@pstcl.org <ae-220kvg1-mgg@pstcl.org>; sse-pm-lalton@pstcl.org <sse-pm-lalton@pstcl.org>; sse-pm-mlrk@pstcl.org <sse-pm-mlrk@pstcl.org>; eeetdshamli@upptcl.org <eeetdshamli@upptcl.org>; ee400mrd2@upptcl.org <ee400mrd2@upptcl.org>; aeprotection@upsldc.org <aeprotection@upsldc.org>; ase-sldcop@pstcl.org <ase-sldcop@pstcl.org>; bl.gujar@dtl.gov.in <bl.gujar@dtl.gov.in>; ce.ld@rvpn.co.in <ce.ld@rvpn.co.in>; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in <dtldata@yahoo.co.in>; dtlscheduling@gmail.com <dtlscheduling@gmail.com>; eesldccontrol@upsldc.org <eesldccontrol@upsldc.org>; ldrvpnl@rvpn.co.in <ldrvpnl@rvpn.co.in>; ldshutdown@gmail.com <ldshutdown@gmail.com>; ldshutdown@rvpn.co.in <ldshutdown@rvpn.co.in>; paritosh.joshi@dtl.gov.in <paritosh.joshi@dtl.gov.in>; pccont@bbmb.nic.in <pccont@bbmb.nic.in>; pc-sldcop@pstcl.org <pc-sldcop@pstcl.org>; rajbir-walia79@yahoo.com <rajbir-walia79@yahoo.com>; rtamc.nr1@powergrid.in <rtamc.nr1@powergrid.in>; pankaj.jha@powergrid.in <pankaj.jha@powergrid.in>; neerajk@powergrid.in <neerajk@powergrid.in>; se.mpts.udr@rvpn.co.in <se.mpts.udr@rvpn.co.in>; se.prot.engg@rvpn.co.in <se.prot.engg@rvpn.co.in>; se.sold@rvpn.co.in <se.sold@rvpn.co.in>; sera@upsldc.org <sera@upsldc.org>; sesc@upsldc.org <sesc@upsldc.org>; sesldcop@hvpn.org <sesldcop@hvpn.org>; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org <setncmrt@upptcl.org>; sldcdata@gmail.com <sldcdata@gmail.com>; sldcharyanacr@gmail.com <sldcharyanacr@gmail.com>; sldcmintoroad@gmail.com <sldcmintoroad@gmail.com>; system.uppcl@gmail.com <system.uppcl@gmail.com>; xenemtcbhpp2@bbmb.nic.in <xenemtcbhpp2@bbmb.nic.in>; xenmpccggn@hvpn.org <xenmpccggn@hvpn.org>; xenplgss@hvpn.org <xenplgss@hvpn.org>; nrldc_hods_tech <nrldc_hods_tech@grid-india.in>; Rahul Shukla (राहुल शुक्ला) <rahulshukla@grid-india.in>;

Dear Sir,

I hope this message finds you well. I'm writing to provide you with an update on the actions for the healthiness of the 500kV Mundra-Mahindergarh SPS.

We are pleased to inform you that the order has been placed with our partner for the procurement and development of the scheme on new devices. Here is the timeline for the upcoming broader steps which has evolved based on discussions held with them-

a) The system is expected to be ready by the partner and complete the Factory Acceptance Test (FAT) by 15th September 2025.

b) Following the FAT, the material will be shipped to various sites and installed by 30th October 2025. We seek your support for necessary directions to concerned constituents to ensure the material is kept in a safe and secure area till commissioning at original location.
c) Implementation of the communication channel with the assistance of ULDC is also scheduled for completion parallelly by 30th October 2025.
d) Testing of the installation and wiring will be carried out by 15th November 2025. The same shall require support from respective site representatives.
e) Testing of the communication link between Mahindergarh and other locations is planned for completion by 30th November 2025.
f) Finally, the testing of the SPS scheme is expected to be completed by 31st December 2025.

We understand the importance of this project and will do our utmost to expedite the process to the maximum extent possible and shall seek your guidance and support for necessary alignment of efforts required with respective stake holders and facilitators.

Thank you for your attention and understanding.

Regards,

Sumeet Sharma
Head- Automation, Communications & OT-Cyber Technology
Adani Energy Solutions Limited.(Grid Division)
Mob +91 90990 05648 | sumeet.sharma@adani.com | www.adani.com
KP Epitome|10th Floor South Wing | SG Highway |Ahmedabad-382421| Gujarat

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From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Thursday, July 24, 2025 11:16 AM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>
Cc: NARESH BHANDARI <ms-nrpc@nic.in>; seo-nrpc <seo-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; susha <susha@grid-india.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech <nrldc_hods_tech@grid-india.in>; Rahul Shukla (राहुल शुक्ला) <rahulshukla@grid-india.in>
Subject: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Sir,

The agenda regarding corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS was discussed in 61st PSC meeting held on 26.06.2025. During the meeting, ADANI representative informed that work order will be released by 1st week of July 2025 to the vendor / OEM and expected timeline for completion of work is by the end of October 2025.

In view of above, it is requested to confirm whether work order to OEM has been placed or not. Further, as discussed in PSC meeting, it is also requested to share the status of actions taken and planned to be taken along with the timeline to NRPC & NRLDC weekly or fortnight basis.

सादर धन्यवाद/ Thanks & Regards
दीपक कुमार / Deepak Kumar
प्रणाली संचालन-II/ System Operation-II
उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
Formerly known as
पोसोको / POSOCO

From: Sumeet Sharma <Sumeet.Sharma@adani.com>
Sent: Tuesday, June 24, 2025 3:39 PM
To: NRLDC SO 2
Cc: NARESH BHANDARI; seo-nrpc; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल); S Usha (एस उषा); Sunil Kumar Raval; Namandeep Matta; Kali Charan Sahu; RAVINDRA ATALE; Nihar Raj; Milan Popat; Abhishek Kukreja; Naman Vyas; Abhishek Kumar Singh; Nikhil Singh; Narendra Kumar Ojha; Afak Pothiawala; Mahesh M. Mehendale (महेश एम. मेहंदले); Somara Lakra (सोमारा लाकरा); Mahavir Prasad Singh (महावीर प्रसाद सिंह); Sudipto Sarkar (सुदिप्तो सरकार); Sugata Bhattacharya (सुगाता भट्टाचार्या); Deepak Kumar; aen.com; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org;

xenplgss@hvpn.org; nrldc_hods_tech
Subject: RE: NRLDC Letter regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

With reference to the trailing email we would like to inform you that the negotiations and the scope discussions have been completed with the partner and the necessary formalities for processing the order is in progress. We expect the order to be released by 30th-Jun-25. Further in parallel we have also put-up the issue in the 232nd OCC meeting for approval of the scheme on add-cap basis.

We regret the time taken in this process, however will expedite the further process to meet the expectation of putting the scheme back in service.

Regards,

Sumeet Sharma

Head- Automation, Communications & OT-Cyber Technology

Adani Energy Solutions Limited.(Grid Division)

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From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Wednesday, June 18, 2025 11:43 AM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>
Cc: NARESH BHANDARI <ms-nrpc@nic.in>; seo-nrpc <seo-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; susha <susha@grid-india.in>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sudipto Sarkar (सुदिप्तो सरकार) <ssarkar@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in;

ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech <nrldc_hods_tech@grid-india.in>
Subject: Re: NRLDC Letter regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS

Sir,

In reference of the NRLDC communication dated 02.04.2025 it is requested to provide the present status regarding corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS.

The agenda in this regard is under discussion since 51st PSC meeting held in July 2024. During last PSC meeting (60th PSC meeting held on 26.05.2025), ADANI representative informed that internal approval has been taken for placing the order for corrective actions and order will be released to vendor by end of May 2025. It was also informed that actions have been expedited and SPS of HVDC Mundra-Mahindergarh will be restored by the end of August 2025.

In view of above, it is requested to share the present status of corrective action. As discussed during 60th PSC meeting, weekly update on the corrective actions and action planned may be shared to NRLDC / NRPC so that necessary coordination with state counterpart may also be done for smooth coordination and actions.

सादर धन्यवाद/ Thanks & Regards

दीपक कुमार / Deepak Kumar

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
Formerly known as

पोसोको / POSOCO

From: NRLDC SO 2
Sent: Wednesday, April 2, 2025 3:11:51 PM
To: Sumeet.Sharma@adani.com; Sunil Kumar Raval; Namandeep Matta; Kali Charan Sahu; RAVINDRA ATALE; Nihar Raj; Milan Popat; Abhishek Kukreja; Naman Vyas; Abhishek Kumar Singh; Nikhil Singh; Narendra Kumar Ojha; afak.pothiawala@adani.com
Cc: NARESH BHANDARI; seo-nrpc; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल); S Usha (एस उषा); Mahesh M. Mehendale (महेश एम. मेहंदले); Somara Lakra (सोमारा लाकरा); Mahavir Prasad Singh (महावीर प्रसाद सिंह); Sudipto Sarkar (सुदिप्तो सरकार); Sugata Bhattacharya (सुगाता भट्टाचार्या); Deepak Kumar; aen.com; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech
Subject: NRLDC Letter regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS

Sir,

Please find the attached NRLDC Letter dt 02-04-2025 regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS.

सादर धन्यवाद/ Thanks & Regards

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
Formerly known as

पोसोको / POSOCO

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RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Mon 9/15/2025 8:16 PM

Inbox

To:NRLDC SO 2 <nrldcso2@grid-india.in>;

Cc:NARESH BHANDARI <ms-nrpc@nic.in>; seo-nrpc <seo-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; S Usha (एस उषा) <susha@grid-india.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; Somara Lakra (सोमारा लाकरा) <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; Deepak Kumar <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in <m.alwar@rvpn.co.in>; aen.mpt&s.rtg@rvpn.co.in <aen.mpt&s.rtg@rvpn.co.in>; aen.comm.ratangarh@rvpn.co.in <aen.comm.ratangarh@rvpn.co.in>; aen.subsldc.bhl@rvpn.co.in <aen.subsldc.bhl@rvpn.co.in>; xen.mpts.bhl@rvpn.co.in <xen.mpts.bhl@rvpn.co.in>; aen.prot.mertacity@RVPN.CO.IN <aen.prot.mertacity@RVPN.CO.IN>; aen.comm.merta@RVPN.CO.IN <aen.comm.merta@RVPN.CO.IN>; nainwal@powergrid.in <nainwal@powergrid.in>; vinaykumargupta@powergrid.in <vinaykumargupta@powergrid.in>; ravindra_kumar@powergrid.in <ravindra_kumar@powergrid.in>; smahajan1999@powergrid.in <smahajan1999@powergrid.in>; rkagrawal83@powergrid.in <rkagrawal83@powergrid.in>; dharmendrameena@powergrid.in <dharmendrameena@powergrid.in>; vineet@powergrid.in <vineet@powergrid.in>; bhakalramjash@powergrid.in <bhakalramjash@powergrid.in>; dhanonda400kv@gmail.com <dhanonda400kv@gmail.com>; sse220kvlulaahir@hvpn.org.in <sse220kvlulaahir@hvpn.org.in>; sse220kvrwr@hvpn.org.in <sse220kvrwr@hvpn.org.in>; sse132kvdadri@hvpn.org.in <sse132kvdadri@hvpn.org.in>; ae-220kvg1-mgg@pstcl.org <ae-220kvg1-mgg@pstcl.org>; sse-pm-lalton@pstcl.org <sse-pm-lalton@pstcl.org>; sse-pm-mlrk@pstcl.org <sse-pm-mlrk@pstcl.org>; eeetdshamli@upptcl.org <eeetdshamli@upptcl.org>; ee400mrd2@upptcl.org <ee400mrd2@upptcl.org>; aeprotection@upsldc.org <aeprotection@upsldc.org>; ase-sldcop@pstcl.org <ase-sldcop@pstcl.org>; bl.gujar@dtl.gov.in <bl.gujar@dtl.gov.in>; ce.ld@rvpn.co.in <ce.ld@rvpn.co.in>; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in <dtldata@yahoo.co.in>; dtlscheduling@gmail.com <dtlscheduling@gmail.com>; eesldccontrol@upsldc.org <eesldccontrol@upsldc.org>; ldrvpnl@rvpn.co.in <ldrvpnl@rvpn.co.in>; ldshutdown@gmail.com <ldshutdown@gmail.com>; ldshutdown@rvpn.co.in <ldshutdown@rvpn.co.in>; paritosh.joshi@dtl.gov.in <paritosh.joshi@dtl.gov.in>; pccont@bbmb.nic.in <pccont@bbmb.nic.in>; pc-sldcop@pstcl.org <pc-sldcop@pstcl.org>; rajbir-walia79@yahoo.com <rajbir-walia79@yahoo.com>; rtamc.nr1@powergrid.in <rtamc.nr1@powergrid.in>; pankaj.jha@powergrid.in <pankaj.jha@powergrid.in>; neerajk@powergrid.in <neerajk@powergrid.in>; se.mpts.udr@rvpn.co.in <se.mpts.udr@rvpn.co.in>; se.prot.engg@rvpn.co.in <se.prot.engg@rvpn.co.in>; se.sold@rvpn.co.in <se.sold@rvpn.co.in>; sera@upsldc.org <sera@upsldc.org>; sesc@upsldc.org <sesc@upsldc.org>; sesldcop@hvpn.org <sesldcop@hvpn.org>; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org <setncmrt@upptcl.org>; sldcdata@gmail.com <sldcdata@gmail.com>; sldcharyanacr@gmail.com <sldcharyanacr@gmail.com>; sldcmintoroad@gmail.com <sldcmintoroad@gmail.com>; system.uppcl@gmail.com <system.uppcl@gmail.com>; xenemtcbhpp2@bbmb.nic.in <xenemtcbhpp2@bbmb.nic.in>; xenmpccggn@hvpn.org <xenmpccggn@hvpn.org>; xenplgss@hvpn.org <xenplgss@hvpn.org>; nrldc_hods_tech <nrldc_hods_tech@grid-india.in>; Rahul Shukla (राहुल शुक्ला) <rahulshukla@grid-india.in>;

Dear Sir,

Please find the present status as on 15-Sep-25 as below-

a. Hardware expected to be received by the partner by this week.(20-Sep-25)
b. FAT expected to be carried out within this month.(31-Sep-25)

The Dispatch and site activities shall be planned based on FAT punch point closures.

