

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

दिनांक: 18.06.2025

सेवा में As per attached list of Members and Other invitees

#### विषयः संरक्षण उप-समिति की 61 वीं बैठक की कार्यसूची।

Subject: Agenda for 61st Protection Sub-Committee Meeting.

संरक्षण उप-समिति की 61 वीं बैठक, दिनांक 26.06.2025 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 **61**<sup>st</sup> **meeting** of Protection Sub-Committee is scheduled to be held on **26.06.2025** 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 (<u>http://164.100.60.165/</u>). As per decisions of 56<sup>th</sup> 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.

डी. के. मीना निदेशक (संरक्षण)

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# Agenda for

# 61<sup>st</sup> Meeting of Protection Sub-Committee (PSC) of Northern Regional Power Committee

Date and time of meeting: 26.06.2025 10.30 Hrs.Venue:NRPC Secretariat, Katwaria Sarai,:New Delhi

Part-A: Agenda by NRPC Secretariat

A.1. Confirmation of minutes of 60<sup>th</sup> meeting of Protection Sub-Committee

A.1.1 60<sup>th</sup> PSC meeting was held on 26.05.2025. Minutes of the meeting were issued vide letter dtd. 16.06.2025. No comment has been received till the date.

### Decision required from Forum:

Forum may approve the minutes of 60<sup>th</sup> meeting as issued

- A.2. Status of action taken on decisions of 60<sup>th</sup> Protection Sub-Committee meeting (agenda by NRPC Secretariat)
- A.2.1 Status of action taken on the decisions of 60<sup>th</sup> 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 along with reason and corrective action taken for indices less than unity to NRPC Secretariat for month of May-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 7<sup>th</sup> day of next month.
- A.3.3 Accordingly, the status of the indices reported for the month of **May-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 for May- 2025	As mention in Annexure-A.II.
Utilities have submitted data for some plants but not all.	POWERGRID NR-2 NTPC (Auriya, Koldam, Singrauli) NPCIL (RAP D) UPRVUNL (Parcihha B, Harduaganj 400kV) RE Plants and Other utilities as mentioned in Annexure- A.II
Some utilities have sent data after cut-off date of	As mention in Annexure-A.II.

7 <sup>th</sup>	

# Decision required from Forum:

- i. Forum may discuss cases where indices are less than 1.
- ii. Forum may direct utilities to submit the performance indices of previous month by 7<sup>th</sup> day of next month element wise along with the reason for indices less than unity and corrective action taken.

# A.4. Intimation of performance and submission of performance indices of SPS (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 However, it has been observed that reporting of operation/failure of operation of SPS is not being reported regularly by the utilities.
- A.4.3 Lucknow, Gorakhpur zone from UPPTCL, PPGCL, RVUNL submitted the protection performance indices for the SPS.
- A.4.4 In view of above, following may be complied by utilities:
  - 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.).

#### Decision required from Forum:

Forum may direct the utilities to comply the above.

#### A.5. Annual protection audit report for FY 2024-25 (agenda by NRPC Secretariat)

- A.5.1 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.5.2 All power utilities were requested in every PSC meeting starting from 48<sup>th</sup> PSC to submit the annual protection audit plan. Status of annual audit plan and report is enclosed as **Annexure- A.IV**.
- A.5.3 In 59<sup>th</sup> PSC meeting, Utilities (other than non-compliant) were asked to submit report and compliance status within one month of completion of audit, latest by **30.04.2025**. Consequently, audit reports were received from POWERGRID (NR-3) and RVUN (KSTPS) that were discussed in the 60<sup>th</sup> PSC meeting. After that audit reports have been received from HPPCL, ReNew and UPPTCL for discussion.

#### **Decision required from Forum:**

Utilities may submit reports of internal audit done in FY 2024-25. Compliance report for the audited substation may be submitted.

#### A.6. Annual protection audit plan for FY 2025-26 (agenda by NRPC Secretariat)

#### A.6.1 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.6.2 In view of above, all utilities were requested to submit the annual protection audit plan for FY-2025-26 latest by 31<sup>st</sup> October 2024 in the 53<sup>rd</sup> PSC meeting. Further, concerned utilities were requested to submit the same at the earliest in every PSC

meeting since then.

A.6.3 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 31<sup>st</sup> October 2024 has already passed.

# A.7. Third-party protection audit plan (agenda by NRPC Secretariat)

A.7.1 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.7.2 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 3<sup>rd</sup> 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.8. Discussion on audit reports submitted by utilities and compliance of recommendations of protection audit (agenda by NRPC Secretariat)
- A.8.1 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.8.2 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.8.3 Following utilities have submitted the internal audit report (FY 2024-25) based on the audit done at their substations:

S.N.	Utility	Stations	
1	HPPCL	400kV Sainj HEP	
2	RE Plants	ReNew (6 Plants)	
		Renew Hans Urja Pvt Ltd	
		ReNew Solar Energy Jharkhand Three Pvt. Ltd.	
		Renew Solar Photovoltaic Pvt Ltd	
		Renew Solar Power Private Limited	
		ReNew Sun Bright Pvt. Ltd.	
		Renew Surya Aayan Private Limited	
3	UPPTCL	Gorakhpur Zone- (19 Substations)	
		400kV Substations- Azamgarh, Rasara, Kasara, Basti, Gorakhpur,	
		220kV Substations- Badgahan, Azamgarh, Rasara,	
		Bansi, Basti, Dulhipar, Gorakhpur, Deoria, Hata,	
		Anandnagar, Maharajganj, Gola, Khorabar, Barahua	
		Prayagraj Zone- (24 Substations)	
		400kV Substations- Sarnath, Sahupuri, Machhali Shahar,	
		Masauli	
		220kV Substations-Sahupuri, Bhelupur, Gajokhar,	
		Harahua, Raja Ka Talab, Bhadaura, Ghazipur, Jaunpur,	
		Mirzapur, Bhadoi, Robertsganj, Malwan, Jhunsi,	

Phoolpur, Sanglpur, Bhuplamau, Fatehpur, Sirathu, Rewa Road, Cantt
Jhansi Zone- (10 Substations)
400kV Substations- Orai, Banda
220kV Substations- Orai, Banda, Pahadi, Mahoba,
Kalyanpura, Dunara, Moth, Babina
Lucknow Zone- (39 Substations)
765kV Substations- Unnao
400kV Substations- Sultanpur, Bareilly
220kV Substations- Sarojini Nagar, Bahraich, Balrampur, Gonda, Unnao, Kanpur Road, CG City, Hardoi Road, Bijnore, Bachhrawan, Ayodhya, New Tanda, Sohawal, Amethi, Sultanpur, Barabanki, BKT, Chinhat, Gomtinagar, Khursi Road, CB Ganj, Faridpur, Dataganj, Badaun (GIS), Badaun Road, Dohna, Amariya, Pilibhit, Mallawa, Hardoi, Azizpur, Shahjahanpur, Gola, Nighasan, Kandauni, Seetapur
Agra Zone- (16 Substations)
400kV Substation- Panki
220kV Substations, Chhibramau Noobkarori Bhartana
Saifai, Farrukhabad, Sarh, Kanpur South, Naubasta.
Kidwai Nagar, Phoolbag, RPH, Bithoor, Panki, Rania,
Sikandara
Meerut Zone- (62 Substations)
400kV Substations- Moradabad, Sector-148 Noida,
Sector-123 Noida, Muzaffarnagar, Shamli, Muradnagar

	1 <sup>st</sup> , 400KV S/S Muradnagar 2 <sup>nd</sup> , Greator Noida,
	220kV Substations- Bhagpat, Nirpura, Baraut, Charla,
	Gheja, Modipuram, Partapur, Shatabadinagar, Nahtaur,
	Chandpur, Amroha, Moradabad, Chandausi, Rampur,
	Sambhal, Gajraula, Jewar, Dadri, RC Green, KP5,
	Sector-20 Noida, Sector-38 Noida, Sector-129 Noida,
	Jalpura, Sector-62, Saharanpur, Behat, Sarsawa,
	Nanauta, Deoband, Nara, Shamli, Badhaikalan, Khatauli,
	Jansath, Loni, Madhuban Bapudham, Pratap Vihar,
	Sahibabad, Mandola Vihar, Morti, Morta, Muradnagar,
	Faridnagar, Khurja, Debai, Jahingirabad, Rukhi,
	Sikandrabad, Simbholi, Hapur (Hybrid), IIT GNL, KC
	SEC 24 Yeida, KC SEC 18 Yeida

A.8.4 Following utilities have submitted reports of 3<sup>rd</sup> Party audit:

S.N.	Utility	Stations
1	HPSEBL	Baddi, Uperla Nangal
2	RE Plant	Ayana Renewable Power 3 Pvt. Ltd at Bikaner

A.8.5 Compliance/ action plan on recommendation of audit has been not been submitted by any utilities after 60<sup>th</sup> PSC meeting.

# A.8.6 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.9. Review of Standard protection philosophy to be adopted in various cases (agenda by POWERGRID Nr-3)
- A.9.1 In 59<sup>th</sup> PSC meeting, POWERGRID NR-3 submitted that protection philosophy may be reviewed and standardised for various cases as per below
  - a. Protection setting for idle charging or Anti-theft charging of transmission line (765kV, 400kV and 220kV)
  - Protection settings for idle charge of future bay up to LA (Lightning arrestor) in case of GIS (Gas insulated S/S) or AIS
    - I. Future Bay equipped with all standard protection (Main-I, Main-II, LBB and BCU)
    - II. Future Bay equipped with LBB & BCU protection.



Agenda of 61<sup>st</sup> Protection Sub-Committee Meeting (26<sup>th</sup> June, 2025)

- c. Protection settings of connected transmission line element, ICT and Bus Reactor in case of Bus Bar out of service due to retrofitting work.
- A.9.2 During the discussion in the 59<sup>th</sup> PSC meeting, for case of Protection settings for idle charge of future bay up to LA (Lightning arrestor), UPPTCL representative conveyed that distance relay would be needed for protection. HVPN representative mentioned that overcurrent protection may be kept with definite time because of such short line,

distance relay protection is not much accurate. RVUN representative highlighted that any phase over current protection would be better.

- A.9.3 MS, NRPC stated that inputs from all the members may be sought via mail after the meeting and the agenda may be discussed in the next PSC meeting.
- A.9.4 Accordingly, mail was sent to all members on 24.04.2025. AESL and BBMB have shared comments which were deliberated in the 60<sup>th</sup> PSC meeting.
- A.9.5 Accordingly, following philosophy were decided for antitheft Line charging as below.
  - a. Zone-1 settings may be kept as actual settings of transmission line.
  - b. Zone-2 setting time delay may be kept as Zero with impedance settings as
  - c. actual criteria.
  - d. Auto reclosure function to be kept as OFF.
  - e. Non directional earth fault may be kept enabled with definite time of 100msec.
  - f. In case of 400kV transmission lines, Over Voltage setting may be kept as 105%-107% pick up with 3-4 secs time delay and in case of 765kV transmission lines, it may be kept as 104%-106% pick up with 3-4 secs time delay.
- A.9.6 Further, it was conveyed that for idle charging of future bay up to LA (Lightening arrestor) with all standard protection (Main-1, Main-II, LBB and BCU) and line availability, stub protection (false status of open line isolator is needed to be kept i.e. physically line isolator is closed), Teed and over current protection may be applied. It depends on bus configuration. Further, over voltage protection settings may be kept as normal way. If in this case line is present, then distance protection philosophy for antitheft charged line may be applied.
- A.9.7 For idle charge of future bay up to LA (Lightening arrestor) equipped with LBB & BCU protection, over current protection may be kept in BCU.
- A.9.8 For protection settings of connected transmission line element, ICT and Bus Reactor in case of Bus Bar out of service due to retrofitting work, it was decided following:
  - I. In case of transmission line element, Zone-4-time setting should be kept as 160msec with reach adequate to cover Bus faults. Over current protection

should be enabled on bus coupler with time setting less than 160msec.

- II. In case of ICT and Bus reactor, High set protection function stage with instantaneous time setting be introduced and current setting of such function be coordinated with existing High set protection function stages.
- A.9.9 Subsequently, Forum decided that philosophy for the above cases may be finalized in the next meeting, considering the above discussion. Utilities may share the suggestions/comments if any.
- A.9.10 Accordingly, agenda has been taken for finalization on the above-mentioned philosophy.

# Decision required from Forum:

Members may deliberate and consider to include the above-mentioned philosophy in finalized protection philosophy.

### 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, constituents are requested to share the status of remedial actions taken. List of points to be discussed in 61<sup>st</sup> 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 May 2025 (agenda by NRLDC)
- B.2.1 A total of 21 grid events occurred in the month of May 2025 of which 15 are of GD-1 category and 06 are of GI-2 Category. The tripping report of all the events have been issued from NRLDC. A list of all these events is attached at Annexure-B.II.
- B.2.2 Maximum delayed clearance of fault observed in event of multiple elements tripping

at 765/400kV Meerut(PG), 765KV/400 Koteshwar(PG), 400KV Tehri & 400KV Koteshwar(HEP) at 19:55 hrs on 21<sup>st</sup> May 2025, 2025 (As per PMU at Meerut(PG), B-N fault at 19:55:19 hrs (cleared within 100msec) and R-N fault at 19:55:21 hrs with delayed clearance of ~1640msec are observed).