Regards

Sumeet Sharma

From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Wednesday, September 10, 2025 5:00 PM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>
Cc: NARESH BHANDARI <ms-nrpc@nic.in>; seo-nrpc <seo-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; susha <susha@grid-india.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech <nrldc_hods_tech@grid-india.in>; Rahul Shukla (राहुल शुक्ला) <rahulshukla@grid-india.in>
Subject: Re: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Sir,

During discussion on agenda ''Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS'' in 62nd PSC meeting, PSC forum requested ADANI to share the weekly update on status of remedial actions.

Kindly share the update in this regard.

सादर धन्यवाद/ Thanks & Regards
प्रणाली संचालन-II/ System Operation-II
उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC
ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
Formerly known as
पोसोको / POSOCO

From: Sumeet Sharma <Sumeet.Sharma@adani.com>
Sent: Wednesday, July 30, 2025 6:54 PM
To: NRLDC SO 2
Cc: NARESH BHANDARI; seo-nrpc; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल); S Usha (एस उषा); Sunil Kumar Raval; Namandeep Matta; Kali Charan Sahu; RAVINDRA ATALE; Nihar Raj; Milan Popat; Abhishek Kukreja; Naman Vyas; Abhishek Kumar Singh; Nikhil Singh; Narendra Kumar Ojha; Afak Pothiawala; Mahesh M. Mehendale (महेश एम. मेहंदले); Somara Lakra (सोमारा लाकरा); Mahavir Prasad Singh (महावीर प्रसाद सिंह); Sugata Bhattacharya (सुगाता भट्टाचार्या); Deepak Kumar; aen.com; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech; Rahul Shukla (राहुल शुक्ला)
Subject: RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

I hope this message finds you well. I'm writing to provide you with an update on the actions for the healthiness of the 500kV Mundra-Mahindergarh SPS.

We are pleased to inform you that the order has been placed with our partner for the procurement and development of the scheme on new devices. Here is the timeline for the upcoming broader steps which has evolved based on discussions held with them-

a) The system is expected to be ready by the partner and complete the Factory Acceptance Test (FAT) by 15th September 2025.

b) Following the FAT, the material will be shipped to various sites and installed by 30th October 2025. We seek your support for necessary directions to concerned constituents to ensure the material is kept in a safe and secure area till commissioning at original location.

c) Implementation of the communication channel with the assistance of ULDC is also scheduled for completion parallelly by 30th October 2025.

d) Testing of the installation and wiring will be carried out by 15th November 2025. The same shall require support from respective site representatives.

e) Testing of the communication link between Mahindergarh and other locations is planned for completion by 30th November 2025.

f) Finally, the testing of the SPS scheme is expected to be completed by 31st December 2025.

We understand the importance of this project and will do our utmost to expedite the process to the maximum extent possible and shall seek your guidance and support for necessary alignment of efforts required with respective stake holders and facilitators.

Thank you for your attention and understanding.

Regards,

Sumeet Sharma

Head- Automation, Communications & OT-Cyber Technology

Adani Energy Solutions Limited.(Grid Division)

Mob +91 90990 05648 | sumeet.sharma@adani.com | www.adani.com

KP Epitome|10th Floor South Wing | SG Highway |Ahmedabad-382421| Gujarat

---

From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Thursday, July 24, 2025 11:16 AM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>
Cc: NARESH BHANDARI <ms-nrpc@nic.in>; seo-nrpc <seo-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; susha <susha@grid-india.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in;

aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech <nrldc_hods_tech@grid-india.in>; Rahul Shukla (राहुल शुक्ला) <rahulshukla@grid-india.in>

Subject: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Sir,

The agenda regarding corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS was discussed in 61st PSC meeting held on 26.06.2025. During the meeting, ADANI representative informed that work order will be released by 1st week of July 2025 to the vendor / OEM and expected timeline for completion of work is by the end of October 2025.

In view of above, it is requested to confirm whether work order to OEM has been placed or not. Further, as discussed in PSC meeting, it is also requested to share the status of actions taken and planned to be taken along with the timeline to NRPC & NRLDC weekly or fortnight basis.

सादर धन्यवाद/ Thanks & Regards

दीपक कुमार / Deepak Kumar

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
Formerly known as

पोसोको / POSOCO

From: Sumeet Sharma <Sumeet.Sharma@adani.com>
Sent: Tuesday, June 24, 2025 3:39 PM
To: NRLDC SO 2
Cc: NARESH BHANDARI; seo-nrpc; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल); S Usha (एस उषा); Sunil Kumar Raval; Namandeep Matta; Kali Charan Sahu; RAVINDRA ATALE; Nihar Raj; Milan Popat; Abhishek Kukreja; Naman Vyas; Abhishek Kumar Singh; Nikhil Singh; Narendra Kumar Ojha; Afak Pothiawala; Mahesh M. Mehendale (महेश एम. मेहंदले); Somara Lakra (सोमारा लाकरा); Mahavir Prasad Singh (महावीर प्रसाद सिंह); Sudipto Sarkar (सुदिप्तो सरकार); Sugata Bhattacharya (सुगाता भट्टाचार्या); Deepak Kumar; aen.com; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech
Subject: RE: NRLDC Letter regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

With reference to the trailing email we would like to inform you that the negotiations and the scope discussions have been completed with the partner and the necessary formalities for processing the order is in progress. We expect the order to be released by 30th-Jun-25. Further in parallel we have also put-up the issue in the 232nd OCC meeting for approval of the scheme on add-cap basis.

We regret the time taken in this process, however will expedite the further process to meet the expectation of putting the scheme back in service.

Regards,

Sumeet Sharma

Head- Automation, Communications & OT-Cyber Technology

Adani Energy Solutions Limited.(Grid Division)

Mob +91 90990 05648 | sumeet.sharma@adani.com | www.adani.com

KP Epitome|10th Floor South Wing | SG Highway |Ahmedabad-382421| Gujarat

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From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Wednesday, June 18, 2025 11:43 AM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>
Cc: NARESH BHANDARI <ms-nrpc@nic.in>; seo-nrpc <seo-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; susha <susha@grid-india.in>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sudipto Sarkar (सुदिप्तो सरकार) <ssarkar@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech <nrldc_hods_tech@grid-india.in>
Subject: Re: NRLDC Letter regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS

Sir,

In reference of the NRLDC communication dated 02.04.2025 it is requested to provide the present status regarding corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS.

The agenda in this regard is under discussion since 51st PSC meeting held in July 2024. During last PSC meeting (60th PSC meeting held on 26.05.2025), ADANI representative informed that internal approval has been taken for placing the order for corrective actions and order will be released to vendor by end of May 2025. It was also informed that actions have been expedited and SPS of HVDC Mundra-Mahindergarh will be restored by the end of August 2025.

In view of above, it is requested to share the present status of corrective action. As discussed during 60th PSC meeting, weekly update on the corrective actions and action planned may be shared to NRLDC / NRPC so that necessary coordination with state counterpart may also be done for smooth coordination and actions.

सादर धन्यवाद/ Thanks & Regards

दीपक कुमार / Deepak Kumar

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
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From: NRLDC SO 2
Sent: Wednesday, April 2, 2025 3:11:51 PM
To: Sumeet.Sharma@adani.com; Sunil Kumar Raval; Namandeep Matta; Kali Charan Sahu; RAVINDRA ATALE; Nihar Raj; Milan Popat; Abhishek Kukreja; Naman Vyas; Abhishek Kumar Singh; Nikhil Singh; Narendra Kumar Ojha; afak.pothiawala@adani.com
Cc: NARESH BHANDARI; seo-nrpc; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल); S Usha (एस उषा); Mahesh M. Mehendale (महेश एम. मेहंदले); Somara Lakra (सोमारा लाकरा); Mahavir Prasad Singh (महावीर प्रसाद सिंह); Sudipto Sarkar (सुदिप्तो सरकार); Sugata Bhattacharya (सुगाता भट्टाचार्या); Deepak Kumar; aen.com; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in;

ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org; nrldc_hods_tech

Subject: NRLDC Letter regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS

Sir,

Please find the attached NRLDC Letter dt 02-04-2025 regarding Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS.

सादर धन्यवाद/ Thanks & Regards

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

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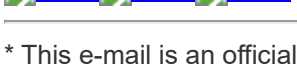