- B.2.3 Delayed clearance of fault (more than 100ms for 400kV and 160ms for 220kV system) observed in total 08 events out of 21 grid events occurred in the month. In 05 (no.) of grid events, there were no fault in the grid.
- B.2.4 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.2.5 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.

#### Decision required from Forum:

Members may like to discuss.

- B.3 Analysis of the tripping events occurred during May-2025 and status of remedial action taken (agenda by NRLDC)
  - a) Frequent elements tripping during May 2025:
- B.3.1 The following transmission elements were frequently tripping during the month of **May'25**:

S.		No. of forced	
NO.	Element Name	outages	Utility/SLDC
1	220 KV Samaypur(BB)-Palli(HV) (HVPNL) Ckt-2	7	BBMB/Haryana
2	400 KV Rewa Road-Panki (UP) Ckt-1	6	UP

3	220 KV Ballabhgarh-Charkhi Dadri (BB) Ckt-1	6	BBMB
4	200 MW Parbati II HEP - UNIT 1	6	NHPC
5	220 KV Debari(RS)-RAPS_A(NP) (RS) Ckt-1	5	NPCIL/Rajasthan
6	400 KV Agra-Unnao (UP) Ckt-1	5	UP
7	60 MW Bairasiul HPS - UNIT 3	5	NHPC
8	220 KV Bhilwara(RS)-Kota(PG) (RS) Ckt-1	4	PGCIL/Rajasthan
	220 KV Fatehgarh_III(PG)-RSJPL_SL_Ftg3(PG)		
9	(ReNew_SJPL) Ckt-1	4	PGCIL/Renew
	220 KV Jauljivi (PG)-Baram_Jauljibi GIS(UK)		
10	(PTCUL) Ckt-2	4	PGCIL/Uttarakhand
11	220 KV Kaithal(PG)-Kaithal(HV) (HVPNL) Ckt-1	4	PGCIL/Haryana
12	220 KV Mandola(PG)-Gopalpur(DTL) (DTL) Ckt-1	4	PGCIL/Delhi
13	400 KV Kankani-GSS Pachpadra (RS) Ckt-1	4	Rajasthan
14	500 kV HVDC Rihand-Dadri (PG) Ckt-2	4	PGCIL
15	765 KV Gr.Noida_2(UPC)-Meerut(PG) (PG) Ckt-1	4	PGCIL/UP

List of tripping is attached as Annexure-B.III.

- B.3.2 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.
  - b) Protection related issues in multiple elements tripping, detailed analysis of the events and status of remedial measures:
- B.3.3 The list of major tripping events occurred during May 2025 is attached as Annexure B.IV. Concerned constituents/utilities are requested to share the detailed analysis of the tripping elements along with status of remedial action taken/to be taken.

# Decision required from Forum:

Utilities are requested to prepare detailed analysis report and present the event details during 61<sup>st</sup> PSC meeting. Events involving more than one utility may be jointly prepared and presented in Forum.

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

B.4.1 A total of 11 inter-regional lines tripping occurred in the month of May 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 56 numbers of System Protection Scheme (SPS) approved in Northern Region. These SPS are implemented at major generation complexes, important evacuating transmission lines and ICTs which are N-1 non-complaint. System Protection Scheme Document of Northern Region has been revised/updated on 31<sup>st</sup> 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 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, concerned constituents / utility were requested to conduct the mock testing of pending SPS by the end of April 2025 month through NRLDC letter dated 04.04.2025. However, as reported, mock testing of 03 SPS out of pending 14 SPS have been done. In this regard, discussion was also held in 60<sup>th</sup> PSC meeting conducted on 26.05.2025. 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:
  - 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.
  - 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 60<sup>th</sup> 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 Protection related issues in J&K control area (agenda by NRLDC)

- B.6.1 During 60<sup>th</sup> PSC meeting, NRLDC representative raised concern about reporting status of J&K. J&K representative informed that they will provide DR/EL of the events occurring at their SAS based station. NRLDC representative also requested J&K to share a list of substations under J&K control area mentioning whether it is SAS based or not (DR/EL available or not). J&K through mail dt 26.05.2025 informed the list of S/s where SCADA is installed.
- B.6.2 Further NRLDC mail communication dt 28<sup>th</sup> May 2025 regarding the same was sent to J&K to share the station wise details of protection system in format attached with the mail. J&K vide mail dt 12<sup>th</sup> & 13<sup>th</sup> June 2025 shared the details regarding the subject matter and also highlighted the name of the S/s under J&K control area who have not yet submitted the data till date. Details of the communications along with attachments is attached as **Annexure-B.VII.** J&K is requested to follow up with the S/s under J&K control area who have not yet submitted the data till date the data till date and submit the same at the earliest.
- B.6.3 During 60<sup>th</sup> PSC meeting, J&K representative stated that work of installation of OPGW was delayed due to payment issues. However, payment has been processed now and they will expedite the installation. Hence J&K is also requested to share the current status of OPGW installation work.
- B.6.4 J&K is also requested to conduct protection audit at its majorly affected substations to identify protection related issues and resolve them at the earliest.

# Decision required from Forum:

Members may like to discuss.

#### B.7 Recent frequent tripping of HVDC Champa-Kurukshetra (agenda by NRLDC)

- B.7.1 HVDC Champa-Kurukshetra inter-regional link is a very important link for fulfilling the Northern Region demand requirement. It has been observed that frequency of tripping of HVDC Champa-Kurukshetra has increased in the recent past.
- B.7.2 As reported, at 22:50 hrs on 21<sup>st</sup> May 2025, 800 KV HVDC Kurukshetra(PG) Pole-2 blocked from Champa end due to DC Line Fault and Pole-4 blocked due to CAT-B Protection in Pole-2.
- B.7.3 Further, at 14:08 hrs on 28<sup>th</sup> May 2025, 800 KV HVDC Kurukshetra(PG) Pole-2 & 4 blocked due to maloperation of Pole 4 active lane i.e. Pole 4 lane 1 (unable to lane changeover) at Champa end.
- B.7.4 Again, at 12:20 hrs on 09<sup>th</sup> June 2025, 800 KV HVDC Kurukshetra(PG) Pole-4 blocked due to differential protection operation in Y-Y connected B phase converter transformer at Kurukshetra end. Further at 12:22 hrs Pole-1 & 3 blocked due to Instability from Champa end. This led to demand drop in Rajasthan, Haryana, Punjab and Uttar Pradesh. As per SCADA, approx. 900 MW change in demand in NR region was observed. Rajasthan Demand changed by 609 MW, Haryana demand dropped by 220MW, Punjab demand dropped by 100MW, UP demand dropped by 602 MW and NR solar generation dropped by 150MW. After the tripping of all the poles in HVDC Kurukshetra, low voltages were observed in NR region. 765KV Aligarh Gr. Noida Ckt increased upto 3100MW while 1000 MVA,765/400KV ICT-2 at Bhiwani got overloaded to 1071MW.
- B.7.5 In view of the above, POWERGRID is requested to share the details of action taken and take suitable measures to avoid frequent tripping of this inter-regional link and any consequences thereof.