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S. No	Name of the Line	Circuit ID	Proposed Over Voltage protection setting by Committee								Status of Implementation (Yes / NO)	Modified Over Voltage protection setting(if any)								Remarks for modificantion required / done
			End I				End II					End I				End II				
			stage I pick up(%)	time (s)	stage II pick up(%)	time (s)	stage I pick up(%)	time (s)	stage II pick up(%)	time (s)		stage I pick up(%)	time (s)	stage II pick up(%)	time (s)	stage I pick up(%)	time (s)	stage II pick up(%)	time (s)	
1. 765kV Transmission Line																				
A. POWERGRID											Confirmation received from POWERGRID(NR-1) only									
1	Agra-Aligarh	1	108	5	150	0.1	108	5	150	0.1										
2	Agra-Fatehpur	1	107	5	150	0.1	107	5	150	0.1										
3	Agra-Fatehpur	2	108	9	150	0.1	108	9	150	0.1										
4	Agra-Gwalior IR	1	108	5	150	0.1	108	5	150	0.1										
5	Agra-Gwalior IR	2	109	9	150	0.1	109	9	150	0.1										
6	Agra-Jhatikara	1	106	5	140	0.1	106	5	140	0.1		108	6	140	0.1	106	5	140	0.1	On request of POWERGRID(NR-3) after tripping of line on OV two(02) number of times.
7	Ajmer(PG)-Bhadla_2(PG)	1	109	8	140	0.1	109	8	140	0.1										
8	Ajmer(PG)-Bhadla_2(PG)	2	110	15	140	0.1	110	15	140	0.1										
9	Ajmer(PG)-Chittorgarh(PG)	1	110	9	140	0.1	110	9	140	0.1										
10	Ajmer(PG)-Chittorgarh(PG)	2	110	15	140	0.1	110	15	140	0.1										
11	Ajmer(PG)-Phagi(RS)	1	108	7	140	0.1	108	7	140	0										
12	Ajmer(PG)-Phagi(RS)	2	110	12	140	0.1	110	12	140	0										
13	Aligarh(PG) -Sikar_2(PSTL)	1	108	5	150	0.1	108	5	140	0.1										
14	Aligarh(PG) -Sikar_2(PSTL)	2	108	9	150	0.1	108	9	140	0.1										
15	Aligarh-Gr.Noida	1	109	7	150	0.1	109	7	140	0.1										
16	Balia-Gaya IR	1	108	7	150	0.1	108	7	150	0.1										
17	Balia-Lucknow_2(PG)	1	108	9	150	0.1	108	9	150	0.1										
18	Bhadla_II(PG)-Sikar_2(PG)	1	109	6	150	0.1	109	6	150	0.1										
19	Bhadla_II(PG)-Sikar_2(PG)	2	110	15	150	0.1	110	15	150	0.1										
20	Bhiwani-Jhatikara	1	109	10	140	0.1	109	10	140	0.1										
21	Bhiwani-Meerut	1	109	7	140	0.1	109	7	140	0.1										
22	Bhiwani-Phagi	1	109	5	140	0.1	109	5	140	0										
23	Bhiwani-Phagi	2	109	7	140	0.1	109	7	140	0										
24	Bikaner(PG) - Bhadla(PG)	1	109	8	140	0.1	109	8	140	0.1										
25	Bikaner(PG) - Bhadla(PG)	2	110	15	140	0.1	110	15	140	0.1										
26	Bikaner(PG)-Bhadla_2(PG)	1	108	7	140	0.1	108	7	140	0.1										
27	Bikaner(PG)-Bhadla_2(PG)	2	110	15	140	0.1	110	15	140	0.1										
28	Bikaner(PG)-Moga	1	108	5	140	0.1	108	5	140	0.1										
29	Bikaner(PG)-Moga	2	110	13	140	0.1	110	13	140	0.1										
30	Chittorgarh(PG)-Banaskantha IR	1	110	9	140	0.1	110	9	140	0.1										
31	Chittorgarh(PG)-Banaskantha IR	2	110	15	140	0.1	110	15	140	0.1										
32	Fatehpur- Sasaram IR	1	108	5	150	0.1	108	5	150	0.1										
33	Fatehgarh_2(PG)-Bhadla_2(PG)	1	109	9	140	0.1	109	9	140	0.1										
34	Fatehgarh_2(PG)-Bhadla_2(PG)	2	110	15	140	0.1	110	15	140	0.1										
35	Fatehgarh_2(PG)-Bhadla_2(PG)	3	107	5	140	0.1	107	5	140	0.1										
36	Fatehgarh_2(PG)-Bhadla_2(PG)	4	108	8	140	0.1	108	8	140	0.1										
37	Jhatikara-Aligarh	1	107	7	140	0.1	107	7	150	0.1										
38	Jhatikara(PG)-Khetri(PKTSL)	1	108	5	140	0.1	108	5	140	0.1										
39	Jhatikara(PG)-Khetri(PKTSL)	2	109	6	140	0.1	109	6	140	0.1										
40	Kanpur(GIS)-Aligarh	1	109	9	150	0.1	109	9	150	0.1										
41	Lucknow_2(PG)-Bareilly_2(PG)	1	109	5	150	0.1	109	5	150	0.1										
42	Meerut-G. Noida	1	109	7	140	0.1	109	7	140	0.1										
43	Meerut-Koteshwar(PG)	1	107	7	140	0.1	107	7	140	0.1										
44	Meerut-Koteshwar(PG)	2	109	9	140	0.1	109	9	140	0.1										
45	Moga-Bhiwani(PG)	1	109	5	140	0.1	109	5	140	0.1										
46	Moga-Meerut	1	108	5	140	0.1	108	5	140	0.1										
47	Orai-Aligarh	1	107	5	150	0.1	107	5	150	0.1										
48	Orai-Aligarh	2	108	7	150	0.1	108	7	150	0.1										
49	Orai-Jabalpur IR	1	107	5	150	0.1	107	5	150	0.1										
50	Orai-Jabalpur IR	2	109	5	150	0.1	109	5	150	0.1										
51	Orai-Satna IR	1	108	5	150	0.1	108	5	150	0.1										
52	Orai-Gwalior IR	1	108	6	150	0.1	108	6	150	0.1										
53	Phagi-Gwalior IR	1	110	5	140	0.1	110	5	140	0.1		109	5	140	0.1	109	5	140	0.1	On request of RVPNL & POWERGRID(NR-1) for incorporating voltage grading
54	Phagi-Gwalior IR	2	110	7	140	0.1	110	7	140	0.1		110	12	140	0.1	110	12	140	0.1	
55	Varanasi-Balia	1	109	5	150	0.1	109	5	150	0.1										
56	Varanasi-Fatehpur	1	109	5	150	0.1	109	5	150	0.1										
57	Varanasi-Gaya IR	1	108	5	150	0.1	108	5	150	0.1										
58	Varanasi-Gaya IR	2	109	9	150	0.1	109	9	150	0.1										
59	Varanasi-Kanpur	1	108	5	150	0.1	108	5	150	0.1										
60	Varanasi-Kanpur	2	110	5	150	0.1	110	5	150	0.1										
61	Varanasi-Vindhyachal Pooling	1	108	5	150	0.1	108	5	150	0.1										
62	Varanasi-Vindhyachal Pooling	2	109	9	150	0.1	109	9	150	0.1										
B. Adani Transmission India Ltd. (ATIL) (BKTL, FBTL)																				
1	Bikaner(PG)-Khetri(PKTSL)	1	109	9	140	0.1	109	9	140	0.1										
2	Bikaner(PG)-Khetri(PKTSL)	2	110	15	140	0.1	110	15	140	0.1										
3	Fatehgarh_II(PG)-Bhadla(PG)	1	108	6	140	0.1	108	6	140	0.1										
4	Fatehgarh_II(PG)-Bhadla(PG)	2	110	12	140	0.1	110	12	140	0.1										
C. UPPTCL																				
1	Agra Fatehabad-Ghatampur	1	108	7	140	0.1	108	7	140	0.1	Y									
2	Agra Fatehabad-Gr. Noida	1	109	5	140	0.1	109	5	140	0.1	Y									
3	Anpara C-Anpara D	1	108	5	140	0.1	108	5	140	0.1	Y									
4	Anpara C-Unnao	1	109	5	140	0.1	110	7	140	0.1	Y									
5	Anpara D-Obra_C	1	110	7	140	0.1	110	7	140	0.1	Y									
6	Bara-Mainpuri	2	108	7	140	0.1	108	7	140	0.1	Y									
7	Ghatampur-Rampur_PRSTL	1	109	5	140	0.1	109	5	140	0.1	Y									
8	Hapur(UP)-Meerut_PMSTL	1	110	7	140	0.1	110	7	140	0.1	Y									
9	Hapur(UP)-Rampur_PRSTL	1	108	5	140	0.1	108	5	140	0.1	Y									
10	Hapur-Mainpuri	1	109	7	140	0.1	109	7	140	0.1	Y									
11	Jawaharpur-Gr.NOIDA	1	110	5	140	0.1	110	5	140	0.1	Y									
12	Lalitpur - Agra Fatehabad	1	108	5	140	0.1	108	5	150	0.1	Y									
13	Lalitpur - Agra Fatehabad	2	110	9	140	0.1	110	9	140	0.1	Y									
14	Meerut_PMSTL-G.Noida	1	110	5	140	0.1	110	5	140	0.1	Y									
15	Mainpuri(UP)-Jawaharpur	1	110	9	140	0.1	110	9	140	0	Y									
16	Obra_C-Unnao	1	110	5	140	0.1	110	5	140	0.1	Y									
D. Rajasthan																				
1	Anta-Phagi	1	110	5	140	0.1	110	5	140	0.1		108	10	140	0.1	108	10	140	0.1	On request of RVPNL & POWERGRID(NR-1) for incorporating voltage grading
2	Anta-Phagi	2	110	7	140	0.1	112	6	140	0.1		110	7	140	0.1	112	6	140	0.1	
2. 765kV Transmission Line charged at 400kV																				
A. POWERGRID											Confirmation received from POWERGRID(NR-1) only									
1	Kishenpur-Moga	1	110	5	150	0.1	110	5	150	0.1										
2	Kishenpur-Moga	2	112	6	150	0.1	112	6	150	0.1										
3	Tehri(TH)-Koteshwar(PG)	1	110	5	140	0.1	110	5	150	0.1										
4	Tehri(TH)-Koteshwar(PG)	2	112	6	140	0.1	111	6	150	0.1										
B. Adani Transmission India Ltd. (ATIL) (FBTL)																				
1	Fatehgarh Pooling-Fatehgarh_II	1	110	5	150	0.1	110	5	150	0.1										
2	Fatehgarh Pooling-Fatehgarh_II	2	112	6	150	0.1	111	5	150	0.1										
3. 400kV HVAC Transmission Line																				
A. POWERGRID											Confirmation received from POWERGRID(NR-1) only									
2	Abdullapur(PG)- Deepalpur(JHKT)	1	112	6	150	0.1	112	6	150	0.1										
1	Abdullapur(PG)- Bawana(DV)	1	110	5	150	0.1	110	5	150	0.1										
3	Abdullapur- Kala Amb	1	110	5	150	0.1	110	5	150	0.1										
4	Abdullapur- Kala Amb	2	112	6	150	0.1	112	6	150	0.1										
5	Abdullapur-Kurukshetra	1	110	5	150	0.1	110	5	150	0.1										
6	Abdullapur-Kurukshetra	2	112	6	150	0.1	112	6	150	0.1										
7	Agra(PG)-Agra(UP)	1	110	5	150	0.1	111	6	150	0.1										
8	Agra-Ballabgarh	1	110	5	150	0.1	110	5	150	0.1										
9	Agra-Bassi	1	110	5	150	0.1	110	5	150	0.1										
10	Agra-Bhiwadi	1	110	5	150	0.1	110	5	150	0.1										
11	Agra-Bhiwadi	2	112	6	150	0.1	112	6	150	0.1										
12	Agra PG-Fatehabad (765kV Agra UP)	1	112	6	150	0.1	110	5	150	0.1										
13	Agra-Jaipur South	1	110	5	150	0.1	110	5	150	0.1										
14	Agra-Jaipur South	2	112	6	150	0.1	112	6	150	0.1										
15	Agra-Sikar	1	110	5	150	0.1	110	5	150	0.1										
16	Agra-Sikar	2	112	6	150	0.1	112	6	150	0.1										
17	Ajmer(RS)-Ajmer(PG)	1	110	5	150	0.1	110	5	150	0.1										
18	Ajmer(RS)-Ajmer(PG)	2	112	6	150	0.1	112	6	150	0.1										
19	Allahabad-Fatehpur	3	110	5	150	0.1	110	5	150	0.1										