#### Decision required from Forum:

Members may like to discuss.

# B.8 Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS (agenda by NRLDC)

B.8.1 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.8.2 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.8.3 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.8.4 Load end details have been received from UP, Haryana, Punjab, Rajasthan & Delhi. Details and communications are attached as **Annexure-B.VIII**.
- B.8.5 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.8.6 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.8.7 During 53<sup>rd</sup> 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.8.8 ADANI agreed for the same and stated that update would be given within 01 week.However, no detail received yet from ADANI.
- B.8.9 During discussion in 55<sup>th</sup> 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.8.10 During 56<sup>th</sup> 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 March 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.8.11 Further, through mail dt 3<sup>rd</sup> March 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.8.12 During 57<sup>th</sup> 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.8.13 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.8.14 ADANI agreed to take expeditious actions and to share the action plan at the earliest.
- B.8.15 During 58<sup>th</sup> 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.8.16 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.8.17 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. He submitted to allow the cost recovery of this under ADDCAP. MS, NRPC conveyed that Adani may bring the separate agenda for approval of cost recovery mode with proper justification. Adani representative mentioned that he will look into the regulatory aspect and will present accordingly.
- B.8.18 During 59<sup>th</sup> 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 10<sup>th</sup> April 2025.
- B.8.19 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.8.20 During 60<sup>th</sup> PSC meeting, ADANI representative informed that internal approval is taken for placing the order and order will be released to vendor by end of May 2025. They have expedited the execution of upgradation activity and now it is expected to get completed by August 2025.
- B.8.21 NRLDC requested to share weekly progress report once the execution work starts and ADANI agreed for the same.
- B.8.22 ADANI is requested to apprise the Forum about identified issues at various stations, action plan and progress in rectification work.

#### Decision required from Forum:

Members may like to discuss.

# B.9 Confirmation of regarding implementation of proposed Overvoltage protection setting by committee (agenda by NRLDC)

- B.9.1 The committee formed by NRPC (during 52<sup>nd</sup> PSC meeting held on 20.09.2024) to review the Overvoltage Protection settings of 400kV and 765kV transmission lines in NR finalized the philosophy for overvoltage protection and proposed the revised overvoltage protection setting for 400kV and 765kV transmission lines in NR. The proposed protection settings were discussed and approved in 58<sup>th</sup> Protection Sub-Committee (PSC) meeting held on 26.03.2025. The PSC Forum requested all the utilities 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 at site is attached as **Annexure-B.IX**.
- B.9.2 Further, the agenda in this regard was again discussed in 230<sup>th</sup> OCC meeting held on 17.04.2025 and 60<sup>th</sup> PSC meeting held on 26<sup>th</sup> May. It was observed that many members are yet to confirm the implementation of revised overvoltage settings.
- B.9.3 Status of confirmation received from UPPTCL (partially implemented), DTL, Lalitpur TPS (LPGCL), NHPC (Chamera-I &II, Uri-I& II, Dulhasti HEP), POWERGRID NR-1, NUPPL and Rampur HEP. SLDC Punjab vide mail dt 5<sup>th</sup> June 2025 informed that over-voltage settings implementation will take 3-4 months.
- B.9.4 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.9.5 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.

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

### A. May 2025

- C.1.1 NRLDC has submitted the FTCs allowed in month of May-2025. The same may be found on NRPC website: <u>http://164.100.60.165/meetings/prsub.html</u> final approval of settings.
- C.1.2 Following utilities has submitted agenda for approval of settings:
  - i. RVPNL
  - ii. UPRVUNL
  - iii. HVPNL
- C.1.3 However, following utilities have not been put up settings for approval:
  - i. UPPTCL
  - ii. POWERGRID
  - iii. RSDCL
  - iv. PBTSL
  - v. Juna REPL
  - vi. SJVN Green Energy Limited
  - vii. ACME Sikar Solar Private Limited
  - viii. NTPC Green Energy Limited
  - ix. GORBEA SOLAR PRIVATE LIMITED
  - x. THDC

## B. June 2025

- C.1.4 Khidrat Renewable Energy Private Ltd has submitted agenda for final approval of protection settings of its 300 MW solar power project in the Bikaner for which FTCs were allowed by NRLDC vide letter dated 30.05.2025 & 04.06.2025.
  - C. April 2025

- C.1.5 UPRVUNL has submitted agenda for final approval of protection settings of 110 MVA Station Transformer-II & 80 MVAr Bus Reactor at 1X660MW PTEP, Panki for which FTCs were approved in the month of April, 2025 by NRLDC.
- C.1.6 UPRVUNL has submitted agenda for final approval of protection settings of 1500MVA ICT-1 of 2x660 MW Jawaharpur TPS for which FTC was approved in the month of April, 2025 by NRLDC.
- C.1.7 PPGCL has submitted agenda for final approval of protection settings of 413 bay and 75 MVA Transformer at PPGCL Bara for which FTCs were approved in the month of April, 2025 by NRLDC.
- C.1.8 These all submitted settings are available at NRPC website: http://164.100.60.165/meetings/prsub.html.
- C.1.9 It is to highlight that as per decisions of 54<sup>th</sup> 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.