20	Allahabad-Fatehpur	1	111	6	150	0.1	111	6	150	0.1											
21	Allahabad-Fatehpur	2	112	7	150	0.1	112	7	150	0.1											
22	Allahabad-Kanpur	1	110	5	150	0.1	110	5	150	0.1											
23	Allahabad-Kanpur_GIS(765/400kV)	1	112	6	150	0.1	111	6	150	0.1											
24	Allahabad-Kanpur_GIS(765/400kV)	2	110	5	150	0.1	111	7	150	0.1											
25	Allahabad(PG)-Meja(NT)	1	110	5	150	0.1	110	5	140	0.1											
26	Allahabad(PG)-Meja(NT)	2	112	6	150	0.1	110	5	140	0.1											
27	Allahabad-Sasaram IR	1	110	5	150	0.1	110														
28	Allahabad-Varanasi	1	110	6	150	0.1	110	5	150	0.1											
29	Amritsar-Jalandhar	1	110	5	150	0.1	110	5	150	0.1											
30	Amritsar-Jalandhar	2	112	6	150	0.1	112	6	150	0.1											
31	Amritsar-Parbati Pool Banala	1	110	5	150	0.1	110	5	150	0.1											
32	Auraiya(NT)-Agra(PG)	1	110	5	140	0.1	110	5	150	0.1											
33	Auraiya(NT)-Agra(PG)	2	112	5	140	0.1	112	6	150	0.1											
34	Baghpat-Kaithal	1	110	5	150	0.1	110	5	150	0.1											
35	Baghpat-Kaithal	2	112	6	150	0.1	112	6	150	0.1											
36	Baghpat-Saharanpur	1	110	6	150	0.1	110	5	150	0.1											
37	Bahadurgarh(PG)-Kabulpur(HV)	1	110	6	150	0.1	110	5	150	0.1											
38	Bahadurgarh-Sonepat	1	110	5	150	0.1	110	5	150	0.1											
39	Bahadurgarh-Sonepat	2	112	6	150	0.1	112	6	150	0.1											
40	Balia-Biharshariff IR	1	110	5	150	0.1	110	5	150	0.1											
41	Balia-Biharshariff IR	2	112	6	150	0.1	112	6	150	0.1											
42	Balia(PG)-Mau(UP)	1	110	5	150	0.1	110	5	150	0.1											
43	Balia-Naubatpur IR	1	111	6	150	0.1	111	6	150	0.1											
44	Balia-Patna IR	1	110	5	150	0.1	110	5	150	0.1											
45	Balia-Patna IR	2	112	6	150	0.1	112	6	150	0.1											
46	Balia-Patna IR	3	110	6	150	0.1	110	6	150	0.1											
47	Balia-Rasra	1	112	6	150	0.1	110	5	140	0.1											
48	Balia-Sohawal	1	110	5	150	0.1	110	5	150	0.1											
49	Balia-Sohawal	2	112	6	150	0.1	112	6	150	0.1											
50	Ballabgarh-Gurgaon	1	110	5	150	0.1	110	5	150	0.1											
51	Ballabgarh(PG)-Nawada(HV)	1	110	6	150	0.1	110	6	150	0.1											
52	Bamnoli(DV)-Dwarka(PG)	1	110	5	150	0.1	110	5	150	0.1											
53	Bareilly PG-Lucknow (UP)	1	111	6	150	0.1	110	5	150	0.1											
54	Bareilly(PG)-Meerut	1	110	5	150	0.1	110	5	150	0.1											
55	Bareilly(PG)-Meerut	2	112	6	150	0.1	112	6	150	0.1											
56	Bareilly(PG)-Moradabad(UP)	1	110	5	150	0.1	110	5	150	0.1											
57	Bareilly(PG)-Rampur_PRSTL	1	111	6	150	0.1	111	6	150	0.1											
58	Bareilly(UP)-Bareilly(PG)	1	110	5	150	0.1	110	5	150	0.1											
59	Bareilly(UP)-Bareilly(PG)	2	112	6	150	0.1	112	6	150	0.1											
60	Bareilly_2(765/400)(PG)-Bareilly(PG)	1	110	5	150	0.1	110	5	150	0.1											
61	Bareilly_2(765/400)(PG)-Bareilly(PG)	2	112	6	150	0.1	112	6	150	0.1											
62	Bareilly_2(765/400)(PG)-Jauljivi(PG)	1	110	5	150	0.1	110	5	150	0.1											
63	Bareilly_2(765/400)(PG)-Jauljivi(PG)	2	112	6	150	0.1	112	6	150	0.1											
64	Bareilly_2(765/400)(PG)-Kashipur(UK)	1	110	5	150	0.1	110	5	150	0.1											
65	Bareilly_2(765/400)(PG)-Kashipur(UK)	2	112	6	150	0.1	112	6	150	0.1											
66	Baspa-Karcham Wangtoo	1	110	5	140	0.1	110	5	140	0.1											
67	Baspa-Karcham Wangtoo	2	112	6	140	0.1	112	6	140	0.1											
68	Bassi-Bhiwadi	1	110	6	150	0.1	110	5	150	0.1											
69	Bassi(PG)-Heerapura(RS)	1	110	5	150	0.1	110	5	150	0.1											
70	Bassi(PG)-Heerapura(RS)	2	112	6	150	0.1	112	6	150	0.1											
71	Bassi-Kotputli	1	110	6	150	0.1	110	5	150	0.1											
72	Bassi(PG)-Phagi(RS)	1	110	5	150	0.1	110	5	140	0.1											
73	Bassi(PG)-Phagi(RS)	2	112	6	150	0.1	112	6	140	0.1											
74	Bassi-Sikar	1	110	5	150	0.1	110	5	150	0.1											
75	Bassi-Sikar	2	112	6	150	0.1	112	6	150	0.1											
76	Basti (UP)-Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1											
77	Basti (UP)-Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1											
78	Bawana(CCGTB)(DTL)-Bahadurgarh(PG)	1	110	5	150	0.1	110	5	150	0.1											
79	Bawana(CCGTB)(DTL)-Bhiwani(PG)	1	112	6	150	0.1	112	6	150	0.1											
80	Bhadla(PG)-Bhadla(RS)	1	110	5	150	0.1	110	5	150	0.1											
81	Bhadla(PG)-Bhadla(RS)	2	112	6	150	0.1	112	6	150	0.1											
82	Bhensra (Jaisalmer2)(RS)-Fatehgarh_III(PG)	1	110	5	150	0.1	110	5	150	0.1											
83	Bhensra (Jaisalmer2)(RS)-Fatehgarh_III(PG)	2	112	6	150	0.1	112	6	150	0.1											
86	Bhiwadi-Gurgaon	1	110	6	150	0.1	110	5	150	0.1											
87	Bhiwadi-Hissar	1	110	5	150	0.1	110	5	150	0.1											
88	Bhiwadi-Hissar	2	111	6	150	0.1	111	6	150	0.1											
89	Bhiwadi-Hissar	3	112	7	150	0.1	112	7	150	0.1											
90	Bhiwadi-Neemrana(PG)	1	110	5	150	0.1	110	5	150	0.1											
91	Bhiwadi-Neemrana(PG)	2	112	6	150	0.1	112	6	150	0.1											
92	Bhiwani(PG)-Bhiwani(BB)	1	110	5	150	0.1	110	5	150	0.1											
93	Bhiwani(BB)-Hissar(PG)	1	112	7	150	0.1	112	7	150	0.1											
94	Bhiwani(PG)-Jind	1	110	5	150	0.1	110	5	150	0.1											
95	Bhiwani(PG)-Jind	2	112	7	150	0.1	112	7	150	0.1											
96	Bhiwani(PG)-Kabulpur(HV)	1	111	6	150	0.1	111	6	150	0.1											
97	Bhiwani(PG)-Hissar-Moga(PG)	1	110	5	150	0.1	110	5	150	0.1											
98	Bikaner_2-Bikaner(PG)	1	110	5	150	0.1	110	5	150	0.1											
99	Bikaner_2-Bikaner(PG)	2	112	6	150	0.1	112	6	150	0.1											
100	Bikaner_2(PG)-Khetri(PG)	1	110	5	150	0.1	110	5	150	0.1											
101	Bikaner_2(PG)-Khetri(PG)	2	111	6	150	0.1	111	6	150	0.1											
102	Bikaner_2(PG)-Khetri(PG)	3	112	6	150	0.1	112	6	150	0.1											
103	Bikaner_2(PG)-Khetri(PG)	4	112	7	150	0.1	112	7	150	0.1											
104	Chamera-II - Chamba(GIS)	1	110	5	150	0.1	110	5	150	0.1											
105	Chamera-II-Chamera-I	1	111	6	150	0.1	111	6	150	0.1											
106	Chamera-II-Kishenpur	1	112	7	150	0.1	112	7	150	0.1											
107	Chamera-I-Jalandhar	1	110	5	150	0.1	110	5	150	0.1											
108	Chamera-I-Jalandhar	2	112	6	150	0.1	112	6	150	0.1											
109	Chittorgarh(RS)-Kankroli	2	110	6	150	0.1	110	6	150	0.1											
110	Chittorgarh(PG)-Chittorgarh(RS)	1	110	5	150	0.1	110	5	150	0.1											
111	Chittorgarh(PG)-Chittorgarh(RS)	2	112	6	150	0.1	112	6	150	0.1											
112	Dadri NCTPP-G. Noida	1	110	5	140	0.1	110	5	150	0.1											
113	Dadri(NT)-Maharanibagh(PG)-Ballabhgahr(PG)	1	111	6	140	0.1	111	6	150	0.1											
114	Dadri(NT)-Mandola	1	110	5	140	0.1	110	5	150	0.1											
115	Dadri(NT)-Mandola	2	112	6	140	0.1	112	6	150	0.1											
116	Dadri(NT)-Muradnagar_2(UP)	1	110	5	140	0.1	110	5	140	0.1											
117	Dadri(NT)-Panipat(BB)	1	110	5	140	0.1	110	5	150	0.1											
118	Dadri(NT)-Panipat(BB)	2	112	7	140	0.1	112	7	150	0.1											
119	Dadri(NT)-Kaithal	1	111	6	140	0.1	111	6	150	0.1											
120	Deepalpur(JHKT)-Bawana(DV)	1	112	6	150	0.1	112	6	150	0.1											
121	Dehradun(PG)-Abdullapur	1	110	5	150	0.1	110	5	150	0.1											
122	Dehradun(PG)-Abdullapur	2	112	6	150	0.1	112	6	150	0.1											
123	Dehradun-Baghpat	1	110	5	150	0.1	110	5	150	0.1											
124	Dehradun(PG)-Roorkee(PG)	1	110	6	150	0.1	110	5	150	0.1											
125	Dulhasti-Kishenpur	1	110	5	150	0.1	110	5	150	0.1											
126	Dulhasti-Kishenpur	2	111	6	150	0.1	111	6	150	0.1											
127	Dwarka-Jhatikra	1	110	5	150	0.1	110	5	150	0.1											
128	Fatehabad-Hissar-Bhiwani	1	110	5	150	0.1	110	5	150	0.1											
129	Fatehgarh_II(PG)-Fatehgarh_III(PG)	1	110	5	150	0.1	110	5	150	0.1											
130	Fatehgarh_II(PG)-Fatehgarh_III(PG)	2	112	6	150	0.1	112	6	150	0.1											
131	Fatehpur-Kanpur-Panki	1	112	6	150	0.1	112	6	150	0.1											
132	Fatehpur-Kanpur-Panki	2	110	5	150	0.1	110	5	150	0.1											
133	Fatehpur-Mainpuri (PG)	1	110	5	150	0.1	110	5	150	0.1											
134	Fatehpur-Mainpuri (PG)	2	112	6	150	0.1	112	6	150	0.1											
135	Fatehpur - Unchahar	1	110	5	150	0.1	110	5	140	0.1											
136	Fatehpur - Unchahar	2	112	6	150	0.1	112	6	140	0.1											
137	G.Noida-Nawada	1	110	5	140	0.1	110	5	140	0.1											
138	Gorakhpur(PG)-Gorakhpur(UP)	1	110	5	150	0.1	110	5	150	0.1											
139	Gorakhpur(PG)-Gorakhpur(UP)	2	112	6	150	0.1	112	6	150	0.1											
140	Gorakhpur PG-Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1											
141	Gorakhpur PG-Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1											
142	Gorakhpur PG-LUCKNOW7 PG	1	110	5	150	0.1	110	5	150	0.1											
143	Gorakhpur PG-LUCKNOW7 PG	2	112	6	150	0.1	112	6	150	0.1											
144	Gorakhpur-Motihari IR	1	110	5	150	0.1	110	5	150	0.1											
145	Gorakhpur-Motihari IR	2	112	6	150	0.1	112	6	150	0.1											
146	Gorakhpur-Muzaffarpur IR	1	110	5	150	0.1	110	5	150	0.1											

147	Gorakhpur-Muzaffarpur IR	2	112	6	150	0.1	112	6	150	0.1										
148	Gorakhpur(PG)-Basti(UP)	1	110	5	150	0.1	110	5	150	0.1										
149	Gorakhpur(PG)-Basti(UP)	2	112	6	150	0.1	112	6	150	0.1										
150	Gumma(HP)-Panchkula(PG)	1	110	5	150	0.1	110	5	150	0.1										
151	Gumma(HP)-Panchkula(PG)	2	112	6	150	0.1	112	6	150	0.1										
152	Gurgaon-Sohna Road	1	110	5	150	0.1	110	5	140	0.1										
153	Gurgaon-Sohna Road	2	112	6	150	0.1	112	6	140	0.1										
154	Hamirpur-Parbati Pool Banala	1	112	6	150	0.1	112	6	150	0.1										
155	Hamirpur-Jalandhar	1	112	6	150	0.1	112	6	150	0.1										
156	Jaipur South-Bassi	1	110	5	150	0.1	110	5	150	0.1										
157	Jaipur South-Bassi	2	112	6	150	0.1	112	6	150	0.1										
158	Jaipur South(PG)-RAPP D(NP)	1	110	5	150	0.1	110	5	150	0.1										
159	Jalandhar-Chamba(GIS)	1	110	5	150	0.1	110	5	150	0.1										
160	Jalandhar-Chamba(GIS)	2	112	6	150	0.1	112	6	150	0.1										
161	Jalandhar-Dhanansu(PS)	1	110	5	150	0.1	110	5	150	0.1										
162	Jalandhar-Nakodar	1	112	6	150	0.1	112	6	150	0.1										
163	Kaithal-Hissar	1	110	5	150	0.1	110	5	150	0.1										
164	Kaithal-Hissar	2	112	6	150	0.1	112	6	150	0.1										
165	Kankroli-Jodhpur	1	110	5	150	0.1	110	5	140	0.1										
166	Kankroli-Zerda IR	1	110	5	150	0.1	110	5	150	0.1										
166	Kankroli-Zerda IR	2	112	6	150	0.1	112	6	150	0.1										
167	Kanpur - Kanpur GIS(765/400)	1	110	5	150	0.1	110	5	150	0.1										
168	Kanpur - Kanpur GIS(765/400)	2	112	7	150	0.1	112	6	150	0.1										
169	Kanpur-Agra	1	111	6	150	0.1	110	5	150	0.1										
170	Kanpur-Auraiya(NT)	1	110	5	150	0.1	110	5	140	0.1										
171	Kanpur-Auraiya(NT)	2	112	6	150	0.1	112	6	140	0.1										
172	Kanpur-Ballabgarh	1	110	5	150	0.1	110	5	150	0.1										
173	Kanpur-Ballabgarh	2	111	6	150	0.1	111	6	150	0.1										
174	Kanpur-Ballabgarh	3	112	7	150	0.1	112	7	150	0.1										
175	Karcham Wangtoo-Nathpa Jhaki	1	110	5	140	0.1	110	5	150	0.1										
176	Karcham Wangtoo-Nathpa Jhaki	2	112	6	140	0.1	112	6	150	0.1										
177	Karcham Wangtoo-Wangtoo(HP)	1	110	5	140	0.1	110	5	140	0.1										
178	Karcham Wangtoo-Wangtoo(HP)	2	112	6	150	0.1	112	6	140	0.1										
179	Khetri- Bhiwadi	1	110	5	150	0.1	110	5	150	0.1										
180	Khetri- Bhiwadi	2	112	6	150	0.1	112	6	150	0.1										
181	Kishenpur-New Wanpoh	1	110	5	150	0.1	110	5	150	0.1										
182	Kishenpur-New Wanpoh	3	110	5	150	0.1	110	5	150	0.1										
183	Kishenpur-New Wanpoh	4	111	6	150	0.1	111	6	150	0.1										
184	Kishenpur-Samba	1	110	5	150	0.1	110	5	150	0.1										
185	Kishenpur-Samba	2	111	6	150	0.1	111	6	150	0.1										
186	Koldam-Nallagarh	1	112	6	150	0.1	112	6	150	0.1										
187	Kota-Jaipur South	1	111	6	150	0.1	111	6	150	0.1										
188	Kota-Merta(RS)	1	110	5	150	0.1	110	5	150	0.1										
189	Koteshwar(PG)-Koteswar(TH)	1	110	5	150	0.1	110	5	140	0.1	Yes									
190	Koteshwar(PG)-Koteswar(TH)	2	112	6	150	0.1	112	6	140	0.1	Yes									
191	Kotputli-Bhiwadi	1	110	5	150	0.1	110	5	150	0.1										
192	Kurukshetra-Dhanansu(PS)	1	110	5	150	0.1	110	5	140	0.1										
193	Kurukshetra-Jind	1	110	5	150	0.1	110	5	150	0.1										
194	Kurukshetra-Jind	2	112	6	150	0.1	112	6	150	0.1										
195	Kurukshetra-Nakodar(PS)	1	110	6	150	0.1	110	6	140	0.1										
196	Kurukshetra-Sonipat	1	110	5	150	0.1	110	5	150	0.1										
197	Kurukshetra-Sonipat	2	112	6	150	0.1	112	6	150	0.1										
198	Lucknow(PG)-Lucknow UP	1	111	6	150	0.1	111	6	150	0.1										
199	Lucknow(PG)-Jehta	1	110	5	150	0.1	110	5	140	0.1										
200	Lucknow(PG)-Jehta	2	112	6	150	0.1	112	6	140	0.1										
201	Jehta-Unnao	1	110	5	140	0.1	110	5	150	0.1										
202	Jehta-Unnao	2	112	6	140	0.1	112	6	150	0.1										
203	Lucknow_2(765/400)(PG) - Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1										
204	Lucknow_2(765/400)(PG) - Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1										
205	Lucknow_2(765/400) - Kanpur GIS(765/400)	1	110	5	150	0.1	110	5	150	0.1										
206	Lucknow_2(765/400) - Kanpur GIS(765/400)	2	112	6	150	0.1	112	6	150	0.1										
207	Ludhiana-Jalandhar	1	110	5	150	0.1	110	5	150	0.1										
208	Ludhiana-Malerkotla	1	112	6	150	0.1	112	6	150	0.1										
209	Ludhiana-Patiala	1	110	5	150	0.1	110	5	150	0.1										
210	Ludhiana-Patiala	2	112	6	150	0.1	112	6	150	0.1										
211	Mahendergarh-Bhiwani(PG)-Hissar	3	111	5	150	0.1	111	5	150	0.1										
212	Mahendergarh-Bhiwani(PG)-Hissar	4	112	6	150	0.1	112	6	150	0.1										
213	Mainpuri-Ballabgarh	1	110	5	150	0.1	110	5	150	0.1										
214	Mainpuri-Ballabgarh	2	112	6	150	0.1	112	6	150	0.1										
215	Malerkotla-Kaithal	1	110	5	150	0.1	110	5	150	0.1										
216	Malerkotla-Patiala	1	112	6	150	0.1	112	6	150	0.1										
217	Manesar-Sohna Road	1	110	5	150	0.1	110	5	140	0.1										
218	Manesar-Sohna Road	2	112	6	150	0.1	112	7	140	0.1										
219	Meerut-Baghpat	1	110	5	150	0.1	110	5	150	0.1										
220	Meerut-Baghpat	2	112	6	150	0.1	112	6	150	0.1										
221	Meerut-Mandola	1	112	5	150	0.1	112	5	150	0.1										
222	Meerut-Mandola	2	112	6	150	0.1	112	6	150	0.1										
223	Meerut-Mandola	3	110	5	150	0.1	110	5	150	0.1										
224	Meerut-Mandola	4	111	6	150	0.1	111	6	150	0.1										
225	Meerut(PG)-Muzzafarnagar(UP)	1	110	5	150	0.1	110	5	150	0.1										
226	Moga-Fatehabad	1	110	5	150	0.1	110	5	150	0.1										
227	Moga-Hissar	2	110	5	150	0.1	110	5	150	0.1										
228	Moga-Hissar	3	112	6	150	0.1	112	6	150	0.1										
229	Moga-Jalandhar	1	110	5	150	0.1	110	5	150	0.1										
230	Moga-Jalandhar	2	112	6	150	0.1	112	6	150	0.1										
231	Moradabad(UP)-Hapur(UP)	1	110	5	150	0.1	110	5	140	0.1										
232	Muradnagar(UP)-Hapur(UP)	1	110	5	150	0.1	112	6	150	0.1										
233	Nallagarh-Patiala	1	110	5	150	0.1	110	5	150	0.1										
234	Nallagarh-Patiala	2	112	6	150	0.1	112	6	150	0.1										
235	Nathpa Jhakri(SJ)-Rampur(SJ)	1	110	5	150	0.1	110	5	140	0.1										
236	Nathpa Jhakri(SJ)-Rampur(SJ)	2	112	6	150	0.1	112	6	140	0.1										
237	Nathpa Jhakri(SJ)-Gumma(HP)	1	110	5	140	0.1	110	5	140	0.1										
238	Nathpa Jhakri(SJ)-Gumma(HP)	2	112	6	140	0.1	112	6	140	0.1										
239	Neemrana(PG)-Manesar	1	110	5	150	0.1	110	5	150	0.1										
240	Neemrana(PG)-Manesar	2	112	6	150	0.1	112	6	150	0.1										
241	Neemrana(PG)-Dhanonda(HV)-Mohindergarh(APL)	1	110	5	150	0.1	110	5	150	0.1										
242	Neemrana(PG)-Dhanonda(HV)-Mohindergarh(APL)	2	112	6	150	0.1	112	6	150	0.1										
243	Neemrana(PG)-Sikar	2	111	6	150	0.1	111	6	150	0.1										
244	New Wanpoh-Wagoora	1	110	5	150	0.1	110	5	150	0.1										
245	New Wanpoh-Wagoora	2	111	6	150	0.1	111	6	150	0.1										
246	Orai(PG)-Orai (UP)	1	110	5	150	0.1	110	5	150	0.1										
247	Orai(PG)-Orai (UP)	2	112	7	150	0.1	112	7	150	0.1										
248	Panchkula -Abdullapur	1	110	5	150	0.1	110	5	150	0.1										
249	Panchkula -Abdullapur	2	112	6	150	0.1	112	6	150	0.1										
250	Patiala-Panchkula	1	110	5	150	0.1	110	5	150	0.1										
251	Patiala-Panchkula	2	112	6	150	0.1	112	6	150	0.1										
252	Patiala-Patran	1	110	5	150	0.1	110	5	150	0.1										
253	Patiala-Patran	2	112	6	150	0.1	112	6	150	0.1										
254	Patran-Kaithal	1	110	5	150	0.1	110	5	150	0.1										
255	Patran-Kaithal	2	112	6	150	0.1	112	6	150	0.1										
256	Rampur(SJ)-Nallagarh(PG)	1	110	5	150	0.1	110	5	150	0.1										
257	Rampur(SJ)-Nallagarh(PG)	2	112	6	150	0.1	112	6	150	0.1										
258	Rampur_PRSTL-Moradabad(UP)	1	111	6	150	0.1	111	6	150	0.1										
259	RAPP-D(NP)-Kota(PG)	1	110	5	150	0.1	110	5	150	0.1	Yes(RAPP)									
260	RAPS-C(NP)-Chittorgarh(RS)	2	110	5	150	0.1	110	5	150	0.1										
261	RAPS-C(NP)-Kankroli(PG)	1	111	6	150	0.1	111	6	150	0.1										
262	RAPS-C(NP)-Kota(PG)	1	110	6	150	0.1	110	6	150	0.1										
263	Rihand(NT)-Allahabad(PG)	1	110	5	140	0.1	110	5	150	0.1										
264	Rihand(NT)-Allahabad(PG)	2	112	6	140	0.1	112	6	150	0.1										
265	Rihand3-Vindhyachal IR	1	110	5	150	0.1	110	5	150	0.1										
266	Rihand3-Vindhyachal IR	2	112	6	150	0.1	112	6	150	0.1										
267	Roorkee(PG)-Kashipur(UK)	1	110	5	150	0.1	110	5	150	0.1										
268	Roorkee(PG)-Kashipur(UK)	2	112	6	150	0.1	112	6	150	0.1										