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

1         Member (GOAD), CEA         Director, NPC Division         abidamicas Bincin           3         CITUR         Sir GM         Sir GM </th <th>S. No.</th> <th>NRPC Member Organization</th> <th>Designation</th> <th>Èmail-ID</th>	S. No.	NRPC Member Organization	Designation	Èmail-ID
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3         CTUL         Sr.GM         Industance           4         FGCL         GM         partan azorasi Biord benchan           5         NLDC         Execution Director         benchan all and good chadan           6         NLDC         CSMUSA MP         benchan all and good chadan           7         MTPC         CSMUSA MP         benchan all and good chadan           8         BEMB         Director (PAC)         direct Bubb Ac in           9         THOC         ACM (OSM), Tehn         parkdestrand Brids Co in           10         SVM         General Manager (OAM)         bood on so differentian           11         NHPC         Director (Panaro), SOF, TSUESN         differentian           12         NHPC         Director (Panaro), SOF, TSUESN         differentian           13         Debit SDC         General Manager         parkdostand Brid Sourg           14         Debit SDC         General Manager         parkdostand Brid Sourg           15         Utar Parkels SLOC         Superinstanding Engineer (RAA)         parkdostang           16         Utar Parkels SLOC         Chief Engineer (LO)         parkdostang           17         Utar All Acade Superinstanking Engineer (CAA)         parkdostangin ancon	2	NTPC Vidyut Vyapar Nigam Ltd.	CEO	ceonvvn@ntpc.co.in
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5         NLDC*         Executive Director         Scanaral Marka Biolicaka in           7         NTPC         DGM(S5)         paranal Marka Biolicaka in           7         NTPC         DGM(S5, MR)         paranal Marka Biolicaka in           10         BBMB         Director (PRO)         paranal Marka Biolicaka in           11         NHPC         Gameral Marka Biolicaka         paranal Marka Biolicaka           12         NPCL*         Director (Parano), SOF, TSU(EA)         paranal Marka Biolicaka and B	4	PGCIL	GM	gunjan.agrawal@powergrid.in
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8         BRM6         Director (PAC)         Intro-Bit State           9         THDC'         AGM (OM), Tehn         Intro-Bit State         Intro-Bit State           10         SUVA         General Manager         Intro-Bit State         Intro-Bit State           11         NPIC         General Manager         Intro-Bit State         Intro-Bit State           11         NPIC         Control Manager         Intro-Bit State         Intro-Bit State           12         NPIC         Control Manager         Intro-Bit State         Intro-Bit State           13         Delth State         Control Engineer         Intro-Bit State         Intro-Bit State           14         Hanager         Intro-Bit Engineer         Intro-Bit State         Intro-Bit Engineer           14         Hanager         Control Engineer         Intro-Bit State         Intro-Bit Engineer           16         Hindrahl Pradesh State         Chrief Engineer         Intro-Bit Bit Bit Manager         Intro-Bit Bit Bit Manager           16         Hindrahl         Chrief Engineer         Intro-Bit Bit Bit Manager         Intro-Bit Bit Bit Manager           16         Hindrahl Pradesh State         Control Engineer (TS)         Intro-Bit Bit Bit Manager         Intro-Bit Bit Bit Manager           16	7	NTPC	DGM(OS-NR)	rameshsingh@ntpc.co.in, asbhogal@ntpc.co.in
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11       NHPC       General Manager (Q&M)       Indextmass (Photomass)         12       NPCL*       Director (Finance), SQF, TSUE(A)       differed consistential mass (Photomas)         13       Dehi SLDC       General Manager       paraloc): dehi SLDC       Chrief Engineer (LB)       paraloc): dehi SLDC       chrief Engineer       paraloc): dehi SLDC	10	SJVN	General Manager	<u>sivn.cso@sivn.nic.in</u>
12     NPCL*     Director (Finance), SOF, TSU(E8)     differedLocin readershimmed frequence)       13     Dehi SLDC     General Manager     gmaldc@idelinatics.ong       14     Hayayaa SLDC     Chief Engineer (SOC)     passion       15     Rajastian SLDC     Chief Engineer (SOC)     passion       16     Utat Passion SLDC     Chief Engineer (RA)     paratic Quede con       17     UtataRhand SLDC     Chief Engineer (RA)     paratic Quede con       18     Rajastian SLDC     Chief Engineer (RA)     paratic Quede con       19     Tuba Vision SLDC     Chief Engineer (RA)     paratic Quede con       20     OTL     Chief Engineer (TS)     paratic Quede con       21     IVPNL     Chief Engineer (TS)     paratic Quede con       22     RVPNL     CE (MAP)     paratic Quede con       23     UPPTCL*     Managing Director     mol Stat Con on       24     HPTCL     SETEGQ     paratic Quede con       25     PSTCL     Chief Engineer (PAM)     paratic Quede con       26     HPTCL*     Managing Director     mol Stat Con on       27     IPPCL*     Managing Director     mol Stat Con on       28     REVUNL*     CoMD     contel Amazoon       29     IPPCL*     Managing Director	11	NHPC	General Manager (O&M)	hod-om-co@nhpc.nic.in
13     Dehr SLDC     General Wanager     analde@dehraids.ong       14     Hayawa SLDC     Chef Engineer (SO&C)     pescom/Bhyna.org.in       15     Ragashan SLDC     Chef Engineer (SO&C)     pescom/Bhyna.org.in       16     Uttar Arbades SLDC     Chef Engineer (SO&C)     pescom/Bhyna.org.in       17     Uttar Arbades SLDC     Chef Engineer     pescom/Bhyna.org.in       18     Pagashan SLDC     Chef Engineer     pescom/Bhyna.org.in       19     Uttar Arbades SLDC     Chef Engineer     pescom/Bhyna.org.in       20     PTCU     Admander (TS)     pescom/Bhyna.org.in       21     IV/PNL     Chef Engineer (TS)     pescom/Bhyna.org.in       22     RPVPNL     CE (MAP)     pescom/Bhyna.org.in       23     UPPTCL'     Managing Director     md.std @hyna.org.in       24     PTCL     SETCL     Chef Engineer (PAM)     pescom/Boyact.org.in       25     PSTCL     Chef Engineer (PAM)     pescom/Boyact.org.in     pescom/Boyact.org.in       28     RPVDL*     Managing Director     mat.ld @hyna.org.in     pescom/Boyact.org.in       29     RPVCL*     Managing Director     mat.ld @hyna.org.in     pescom/Boyact.org.in       29     RPVCL*     Managing Director     mat.ld @hyna.org.in     pescom/Boyact.org.in	12	NPCIL*	Director (Finance), SO/F, TSU(E&I)	df@npcil.co.in rajeshsharma@npcil.co.in