269	Roorkee-Saharanpur	1	111	6	150	0.1	111	6	150	0.1										
270	Sambhal(UP)-Rampur(PRSTL)	1	110	5	150	0.1	110	5	140	0.1										
271	Sambhal(UP)-Rampur(PRSTL)	2	112	6	150	0.1	112	7	140	0.1										
272	Sarnath(UP)-Varanasi(PG)	1	110	5	150	0.1	110	5	150	0.1										
273	Sarnath(UP)-Varanasi(PG)	2	112	6	150	0.1	112	6	150	0.1										
274	Shahjahanpur(PG)-Bareilly(PG)	1	110	5	150	0.1	110	5	150	0.1										
275	Shahjahanpur(PG)-Bareilly(PG)	2	112	6	150	0.1	112	6	150	0.1										
276	Shahjahanpur(PG)-Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1										
277	Shahjahanpur(PG)-Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1										
278	Shahjahanpur PG-Rosa	1	110	5	150	0.1	110	5	140	0.1										
279	Shahjahanpur PG-Rosa	2	112	6	150	0.1	112	6	140	0.1										
280	Shree Cement(SCL)-Kota(PG)	1	110	5	150	0.1	110	5	150	0.1										
281	Shree Cement-Merta	2	111	6	150	0.1	111	6	150	0.1										
282	Sikar-Khetri	1	110	5	150	0.1	110	5	150	0.1										
283	Sikar-Khetri	2	112	6	150	0.1	112	6	150	0.1										
284	Sikar(PG)-Ratangarh(RS)	1	110	5	150	0.1	110	5	150	0.1										
285	Sikar(PG)-Ratangarh(RS)	2	112	6	150	0.1	112	6	150	0.1										
286	Sikar_2(PSTL)-Neemrana(PG)	1	110	5	150	0.1	110	5	150	0.1										
287	Sikar_2(PSTL)-Neemrana(PG)	2	112	6	150	0.1	112	6	150	0.1										
288	Singrauli(NT)-Allahabad(PG)	1	110	5	140	0.1	110	5	150	0.1										
289	Singrauli(NT)-Allahabad(PG)	2	111	6	140	0.1	111	6	150	0.1										
290	Singrauli(NT)-Allahabad(PG)	3	112	7	150	0.1	112	7	150	0.1										
291	Singrauli(NT)-Anpara(UP)	1	110	6	140	0.1	110	6	140	0.1										
292	Singrauli(NT)-Fatehpur(PG)	1	110	5	140	0.1	110	5	150	0.1										
293	Singrauli(NT)-Lucknow(UP)	1	111	6	140	0.1	111	6	150	0.1										
294	Singrauli(NT)-Rihand(NT)	1	110	5	140	0.1	110	5	140	0.1										
295	Singrauli(NT)-Rihand(NT)	2	112	6	140	0.1	112	6	140	0.1										
296	Singrauli(NT)-Vindhyachal(PG)	1	110	5	140	0.1	110	5	150	0.1										
297	Singrauli(NT)-Vindhyachal(PG)	2	112	6	140	0.1	112	6	150	0.1										
298	Sohawal-Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1										
299	Sohawal-Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1										
300	Sorang(Greenko)-Kala Amb	1	112	6	150	0.1	112	6	150	0.1										
301	Tehri(THDC)-Koteshwar(PG)	3	112	7	150	0.1	112	7	150	0.1										
302	Uri-II(NH) - Uri-I(NH)	1	111	6	140	0.1	111	6	140	0.1										
303	Uri-II(NH) - Wagoora(PG)	1	110	5	150	0.1	110	5	150	0.1										
304	Uri-I(NH) - Amargarh(INDIGRID)	1	110	5	150	0.1	110	5	150	0.1										
305	Uri-I(NH) - Amargarh(INDIGRID)	2	111	6	150	0.1	111	6	150	0.1										
306	Varanasi(PG)-Sahupuri(UP)	1	110	5	150	0.1	110	5	140	0.1										
307	Varanasi(PG)-Sahupuri(UP)	2	112	6	150	0.1	112	6	150	0.1										
308	varanasi-Sasaram IR	1	111	6	150	0.1	111	6	150	0.1										
309	varanasi-Biharshariff IR	1	110	5	150	0.1	110	5	150	0.1										
310	varanasi-Biharshariff IR	2	112	6	150	0.1	112	6	150	0.1										
311	Wagoora-Amargarh	1	110	5	150	0.1	110	5	150	0.1										
312	Wagoora-Amargarh	2	111	6	150	0.1	111	6	150	0.1										
313	Wangtoo(HP)-Kala Amb	1	110	5	150	0.1	110	5	150	0.1										
314	Wangtoo(HP)-Sorang(Greenko)	1	112	6	150	0.1	112	6	150	0.1										
B. Adani Transmission India Ltd. (ATIL) (FBTL)																				
1	Alwar(ATIL)-Hindaun(RS)	1	110	5	150	0.1	110	5	150	0.1										
2	Bhiwani(PG) -Mohindergarh(APL)	1	110	5	150	0.1	110	5	150	0.1										
3	Bhiwani(PG) -Mohindergarh(APL)	2	112	6	150	0.1	112	6	150	0.1										
4	Bhadla(PG)-Bhadla_II	1	110	5	150	0.1	110	5	150	0.1										
5	Bhadla(PG)-Bhadla_II	2	112	6	150	0.1	112	6	150	0.1										
C. UPPTCL (Uttar Pradesh)																				
1	Agra UP-Fatehabad (765kV Agra UP)	1	110	5	140	0.1	110	5	140	0.1	Y									
2	Agra UP-Fatehabad (765kV Agra UP)	2	112	6	150	0.1	112	6	150	0.1	Y									
3	Agra Fatehabad(UP)-Firozabad	1	110	6	150	0.1	110	6	140	0.1	Y									
4	Agra UP-Unnao	1	110	5	140	0.1	110	5	140	0.1	Y									
5	Alakhnanda-Vishnuprayag	1	110	5	140	0.1	110	5	140	0.1	Y									
6	Aligarh-Mainpuri765 (UP)	1	110	5	150	0.1	110	5	140	0.1	Y									
7	Aligarh-Mainpuri765 (UP)	2	112	6	150	0.1	112	6	140	0.1	Y									
8	Aligarh-Muradnagar	1	110	6	150	0.1	110	6	150	0.1	Y									
9	Aligarh-Panki	1	110	6	140	0.1	110	6	140	0.1	Y									
10	Aligarh(UP)-Khurja(THDC)	1	110	5	150	0.1	110	5	140	0.1	Y									
11	Khurja(THDC)-Shamli(UP)	1	111	6	150	0.1	111	6	140	0.1										Revised setting after LILO of 400kV Aligarh-Shamli line-1 at Khurja
12	Aligarh(UP)-Shamli(UP)	2	112	7	150	0.1	112	7	140	0.1										
13	Aligarh-Sikandrabad	1	111	6	140	0.1	111	6	140	0.1	Y									
14	Aligarh-Harduaganj	1	111	6	150	0.1	111	6	150	0.1	Y									
15	AnparaB-AnparaC	1	Only an Extension of Bus therefore overvoltage protection is not enable								Y									
16	AnparaB-AnparaC	2									Y									
17	AnparaB-AnparaD	1	110	5	140	0.1	110	5	140	0.1	Y									
18	AnparaB-AnparaD	2	112	6	140	0.1	112	6	140	0.1	Y									
19	AnparaB-Mau	1	110	6	140	0.1	110	6	140	0.1	Y									
20	AnparaB-Obra	1	111	6	140	0.1	111	6	140	0.1	Y									
21	AnparaB-Sarnath	1	110	5	140	0.1	110	5	140	0.1	Y									
22	AnparaB-Sarnath	2	112	6	140	0.1	112	6	140	0.1	Y									
23	Ataur-Indirapuram	1	112	6	140	0.1	112	6	140	0.1	Y									
24	Ataur-Noida sec123	1	110	5	140	0.1	110	5	140	0.1	Y									
25	Azamgarh-Mau	1	110	5	150	0.1	110	5	140	0.1	Y									
26	Azamgarh-Tanda Stage-II	1	112	6	140	0.1	112	6	140	0.1	Y									
27	Badaun-Sambhal	1	110	6	140	0.1	110	5	150	0.1	Y									
28	Badaun-Sambhal	2	112	6	140	0.1	112	6	150	0.1	Y									
29	Banda-Orai	1	110	5	150	0.1	110	5	150	0.1	Y									
30	Banda-Orai	2	112	6	150	0.1	112	6	150	0.1	Y									
31	Banda-Rewa Road	1	110	5	140	0.1	110	5	140	0.1	Y									
32	Banda-Rewa Road	2	112	6	140	0.1	112	6	140	0.1	Y									
33	Bareilly(UP)-Unnao	1	112	6	145	0.1	112	6	140	0.1	Y									
34	Bareilly(UP)-Unnao	2	110	5	145	0.1	110	5	140	0.1	Y									
35	Fatehabad(UP)-Agra(South)-I	1	110	5	140	0.1	110	5	140	0.1	Y									
36	Fatehabad(UP)-Mathura	1	110	5	150	0.1	110	5	150	0.1	Y									
37	Fatehabad(UP)-Mathura	2	112	6	150	0.1	112	6	150	0.1	Y									
38	Firozabad-Agra(South)	1	111	6	140	0.1	112	6	150	0.1	Y									
39	Firozabad-Jawaharpur	1	110	5	150	0.1	110	5	150	0.1	Y									
40	Firozabad-Jawaharpur	2	112	6	150	0.1	112	6	150	0.1	Y									
41	Gorakhpur UP-Azamgarh	1	111	6	140	0.1	111	6	140	0.1	Y									
42	Gr.Noida4-Gr.Noida7	1	110	5	150	0.1	110	5	140	0.1	Y									
43	Gr.Noida4-Gr.Noida7	2	112	6	150	0.1	112	6	140	0.1	Y									
44	Gr.Noida7-Sikandrabad	1	110	5	140	0.1	110	5	140	0.1	Y									
45	Gr.Noida7-Sikandrabad	2	112	6	140	0.1	112	6	140	0.1	Y									
46	Gr.Noida(765kV)-Noida Sec 148	1	110	5	140	0.1	110	5	140	0.1	Y									
47	Gr.Noida(765kV)-Noida Sec 148	2	112	6	140	0.1	112	6	140	0.1	Y									
48	Hapur-Ataur	1	110	5	140	0.1	110	5	140	0.1	Y									
49	Hapur-Ataur	2	112	6	140	0.1	112	6	140	0.1	Y									
50	Hapur-Dasna	1	110	5	140	0.1	110	5	140	0.1	Y									
51	Hapur-Dasna	2	112	6	140	0.1	112	6	140	0.1	Y									
52	Harduaganj-Sikandrabad	1	110	5	150	0.1	110	5	150	0.1	Y									
53	Jaunpur- Obra C	1	110	5	140	0.1	110	5	140	0.1	Y									
54	Kanpur765-Ghatampur	1	110	5	150	0.1	110	5	150	0.1	Y									
55	Kanpur765-Ghatampur	2	112	6	150	0.1	112	6	150	0.1	Y									
56	Lucknow(PG)-Mohanlalganj(PGYTL)	1	110	5	150	0.1	110	5	150	0.1	Y									
57	Lucknow(UP)-Mohanlalganj(PGYTL)	1	110	5	150	0.1	112	6	150	0.1	Y									
58	Mainpuri(UP)-Mainpuri(PG)	1	110	5	140	0.1	110	5	150	0.1	Y									
59	Mainpuri(UP)-Mainpuri(PG)	2	112	6	140	0.1	112	6	150	0.1	Y									
60	Mainpuri(UP)-Orai-I	1	110	5	140	0.1	110	5	140	0.1	Y									
61	Mainpuri(UP)-Orai-2	2	112	6	140	0.1	112	6	140	0.1	Y									
62	Meja(NTPC)-Bara	1	110	5	140	0.1	110	5	140	0.1	Y									
63	Meja(NTPC)-Bara	2	112	6	140	0.1	112	6	140	0.1	Y									
64	Meja-Masauli	1	110	5	140	0.1	110	5	140	0.1	Y									
65	Meja(NTPC)-Rewa Road	1	111	6	140	0.1	111	6	140	0.1	Y									
66	Muradnagar-Ataur	1	110	5	150	0.1	110	5	140	0.1	Y									
67	Muradnagar New-Mathura	1	110	5	150	0.1	110	5	140	0.1	Y									
68	Muzaffarnagar-Ataur	1	111	6	150	0.1	111	6	140	0.1	Y									
69	Muzaffarnagar-Vishnuprayag	1	110	5	150	0.1	110	5	140	0.1	Y									
70	Muzaffarnagar-Alakhnanda	1	112	6	150	0.1	112	6	140	0.1	Y									
71	Noida sec123-Indirapuram	1	110	5	140	0.1	110	5	140	0.1	Y									
72	Noida Sec 148-Noida Sec 123	1	110	5	140	0.1	110	5	140	0.1	Y									
73	Noida Sec 148-Noida Sec 123	2	112	6	140	0.1	112	6	140	0.1	Y									
74	Obra-B-Sultanpur	1	110	5	140	0.1	110	5	140	0.1	Y									
75	Obra-B - Jaunpur	1	112	6	140	0.1	112	6	140	0.1	Y									
76	Orai-Paricha	1	110	5	140	0.1	110	5	140	0.1	Y									

77	Orai-Paricha	2	112	6	140	0.1	112	6	140	0.1	Y									
78	Panki- Panki TPS	1	110	5	140	0.1	110	5	140	0.1	Y									
79	Panki- Panki TPS	2	112	6	140	0.1	112	6	140	0.1	Y									
80	Rasra-Mau	1	112	6	150	0.1	112	6	150	0.1	Y									
81	Rewa Road-Masauli	1	110	5	140	0.1	110	5	140	0.1	Y									
82	Rewa road-Obra	1	110	6	140	0.1	110	6	140	0.1	Y									
83	Rewa road-Panki	1	111	6	140	0.1	111	6	140	0.1	Y									
84	Roorkee-Muzaffarnagar	1	111	6	150	0.1	111	6	150	0.1	Y									
85	Rosa-Badaun	1	110	5	140	0.1	110	5	140	0.1	Y									
86	Rosa-Badaun	2	112	6	140	0.1	112	6	140	0.1	Y									
87	Sarnath-Azamgarh	1	110	5	140	0.1	110	5	140	0.1	Y									
88	Simbholi-Muradnagar II	1	110	5	150	0.1	110	5	150	0.1	Y									
89	Simbholi-Muradnagar II	2	112	6	150	0.1	112	6	150	0.1	Y									
90	Simbholi-Meerut	1	110	5	150	0.1	110	5	150	0.1	Y									
91	Simbholi-Meerut	2	112	6	150	0.1	112	6	150	0.1	Y									
92	Sultanpur(UP)-Mohanlalganj(PGYTL)	1	110	5	140	0.1	110	5	150	0.1	Y									
93	Sultanpur-Tanda Stage II	1	111	6	150	0.1	111	6	150	0.1	Y									
94	Tanda-Basti	1	110	5	140	0.1	110	5	150	0.1	Y									
95	Tanda-Basti	2	112	6	140	0.1	112	6	150	0.1	Y									
96	Unnao(UP)-Mohanlalganj(PGYTL)	1	110	5	140	0.1	110	5	150	0.1	Y									
97	Unnao-Panki	1	111	6	140	0.1	111	6	140	0.1	Y									
98	Varanasi(PG)-Jaunpur	1	110	5	140	0.1	110	5	140	0.1	Y									
99	Varanasi(PG)-Jaunpur	2	112	6	140	0.1	112	6	141.8	0.1	Y									
D. THDCIL																				
1	Aligarh(PG)-Khurja STPP(TH)	1	110	5	150	0.1	110	5	140	0.1										
2	Aligarh(PG)-Khurja STPP(TH)	2	112	6	150	0.1	112	6	140	0.1										
E. Rajasthan																				
1	Ajmer-Bhilwara-I	1	110	5	140	0.1	110	5	140	0.1	YES									
2	Ajmer-Bhilwara-II	2	112	6	140	0.1	112	6	140	0.1	YES									
3	Ajmer-Deedwana	1	110	5	140	0.1	110	5	150	0.1	YES									
4	Akal-Barmer	1	110	5	150	0.1	110	5	150	0.1	YES									
5	Akal-Bhensra (Jaisalmer2)	1	111	6	150	0.1	111	6	150	0.1	YES									
6	Akal-Jodhpur	1	111	6	150	0.1	110	6	150	0.1	YES									
7	Akal-Kankani (Jodhpur New)	1	112	6	150	0.1	112	6	150	0.1	YES									
8	Akal-Ramgarh	1	110	5	148	0.1	110	5	148	0.1	YES									
9	Akal-Ramgarh	2	112	6	150	0.1	112	6	150	0.1	YES									
10	Anta-Chhabra SCTPS	1	110	5	140	0.1	110	5	140	0.1	YES									
11	Anta-Chhabra SCTPS	2	112	6	140	0.1	112	6	140	0.1	YES									
12	Anta-Kalisindh	1	110	5	140	0.1	110	5	140	0.1	YES									
13	Anta-Sangod	1	112	6	140	0.1	112	6	140	0.1										Revised setting after LILO of 400kV Anta-Kalisindh linw-II at Sangod
14	Sangod-Kalisindh	1	112	6	140	0.1	112	6	140	0.1										
15	Anta-Kawai SCTPS	1	110	5	140	0.1	110	5	140	0.1	YES									
16	Anta-Kawai SCTPS	2	112	6	140	0.1	112	6	140	0.1	YES									
17	Babai - Suratgarh SCTPS	1	106	3	150	0.1	Both lines i.e. 400 KV Babai-SCTPS CKT-I &II CHARGED UP-TO 77 KM ON ANTI-THEFT BASIS FROM 400 KV GSS BABAI END ,SINCE DT. 06.01.2024.				YES									
18	Babai - Suratgarh SCTPS	2	106	4	150	0.1					YES									
19	Barmer-Bhinmal (PG)	1	110	5	150	0.1	110	5	150	0.1	YES									
20	Barmer-Bhinmal (PG)	2	112	6	150	0.1	112	6	150	0.1	YES									
21	Barmer-Rajwest	1	111	6	150	0.1	111	6	150	0.1	YES									
22	Barmer-Bhensra (Jaisalmer2)	1	110	5	150	0.1	110	5	150	0.1	YES									
23	Barmer-Bhensra (Jaisalmer2)	2	112	6	150	0.1	112	6	150	0.1	YES									
24	Bhadla(RS)-Jodhpur	1	110	5	140	0.1	110	5	140	0.1	YES									
25	Bikaner(RS)-Bhadla(RS)	1	110	5	150	0.1	110	5	140	0.1	YES									
26	Bikaner(RS)-Bhadla(RS)	2	112	6	150	0.1	112	6	140	0.1	YES									
27	Bikaner(RS)-Sikar(PG)	1	110	5	150	0.1	110	5	150	0.1	YES									
28	Bikaner(RS)-Deedwana	1	111	6	150	0.1	111	6	140	0.1	YES									
29	Bikaner(RS)-Sikar(PG)	2	112	6	150	0.1	112	6	150	0.1	YES									
30	Bikaner(RS)-Suratgarh SCTPP	1	110	5	150	0.1	110	5	150	0.1	YES									
31	Bikaner(RS)-Suratgarh SCTPP	2	112	6	150	0.1	112	6	150	0.1	YES									
32	Bhilwara-Chhabra	1	111	6	150	0.1	111	6	150	0.1	YES									
33	Bhilwara-Chittorgarh(RS)	1	110	5	150	0.1	110	5	150	0.1	YES									
34	Bhilwara-Chittorgarh(RS)	2	112	6	150	0.1	112	6	150	0.1	YES									
35	Chhabra-Chhabra SCTPS	1	Only an Extension of Bus therefore overvoltage protection is not enabled								YES									
36	Chhabra-Chhabra SCTPS	2									YES									
37	Chhabra-Kawai	1	110	5	140	0.1	110	5	140	0.1	YES									
38	Chhabra-Anta (RS) -Kota (PG)	1	112	6	140	0.1	112	6	150	0.1	YES									
39	Heerapura-Hindaun	1	110	5	150	0.1	110	5	150	0.1	YES									
40	Hindaun-Chabra TPS	1	112	7	150	0.1	112	7	150	0.1	YES									
41	Jaisalmer(RS)-Renew hans Urja Pvt Ltd	1	110	5	150	0.1	110	5	150	0.1	YES									
42	Jaisalmer(RS)-Corneight Parks Pvt. Ltd	1	111	6	150	0.1	111	6	150	0.1	YES									
43	Kankani (Jodhpur New)- Bhensra (Jaisalmer2)	1	111	5	148	0.1	111	5	148	0.1	YES									
44	Kankani (Jodhpur New)-Merta	1	110	5	150	0.1	110	5	150	0.1	YES									
45	Kankani (Jodhpur New)-Jodhpur	1	110	5	140	0.1	110	5	140	0.1		110	6	140	0.1					Revised, RVPNL may implement.
46	Kankani (Jodhpur New)-Jodhpur	2	112	6	140	0.1	110	5	140	0.1						112	6	140	0.1	Revised, RVPNL may implement.
47	Kankani (Jodhpur New)-Pachpadra	1	111	6	150	0.1	111	6	150	0.1	YES									
48	Rajwest-Pachpadra	1	111	5	150	0.1	110	5	150	0.1	YES									
49	Merta-Bikaner(RS)	1	110	5	150	0.1	110	5	150	0.1	YES									
50	Merta-Heerapura	1	111	6	150	0.1	111	6	150	0.1	YES									
51	Merta-Bhadla(RS)	1	112	5	150	0.1	112	6	150	0.1	YES									
52	Merta-Ratangarh	1	112	6	150	0.1	112	6	150	0.1	YES									
53	Phagi-Ajmer(RS)	1	110	5	140	0.1	110	5	140	0.1	YES									
54	Phagi-Ajmer(RS)	2	112	6	140	0.1	112	6	140	0.1	YES									
55	Phagi-Heerapura	1	110	5	140	0.1	110	5	150	0.1	YES									
56	Phagi-Heerapura	2	112	6	140	0.1	112	6	150	0.1	YES									
57	Rajwest-Jodhpur	1	110	5	150	0.1	110	5	140	0.1	YES									
58	Ramgarh-Bhadla(RS)	1	110	5	150	0.1	110	5	150	0.1	YES									
59	Ramgarh-Bhadla(RS)	2	112	6	150	0.1	112	6	150	0.1	YES									
60	Suratgarh-Bikaner(RS)	1	111	6	150	0.1	111	6	150	0.1	YES									
61	Suratgarh-Ratangarh	1	110	5	150	0.1	110	5	150	0.1	YES									
62	Suratgarh-Ratangarh	2	112	6	150	0.1	112	6	150	0.1	YES									
63	Suratgarh-Suratgarh SSCTPP	1	Only an Extension of Bus therefore overvoltage protection is not enabled								YES									
64	Suratgarh-Suratgarh SSCTPP	2									YES									
F. HVPNL (Haryana)																				
1	CLP Jhajjar (MGSTPS) -Dhanonda	1	110	5	150	0.1	110	5	140	0.1										
2	CLP Jhajjar (MGSTPS) -Dhanonda	2	112	6	150	0.1	112	6	140	0.1										
3	CLP Jhajjar(MGSTPS)- Kabulpur	1	110	5	150	0.1	110	5	150	0.1										
4	CLP Jhajjar(MGSTPS)- Kabulpur	2	112	6	150	0.1	112	6	150	0.1										
5	Deepalpur-Kabulpur	1	110	5	150	0.1	110	5	150	0.1										
6	Deepalpur-Kabulpur	2	112	6	150	0.1	112	6	150	0.1										
7	Dhanonda-Daulatabad	1	110	5	140	0.1	110	5	150	0.1										
8	Dhanonda-Daulatabad	2	112	6	140	0.1	112	6	150	0.1										
9	Gurgaon-Daulatabad	1	110	5	150	0.1	110	5	150	0.1										
10	Gurgaon-Daulatabad	2	112	6	150	0.1	112	6	150	0.1										
11	Jhajjar(IGSTPS)-Daulatabad	1	110	5	150	0.1	110	5	150	0.1										
12	Jhajjar(IGSTPS)-Daulatabad	2	112	6	150	0.1	112	6	150	0.1										
13	Jind-Kirori	1	110	5	150	0.1	110	5	150	0.1										
14	Jind-Kirori	2	112	6	150	0.1	112	6	150	0.1										
15	Khedar-Fathehabad	1	111	6	150	0.1	111	6	150	0.1										
16	Khedar-Kirori	1	110	5	150	0.1	110	5	150	0.1										
17	Khedar-Kirori	2	112	6	150	0.1	112	6	150	0.1										
18	Khedar-Nuhiyawali	1	111	6	150	0.1	111	6	150	0.1										
19	Nuhiawali-Fathehabad	1	110	5	150	0.1	110	5	150	0.1										
G.APCPL																				
1	Jhajjar (IGSTPS)-Mundka	1	110	5	140	0.1	110	5	150	0.1										
2	Jhajjar (IGSTPS)-Mundka	2	112	6	140	0.1	112	6	150	0.1										
H. DTL (Delhi)																				
1	Ballabgarh(PG)-Tughlakabad(PG)	1	110	5	150	0.1	110	5	150	0.1	Yes									
2	Ballabgarh(PG)-Tughlakabad(PG)	2	112	6	150	0.1	112	6	150	0.1	Yes									
3	Bamnoli-Jhatikra	2	111	6	150	0.1	111	6	150	0.1	Yes									
4	Bamnauli(PG)-Tughlakabad(PG)	1	110	5	150	0.1	110	5	150	0.1	Yes									
5	Bamnauli(PG)-Tughlakabad(PG)	2	112	6	150	0.1	112	6	150	0.1	Yes									
6	Bawana(DV)-Maharanibagh(PG)	1	110	5	150	0.1	110	5	150	0.1	Yes									
7	Bawana(DV)-Maharanibagh(PG)	2	112	6	150	0.1	112	6	150	0.1	Yes									
8	Jhatikra(PG)-Mundka(DV)	1	110	5	150	0.1	110	5	150	0.1	Yes									