14     Haryana SLDC     Chief Engineer (SO&C)     associating/Bubon conju       15     Rajashan SLDC     Chief Engineer (LD)     decid/Burg conju       16     Uttar Pradesh SLDC     Superintending Engineer (RA)     seri@ unable conju       17     Uttar Andread SLDC     Chief Engineer     decid@ unable conju       18     Purplab SLDC     Chief Engineer     decid@ unable conju       20     Diversity and the conjunction of th	13	Delhi SLDC	General Manager	<u>gmsldc@delhisldc.org</u>
15       Rajasthan SLDC       Chief Engineer (D)       cold@nyten.coln         16       Utter Predesh SLDC       Superinterding Engineer (RA)       structure in cold@nyten.coln         17       UttersRedesh SLDC       Chief Engineer       cold@nyten.coln         18       Punjab SLDC       Chief Engineer       cold@nyten.coln         19       Humachal Prodeeh SLDC       Chief Engineer       cold@nyten.coln         20       DTL       AGM# Protection       Dradial Engineer (Ta)       cold@nyten.coln         21       HVTNL       Chief Engineer (PAM)       cold@nyten.coln       cold@nyten.coln         23       LPPTCL*       Managing Director       rdt.dt@nyten.coln       cold@nyten.coln         24       PTCLL       Managing Director       rdt.dt@nyten.coln       cold@nyten.coln         24       PTCL*       Managing Director       rdt.dt@nyten.coln       cold@nyten.coln         25       PSTCL       Chief Engineer (PAM)       cold@nyten.coln       cold@nyten.coln         26       PSTCL       Managing Director       rdt.dt@nyten.coln       cold@nyten.coln         26       PSTCL       Chief Engineer (PAM)       cold@nyten.coln       cold@nyten.coln         27       PPCCL       Managing Director       rdt.dt@nyten.col	14	Haryana SLDC	Chief Engineer (SO&C)	cesocomml@hvpn.org.in
16       Utar Pradesh SLDC       Superintending Engineer (R&A)       tate all upide (or in a sinch B product) and B product) and (or in a sinch B product) and	15	Rajasthan SLDC	Chief Engineer (LD)	ce.ld@rvpn.co.in
17     Uttarakhand SLDC     Chiel Engineer     anusam sind Stop (and and another a	16	Uttar Pradesh SLDC	Superintending Engineer (R&A)	sera@upsldc.org
18       Fundao SLLDC       Chriet Engineer       Cole status         20       DTL       AGM-Protection       Diharatouardi di granit.com         20       DTL       AGM-Protection       Diharatouardi di granit.com         21       HV/PNL       Cfe (MSP)       cantes 81 mun.con         23       UPPTOL*       Managing Director       mid supplet and         24       FTCUL       SETTAC       Chriet Engineer (PSM)       cantes 81 mun.con         25       PSTOL       Managing Director       mid Laboration       mid Laboration         26       PSTOL       Chriet Engineer (PSM)       cantes 81 multicatus       cantes 81 multicatus         26       PSTOL       DER (Protection)       and Laboration       mid Laboration       mid Laboration         27       HPGCL       DER (Protection)       and Laboration       mid Laboration       mid Laboration         28       HPGCL       DER (Protection)       and Laboration and and       mid Laboration       mid Laboration         29       HPGVLNL       Chriet Engineer (L-2)       canternation and and       mid Laboration and       mid Laboration         30       UPRVINL       Chriet Engineer (L-2)       canternation and       mid Laboration       mid Laboration       mid Labora	17	Uttarakhand SLDC	Chief Engineer	anupam_singh@ptcul.org
19       Himachial Praces SLUC       Chile Engineer       Controls Controls (Controls Controls Con	18	Punjab SLDC	Chief Engineer	<u>ce-sldc@punjabsldc.org</u>
20       DL       AdM-Protection       DirateDigutation         21       H-VPNL       Cife (MAP)       cemps & pron.co.in         22       RRVPNL       Cife (MAP)       cemps & pron.co.in         23       UPPTCL*       Managing Director       md & upptcl.org         24       FPTCL       SE[T&C]       Cife (MAP)         25       PSTCL       Cife (Tegneer (P&M)       ce.pm & pstcl.org         26       HPPTCL*       Managing Director       md.(dt & pmal.com         27       IPCCL       DGM (Protection)       and Log (Protection)         28       HPPCL*       Managing Director       md.(dt & pmal.com         30       UPRVUNL*       CMD       cmd & rvun.com         31       UJVNL*       Managing Director       md.(dt & rvun.com         32       HPPCL*       Managing Director       md.(dt & rvun.com         33       PSPCL       Chiel Engineer       ctorapting & kirkhy and, and, and         34       DHEVN       Chiel Engineer       ctorapting & kirkhy and, and, and         34       PLVL*       Managing Director       md.(dt & phon.co.in         35       Amer Vigut Vitran Nigam Ltd.       Managing Director       md.(dt & phon.co.in         36	19	Himachal Pradesh SLDC	Chief Engineer	cehpsidc@gmail.com
21       HVPNL       Oner Engineer (1s)       cetosus Bron.co.in         22       RRVPNL       CE (MAP)       ce.mos Bron.co.in         23       UPPTCL*       Managing Orector       ndel upptick org         24       PTCUL       SETGL       Chief Engineer (P&M)       ce.mos Bron.co.in         25       PSTCL       Chief Engineer (PAM)       ce.mos Bron.co.in         26       HPFCL*       Managing Orector       nd.td & bronal i.m         27       IPPGL       DGM (Protection)       ant load Bronal com         28       HPFCL*       Managing Director       nd.td & bronal i.m         29       RRVINL*       Chief Engineer (L-2)       ce.portm @ uprval org         20       DPRVUNL       Chief Engineer (I-2)       ce.portm @ uprval org         21       HPFCL*       Managing Director       nd.win.com         23       HPFCL*       Managing Director       nd.win.com         24       PFPCL       Chief Engineer (G-2)       ce.portm @ uprval org         24       DFPCL*       Managing Director       nd.win.com         25       Ajner Vidyut Vitran Nigan Ltd.       Managing Director       nd.ge.postin         26       Pravancha Vidyut Vitran Nigan Ltd.       Managing Director       nd	20		AGM-Protection	bharatgujardti@gmail.com
22       INPERCI:       Managing Director       Ind 8 uprict org         23       IUPFICI:       Managing Director       Ind 8 uprict org         24       IUPFICI:       Managing Director       Ind 8 uprict org         25       PSTGL       Chel Engineer (P&M)       Ce-opm 8 patient org         26       HPFICI:       Managing Director       Ind (cl) 8 patient org         27       IPSGL       DSM (Protection)       anti locit 8 prinal in         28       HPFGCL       Sem 12 patient org       anti locit 8 prinal in         29       RRVVINL:       Chel Engineer (L-2)       ce-opt 8 protector org         30       UPRVUNL       Chel Engineer (L-2)       ce-opt 8 protector         31       UVNL*       Managing Director       Ind Win18 uvvil com         34       DH8VN       Chief Engineer       ctorastrick 8 dbbm org in sem 2 dbbm org in sem 2 dbbm org in sem 2 dbbm org in         35       Ajmer Vidyut Vitran Nigam Ltd.       Managing Director       Ind 8 uprot in dbbm org in sem 3 dbbm org in sem 3 dbbbm org in sem 3 dbbbbm org in sem 3 dbbbb org in dbbbm org in sem 3 dbbbb org in dbbbm org in sem 3 dbbbbb org in dbbbb org in dbbbbbbbbb org in dbbbbbbbb org in dbbbbbb org in	21			<u>cetspki@nvpn.org.in</u>