9	Jhatikra(PG)-Mundka(DV)	2	112	6	150	0.1	112	6	150	0.1	Yes									
10	Mandola(PG)-Maharanibagh(PG)	1	110	5	150	0.1	110	5	150	0.1	Yes									
11	Mandola(PG)-Maharanibagh(PG)	2	112	6	150	0.1	112	6	150	0.1	Yes									
12	Bawana-Mundka	1	110	5	150	0.1	110	5	150	0.1	Yes									
13	Bawana-Mundka	2	112	6	150	0.1	112	6	150	0.1	Yes									
I. PDD (J&K)																				
1	Baglihar-Kishenpur	1	110	5	150	0.1	110	5	150	0.1										
2	Baglihar-Kishenpur	2	111	6	150	0.1	111	6	150	0.1										
3	Baglihar-Kishenpur	3	112	7	150	0.1	112	7	150	0.1										
4	New Wanpoh-Baglihar(JK)	1	111	6	150	0.1	111	6	150	0.1										
J. PSTCL (Punjab)																				
1	Behman Jassa Singh-HMEL	1	110	5	150	0.1	110	5	150	0.1	Yes									
2	Behman Jassa Singh-HMEL	2	112	6	150	0.1	112	6	150	0.1	Yes									
3	Behman Jassa Singh-Moga	1	112	6	150	0.1	112	6	150	0.1	Yes(Behman Jass)									
4	Makhu-Amritsar	1	110	5	150	0.1	110	5	150	0.1	Yes(Makhu)									
5	Makhu-Amritsar	2	112	6	150	0.1	112	6	150	0.1	Yes(Makhu)									
6	Makhu-Mukatsar	1	110	5	150	0.1	110	5	150	0.1	Yes									
7	Makhu-Mukatsar	2	112	6	150	0.1	112	6	150	0.1	Yes(Makhu)									
8	Nakodar-Makhu	1	110	5	150	0.1	110	5	150	0.1	Yes									
9	Nakodar-Makhu	2	112	6	150	0.1	112	6	150	0.1	Yes(Makhu)									
10	Nakodar-Moga	1	110	5	150	0.1	110	5	150	0.1	Yes(Nakodar)									
11	Rajpura-Rajpura TPS	1	110	5	150	0.1	110	5	150	0.1	Yes									
12	Rajpura-Dhuri	1	110	5	150	0.1	110	5	150	0.1	Yes									
13	Rajpura-Rajpura TPS	2	112	6	150	0.1	112	6	150	0.1	Need to be reviewed	115	5	150	0.1	115	5	150	0.1	On request of NPL
14	Rajpura-Dhuri	2	112	6	150	0.1	112	6	150	0.1	Yes(Rajpura)									
15	Rajpura TPS-Nakodar	1	110	5	140	0.1	110	5	150	0.1	Need to be reviewed	112	6	140	0.1	112	6	150	0.1	
16	Rajpura TPS-Nakodar	2	112	6	140	0.1	112	6	150	0.1	Need to be reviewed	110	3	140	0.1	110	3	150	0.1	
17	Talwandi Sabo-Dhuri	1	110	5	140	0.1	110	5	150	0.1	Yes(Dhuri)									
18	Talwandi Sabo-Dhuri	2	112	6	140	0.1	112	6	150	0.1										
19	Talwandi Sabo-Behman-Jassa	1	111	6	140	0.1	111	6	150	0.1	Yes(Behman Jass)									
21	Talwandi Sabo-Nakodar	1	112	6	140	0.1	112	6	150	0.1										
22	Talwandi Sabo-Mukatsar	1	110	5	140	0.1	110	5	150	0.1	Yes(Muktsar)									
23	Talwandi Sabo-Mukatsar	2	112	6	140	0.1	112	6	150	0.1										
K. PTCUL (Uttrakhand)																				
1	Muradabad-Kashipur	1	110	5	150	0.1	110	5	150	0.1										
2	Rishikesh-Nehtaur	1	110	5	140	0.1	110	5	140	0.1										
3	Kashipur-Nehtaur	1	110	5	140	0.1	112	6	140	0.1										
4	Roorkee-Muzaffarnagar	1	110	5	150	0.1	110	5	150	0.1										
5	Roorkee-Rishikesh	1	112	6	150	0.1	112	6	140	0.1										
6	Srinagar-Alakhnanda (GVK)	1	110	5	150	0.1	110	5	140	0.1										
7	Srinagar-Alakhnanda (GVK)	2	112	6	150	0.1	112	6	140	0.1										
L. HPPTCL																				
1	Chamba(PG)-Kuther(JSW)	1	110	5	150	0.1	110	5	150	0.1	Y									
2	Kuther(JSW)-Lahal(HP)	2	112	6	150	0.1	112	6	150	0.1	Y					111	6	150	0.1	Revised, HPPTCL may implement
2	Chamba(PG)-Lahal(HP)	2	112	6	150	0.1	112	6	150	0.1	Y					112	7	150	0.1	
M. BBMB																				
1	Bhiwani-Rajpura	1	111	6	150	0.1	111	6	150	0.1										
2	Dehar-Rajpura	1	112	6	150	0.1	112	6	140	0.1										
3	Dehar-Panchkula	1	110	5	150	0.1	110	5	150	0.1										
4	Panchkula-Panipat	1	111	6	150	0.1	111	6	150	0.1										
N. INDIGRID																				
1	Amargarh-Samba	1	110	5	150	0.1	110	5	150	0.1										
2	Amargarh-Samba	2	111	6	150	0.1	111	6	150	0.1										
3	Jalandhar-Samba	1	110	5	150	0.1	110	5	150	0.1										
4	Jalandhar-Samba	2	112	6	150	0.1	112	6	150	0.1										
5	Koldam-Parbati Pooling Banala	2	112	6	150	0.1	112	6	150	0.1										
6	Ludhiana-Koldam	1	110	5	150	0.1	110	5	150	0.1										
7	Koldam-Ropar	1	112	6	140	0.1	112	6	140	0.1										
8	Parbati Pool Banala-Nallagarh	1	110	5	150	0.1	110	5	150	0.1										
9	Parbati-II- Parbati Pooling Banala	2	112	5	150	0.1	112	6	150	0.1										
10	Parbati-III- Parbati Pooling Banala	2	112	6	150	0.1	112	6	150	0.1										
11	Prithala(GPTL)-Kadarpur	1	110	5	150	0.1	110	5	140	0.1										
12	Prithala(GPTL)-Kadarpur	2	112	6	150	0.1	112	6	140	0.1										
13	Prithala(GPTL)-Aligarh(PG)	1	110	5	150	0.1	110	5	150	0.1										
14	Prithala(GPTL)-Aligarh(PG)	2	112	6	150	0.1	112	6	150	0.1										
15	RAPPC-Shujalpur IR	1	110	5	150	0.1	110	5	140	0.1										
16	RAPPC-Shujalpur IR	2	112	6	150	0.1	112	6	140	0.1										
17	Ropar(PS)-Ludhiana(PG)	1	112	6	150	0.1	112	6	150	0.1										
18	Sainj(HP)-Parbati II	1	110	5	140	0.1	110	5	140	0.1										
19	Sainj(HP)-Parbati III	1	110	5	140	0.1	110	5	140	0.1										
20	Sohna Road(GPTL)-Kadarpur	1	110	5	150	0.1	110	5	140	0.1										
21	Sohna Road(GPTL)-Kadarpur	2	112	6	150	0.1	112	6	140	0.1										
O. NTPC																				
1	Dadri(NT)-Loni Road/ Harsh Vihar	1	110	5	140	0.1	110	5	140	0.1										
2	Dadri(NT)-Loni Road/ Harsh Vihar	2	112	6	140	0.1	112	6	140	0.1										
P. NRSS36																				
1	Babai(RS)-Bhiwani(PG)	1	110	5	150	0.1	110	5	150	0.1	YES									
2	Babai(RS)-Bhiwani(PG)	2	112	6	150	0.1	112	6	150	0.1	YES									
3	Babai(RS)-Neemrana(PG)	1	110	5	150	0.1	110	5	150	0.1	YES									
4	Babai(RS)-Sikar(PG)	1	112	6	150	0.1	112	6	150	0.1	No, Presently end 1 set on 110% instead of 112% and directed to implemented as per NRPC	111	6	150	0.1					Babai end setting may be revised to 111%with 6 sec.
Q. NRSSXXXI(B) (Sekura Energy)																				
1	Amritsar-Malerkotla	1	110	5	150	0.1	110	5	150	0.1										
2	Amritsar-Malerkotla	2	112	6	150	0.1	112	6	150	0.1										
3	Kurukshetra-Malerkotla	1	110	5	150	0.1	110	5	150	0.1										
4	Kurukshetra-Malerkotla	2	112	6	150	0.1	112	6	150	0.1										
R. RENEW Power Limited																				
1	Bikaner(PG) - Bikaner (ReNew)	1	110	5	150	0.1	110	5	150	0.1										
1	Renew SuryaRavi SL_BKN_PG-Bikaner RENEW Solar	1	110	5	150	0.1	110	5	150	0.1										
S. Azure																				
1	Bikaner(PG)-Azure43 PSS	1	110	5	150	0.1	110	5	150	0.1										
2	Azure43 PSS-Azure43 RSS	1	110	5	150	0.1	110	5	150	0.1										
T. AEPL																				
1	Bikaner(PG)-Avada	1	110	5	150	0.1	110	5	150	0.1										
U. AYANA																				
1	Ayana-ARP3PL	1	110	5	150	0.1	110	5	150	0.1										
2	Bikaner(PG)-Ayana	1	110	5	150	0.1	110	5	150	0.1										
V. ADANI GREEN																				
1	AGE25L-Bhadla2(PG)	1	110	5	150	0.1	110	5	150	0.1										
2	AREPRL-Fatehgarh Pooling	1	110	5	150	0.1	110	5	150	0.1										
3	AREPRL-Fatehgarh Pooling	2	112	6	150	0.1	112	6	150	0.1										
W. NTPC GREEN																				
1	Bhadla_2 (PG)-Kolayat Solar NTPC_1	1	110	5	150	0.1	110	5	150	0.1										
2	Kolayat Solar NTPC_1 Kolayat Solar NTPC_2	1	110	5	150	0.1	110	5	150	0.1										
X. ACME																				
1	Fatehgarh Pooling(FBTL)-ACME Deoghar	1	110	5	150	0.1	110	5	150	0.1										
Y. SJVNGEL																				
1	400kV SJVN_GEL_SL_BKN2-Bikaner_2 (PBTSL)	1	110	5	150	0.1	110	5	150	0.1										

State Name	Defense Scheme	Planned Relief (MW)	Mapped Relief (MW)	No. of Main feeders Planned	No. of Main feeders Telemetered	No. of Alternate feeders Telemetered
UP	UFR	5958.843				
	df/dt	2561.92				
Rajasthan	UFR	4055.282				
	df/dt	776				
Punjab	UFR	3008.19				
	df/dt	1410				
Haryana	UFR	2631.661				
	df/dt	900				
Delhi	UFR	1496.69				
	df/dt	809.36				
HP	UFR	486.231				
	df/dt	190				

S.N.	Name of S/stn (including voltage level)	Name of feeder/transformer (including voltage level)	UFR Stage-wise Estimated Load relief (MW)			
			49.4 Hz	49.2 Hz	49.0 Hz	48.8 Hz

S.N.	Name of S/stn (including voltage level)	Name of feeder/transformer (including voltage level)	df/dt Stage-wise Estimated Load relief (MW)		
			49.9 Hz; 0.1Hz/s	49.9 Hz; 0.2Hz/s	49.9 Hz; 0.3Hz/s

S.No	Station	Location	Owner	Unit No	Capacity MW	Outage		Revival		Reason(s)
						Date	Time	Date	Time	
1	Parbati III HEP	HP	NHPC	4	130	19-06-2025	23:25	02-07-2025	13:12	Turbine Bearing Temperature High
2	URI HPS	J&K	NHPC	1	120	20-07-2025	21:06	20-07-2025	21:14	Turbine Bearing Temperature High
3	URI HPS	J&K	NHPC	1	120	20-07-2025	22:01	20-07-2025	22:44	Turbine Bearing Temperature High
4	Parbati II HEP	HP	NHPC	2	200	03-08-2025	01:21	03-08-2025	02:27	Turbine Bearing Temperature High
5	Parbati II HEP	HP	NHPC	2	200	03-08-2025	22:41	04-08-2025	18:45	Turbine Bearing Temperature High
6	URI HPS	J&K	NHPC	4	120	04-08-2025	09:56	04-08-2025	10:03	Turbine Bearing Temperature High
7	Parbati II HEP	HP	NHPC	2	200	04-08-2025	19:57	04-08-2025	20:32	Turbine Bearing Temperature High
8	Uri-II HPS	J&K	NHPC	4	60	05-08-2025	04:44	05-08-2025	05:04	Turbine Bearing Temperature High
9	URI HPS	J&K	NHPC	4	120	20-08-2025	10:57	20-08-2025	11:39	Turbine Bearing Temperature High
10	URI HPS	J&K	NHPC	1	120	20-08-2025	11:23	20-08-2025	11:30	Turbine Bearing Temperature High
11	Chamera I HPS	HP	NHPC	1	180	21-08-2025	14:08	21-08-2025	16:42	Turbine Bearing Temperature High
12	Parbati III HEP	HP	NHPC	3	130	22-08-2025	03:34	22-08-2025	04:16	Turbine Bearing Temperature High
13	Parbati III HEP	HP	NHPC	2	130	24-08-2025	21:42	24-08-2025	22:16	Turbine Bearing Temperature High
14	Kishenganga	J&K	NHPC	1	110	26-08-2025	18:35	26-08-2025	19:43	Turbine Bearing Temperature High
15	Chamera I HPS	HP	NHPC	3	180	28-08-2025	03:21	28-08-2025	06:11	Turbine Bearing Temperature High
16	Parbati II HEP	HP	NHPC	1	200	28-08-2025	21:42	28-08-2025	23:01	Turbine Bearing Temperature High
17	Parbati III HEP	HP	NHPC	2	130	29-08-2025	12:01	29-08-2025	13:41	Turbine Bearing Temperature High
18	Chamera II HPS	HP	NHPC	3	100	29-08-2025	19:39	04-09-2025	18:44	Turbine Bearing Temperature High
19	Chamera I HPS	HP	NHPC	3	180	30-08-2025	10:57	30-08-2025	17:16	Turbine Bearing Temperature High
20	Chamera II HPS	HP	NHPC	3	100	04-09-2025	18:45	04-09-2025	19:32	Turbine Bearing Temperature High
21	Chamera II HPS	HP	NHPC	3	100	04-09-2025	19:48	18-09-2025	18:13	Turbine Bearing Temperature High
22	Parbati III HEP	HP	NHPC	4	130	10-09-2025	14:54	10-09-2025	15:23	Turbine Bearing Temperature High
23	Tanakpur HPS	HP	NHPC	1	31.42	11-09-2025	11:02	11-09-2025	12:30	Turbine Bearing Temperature High
24	Tanakpur HPS	HP	NHPC	1	31.42	11-09-2025	12:31	15-09-2025	00:51	Turbine Bearing Temperature High
25	Chamera I HPS	HP	NHPC	3	180	12-09-2025	10:03	12-09-2025	10:36	Turbine Bearing Temperature High
26	Parbati III HEP	HP	NHPC	3	130	12-09-2025	15:07	12-09-2025	17:21	Turbine Bearing Temperature High
27	URI HPS	J&K	NHPC	2	120	14-09-2025	09:39	14-09-2025	10:08	Turbine Bearing Temperature High
28	Chamera I HPS	HP	NHPC	3	180	15-09-2025	05:54	15-09-2025	06:28	Turbine Bearing Temperature High
29	Chamera I HPS	HP	NHPC	3	180	16-09-2025	02:27	16-09-2025	02:57	Turbine Bearing Temperature High
30	Chamera I HPS	HP	NHPC	3	180	17-09-2025	12:47	17-09-2025	13:19	Turbine Bearing Temperature High
31	Chamera I HPS	HP	NHPC	3	180	18-09-2025	01:38	18-09-2025	02:10	Turbine Bearing Temperature High
32	Chamera I HPS	HP	NHPC	3	180	18-09-2025	04:55	18-09-2025	05:24	Turbine Bearing Temperature High
33	Chamera I HPS	HP	NHPC	1	180	19-09-2025	01:00	19-09-2025	07:57	Turbine Bearing Temperature High
34	Chamera I HPS	HP	NHPC	1	180	19-09-2025	17:25	19-09-2025	18:46	Turbine Bearing Temperature High