24     PT-CL     Initializing Director     Initializing Director       25     PSTCL     Chief Engineer (PAM)     Ce-pm @Stel.org       26     HPTCL*     Managing Director     Init Lid@hpmail.cm       27     IPGCL     DGM (Protection)     antitioned &mail.com       28     HPGCL     BERMX RGTPP     semin.trapp@Inpect.org       29     RRVUNL*     CMD     cmd@tmail.com       20     UPRVUNL     Chief Engineer, (L-2)     Ce.pomm@uprvnl.org       31     UUNL*     Managing Director     Ind@hppcd.in       32     HPPC1*     Managing Director     Ind@thppcd.in       33     PSPCL     Chief Engineer/GHTP     Ce-ph@thym.com       34     DHBVN     Chief Engineer/GHTP     Ce-ph@thym.com       35     Ajmer Vidyut Vitran Nigam Ltd.     Managing Director     Ind@thym.org.in       36     Puryagraj Power Generation Co. Ltd.*     Managing Director     Ind@thym.org.in       39     Prayagraj Power Generation Co. Ltd.*     Managing Director     Ind@thym.org.in       31     HPSEP'     Managing Director     Ind@thym.org.in       32     HPSEP'     Managing Director     Ind@thym.org.in       33     Prayagraj Power Generation Co. Ltd.*     Managing Director     Ind@thym.org.in       34     Aravail	22		CE (M&P)	ce.mps@rvpn.co.in
24       PTOL       SEIT 8CJ       Seit 8CJ         25       PSTCL       Chief Engineer (P&M)       Ce-on@pstC.org         26       HPPTCL*       Managing Director       Ind. Long @ Impail.com         27       IPGCL       DGM (Protection)       arti.lpace@ anal.com         28       HPCCL       SEM&T RGTPP       semidemail.com         30       UPRVUNL       Chief Engineer, (L-2)       ce.pom@ Buovunl.org         31       UVNL*       Managing Director       mdu/wil@ @wind.com         32       HPPCL*       Managing Director       mdu/wil@ @wind.com         33       PSPCL       Chief Engineer/GHTP       ce-ohto@ seci.in         34       DHBVN       Chief Engineer/GHTP       ce-ohto@ seci.in         35       Ajmer Vidyut Vitan Nigam Ltd.       Managing Director       md@ puvonl.in         36       Purvanchal Vidyut Vitaran Nigam Ltd.       Managing Director       md@ puscl.org         37       UPCL*       Managing Director       md@ puscl.org       md@ puscl.org         38       HPSEB*       Managing Director       md@ puscl.org       md@ puscl.org       md@ puscl.org         38       JPSEL       Managing Director       md@ puscl.org       md@ puscl.org       md@ puscl.org	23			ma@upptcl.org
22       Pailub       Child Engineer (Paw)       Decing balabation         26       HPPCL       DGM (Protection)       anti-load (2 minal-loam)         27       IPPCL       DGM (Protection)       anti-load (2 minal-loam)         28       HPPCL       SEM&T RGTPP       semt-ration 2 mount of the semt-ration 2 mount of	24		SE(T&C) Chief Escience (D&M)	setandchid@gmail.com
22       IPF CL       Indiadging Direction       Indiadging Direction         23       IPFOCL       SEMAT RGTPP       semt rupp @ Inpoct orgin         24       IPFOCL       SEMAT RGTPP       semt rupp @ Inpoct orgin         25       IPFOCL       Chief Engineer, (L-2)       cs.pomm@ supvunit.org         30       UPRVUNL       Chief Engineer, (L-2)       cs.pomm@ supvunit.org         31       UVVNL*       Managing Director       Indu/wild @ unit.ocom         32       HIPPCL*       Managing Director       Indu/wild @ unit.ocom         33       PSPCL       Chief Engineer/CHTP       cs.chito @ unit.ocom         34       DHBVN       Chief Engineer/CHTP       cs.chito @ unit.ocom         35       Ajmer Vidyut Vitan Nigam Ltd.       Managing Director       md@ unit.org         36       Purvanchal Vidyut Vitana Nigam Ltd.       Managing Director       md@ unit.org         37       UPCL*       Managing Director       md@ unit.org       main.insuit.org         38       HPSEB*       Managing Director       md@ unit.org       main.org       md@ unit.org         39       Prayagraj Power Generation Co. Ltd.*       Keagaitanco.in       cs.anarag@ Barsentok.org       dnataniavs.sinch@ @ unit.org         40       Aravai Brower	25		Chief Engineer (P&M)	ce-pm@pstcl.org
22     IPGCL     Dom (Proceducity)     paint returb (Proceducity)       28     HPGCL     SEMAT RGTPP     semint returb (Proceducity)       29     RRVUNL*     CMD     cnd (Rrvun.com       30     UPRVUNL     Chief Engineer, (L-2)     ce.pomm (Aurvun (Ruvun (Ruv	20		Managing Director	
29       RRVUNL*       CMD       cmd Rrvun com         30       UPRVUNL       Chief Engineer (L-2)       cc.comm @ucrvun (crc         31       UJVNL*       Managing Director       md/write (wink) com         32       HPPCL*       Managing Director       md/write (wink) com         33       PSPCL       Chief Engineer (CHTP       ce-shte @spoci.in         34       DHBVN       Chief Engineer (CHTP       ce-shte @spoci.in         35       Almer Vidyut Vitaran Nigam Ltd.       Managing Director       md @puorMi.gm.astriak.Gov.ik.         36       Purvanchal Vidyut Vitaran Nigam Ltd.       Managing Director       md @puorMi.gm.astriak.Gov.ik.         37       UPCL*       Managing Director       md@puorMi.gm.astriak.Gov.ik.         38       HPSEB*       Managing Director       md@puorMi.gm.astriak.Gov.ik.         39       Prayagraj Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM - striak.gov.baraava.8ttrapower.com.         41       Aprava Energy Private Limited*       CEO       brahmaio@attraco.on         42       Talwandi Sabo Power Ltd.       COO       Vitav.Agarwal@vedanta.co.in         43       Nabha Power Limited*       CEO       brahmaio@attraco.on         44       MEIL Anpara Energy Ltd       COO & Vitav.Agarwal@vedanta.co.	27			ann.ipgci@dmail.com
23       UPRVUNL       Chief Engineer, (L-2)       cc.porm@uprvnl.org         31       UPRVUNL       Chief Engineer, (L-2)       cc.porm@uprvnl.org         31       UVNL*       Managing Director       md@hpocl.n         33       PSPCL       Chief Engineer       cloradof @dhbw.org.in         34       DHBVN       Chief Engineer       cloradof @dhbw.org.in       sem@dhbw.org.in         35       Ajmer Vidyut Vitran Nigam Ltd.       Managing Director       md@khpocl.n       sem@dhbw.org.in         36       Purvanchal Vidyut Vitran Nigam Ltd.       Managing Director       md@khpocl.n       sanjav/bhardava@tatapower.com.         37       UPCL*       Managing Director       md@khpocl.n       sanjav/bhardava@tatapower.com.         38       Prayagral Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM       sanjav/bhardava@tatapower.com.         41       Apraava Energy Private Limited*       CEO       bharaniav sinch@ Bprock.co.in         42       Talwanif Sabo Power Ltd.*       COO       Vihav Aaarval@ vendia.co.in         43       Nabha Power Limited*       CEO       sanadwa.sinch@ Bproakower.com.         44       Maraai Sabo Power Lid.*       COO       Vihav Aaarval@ vendia.co.in         45       Rosa Power Supply Company Ltd       GM-ELECTRI	20			
Both Work         Chine Explaintee (CE)         Description of the explaint of the ex	29		Chief Engineer (L. 2)	
32       HPPCL*       Managing Director       mddurfue durbusch         33       PSPCL       Chiel Engineer/GHTP       ce-chtp@pspc.in         34       DHBVN       Chiel Engineer       clarazhor @ dhbvn.org.in semp@dhbvn.org.in         36       Amer Vidyut Vitran Nigam Ltd.       Managing Director       MD.AVWL@RAASTHAN.GOV.N         37       UPCL*       Managing Director       md@upcl.org         38       Purvanchal Vidyut Vitran Nigam Ltd.       Managing Director       md@upcl.org         39       Prayagri Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM-       saniav.bhargava@tatapower.com	30		Managing Director	ce.ppmmeuprvam.org
11       Delte Engineer/GHTP       ce-dtp @pspcl.         33       PSPCL       Chief Engineer/GHTP       ce-dtp @pspcl.         34       DHBVN       Chief Engineer/GHTP       ce-dtp @pspcl.         35       Ajmer Vidyut Vitran Nigam Ltd.       Managing Director       MD.AVVU.@RAIASTRAI.SQUIN         36       Purvanchal Vidyut Vitran Nigam Ltd.       Managing Director       md@upcl.org         37       UPCL*       Managing Director       md@upcl.org         38       HPSEB*       Managing Director       md@upcl.org         39       Prayagraj Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM-       saniax/bhargava@tatapower.com.         40       Aravali Power Company Pvt. Ltd*       CEO       brahmalig@ntbc.co.in         41       Apraava Energy Private Limited*       GM-Electrical       navin chaturved(@ aprava.com         42       Talwand Sabo Power Ld.*       COO       Vibhav.Agarwa@ @vadanta.co.in         44       MEIL Anpara Energy Ltd       GOO & WTD, Executive Director       anarun.tholia@meilanparapower.com         44       MEIL Anpara Energy Ltd       GM-ELECTRICAL       Kesarinandan.pandev@ Rreliancerroupindia.com         45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan.pandev@ Rreliancerroupindia.com <td< td=""><td>32</td><td></td><td>Managing Director</td><td>md@bppcl.in</td></td<>	32		Managing Director	md@bppcl.in
34       DHBVN       Chief Engineer       Ide and prevention org in semp @ dhbvn.org in         35       Ajmer Vidyut Vitran Nigam Ltd.       Managing Director       Ind AVNU.@RAASTHAN.GOV.IN         36       Purvanchal Vidyut Vitran Nigam Ltd.       Managing Director       Ind @ upcl.org         37       UPCL*       Managing Director       Ind @ upcl.org         38       Purvanchal Vidyut Vitran Nigam Ltd.       Managing Director       Ind @ upcl.org         39       Prayagraj Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM-       saniax.bhargava@tatapower.com.         41       Apraava Energy Private Limited*       GM-Electrical       navin.chaturved@apraava@tatapower.com.         42       Talwandi Sabo Power Ltd.*       CEO       brahmaji@ utp.c.co.in         43       Nabha Power Limited*       CEO       sk.naran@il@artapc.org.on         44       MEIL Anpara Energy Private Limited*       CEO       sk.naran@il@artapc.org.on         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anandkumar.singh@meilanpearpower.com.         45       Rosa Power Supply Company Ltd       GM-ELCTRICAL       Kesarinandan.pandev@meilancegroupindia.com         46       Lalitpur Power Generation Company Ltd       GM-ELCTRICAL       Kesarinandan.pandev@meilancegroupindia.com	32	PSPCI		ce-abtn@pspcl.in
25       Ajmer Vidyut Vitran Nigam Ltd.       Managing Director       Md.AvVAL@AASTHAN.GOV.IN         36       Ajmer Vidyut Vitran Nigam Ltd.       Managing Director       md@pupAlsTHAN.GOV.IN         37       UPCL*       Managing Director       md@pupAlsTHAN.GOV.IN         38       HPSEB*       Managing Director       md@pupAl.org         39       Prayagraj Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM -       sanjav.bharcgava@tatapower.com_         40       Aravail Power Company Pvt. Ltd*       CEO       brahmaia visioh@pocl.co.in         41       Aprava Energy Private Limited*       GM-Electrical       navin.chaturvedi@aprava.com         42       Taiwandi Sabo Power Ltd.*       COO       Vibhav.Agarwal@ vedanta.co.in         43       Nabha Power Limited*       CEO       sk.narang@larestnoturv.com_         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anan.tkumar.tin@lamelanparapower.com_         45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan.pandev@reliancegroupidia.com         46       Lalitpur Power Generation Company Ltd       AGM-ELECTRICAL       Kesarinandan.pandev@reliancegroupidia.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limit	34		Chief Engineer	ctorandrn@dbbyn.org.in.semp@dbbyn.org.in
200       International of the second s	35	Aimer Vidvut Vitran Nigam Ltd	Managing Director	
37     UPCL*     Managing Director     md@upc.long       38     HPSEB*     Managing Director     md@upc.long       39     Prayagraj Power Generation Co. Ltd.*     Head (Commercial & Regulatory), DGM     sanjav.bhargava@tatapower.com	36	Purvanchal Vidvut Vitaran Nigam Ltd	Managing Director	md@puvvnl in
38       HPSEB*       Interliging Director       md@.bpseb.in         39       Prayagraj Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM - Elect       saniay.bhargava gitatapower.com, dhananjavy.signd@.ppcd.co.in         40       Aravali Power Company Pvt. Ltd*       CEO       brahmalig@.ntpc.co.in         41       Apraava Energy Private Limited*       GM-Electrical       pawin.chaturvedi@.apraava.com         42       Talwandi Sabo Power Ltd.*       COO       Vibbav.Agrava@.evednata.co.in         43       Nabha Power Limited*       CEO       sk.narang@larsentoubro.com         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anankumar.singh@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia@.mellanparapower.com_ arun.tholia.mellanparapower.com_ arun.tholia.mellanparapower.com_ arun.tholia.mellanparapower.com_ arun.tholia.mellanparapower.com_ baby.com.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.espectra.e	37		Managing Director	md@upcl.org
38       Prayagraj Power Generation Co. Ltd.*       Head (Commercial & Regulatory), DGM - sanjax/hargava@tatapower.com, dhananiay.singh@pogcl.co.in         40       Aravali Power Company Pvt. Ltd*       CEO       brahmaniay.singh@pogcl.co.in         41       Apraava Energy Private Limited*       GM-Electrical       navin.chaturvedi@apraava.com         42       Talwandi Sabo Power Ltd. *       COO       Vibhav.Agarwa@vedanta.co.in         43       Nabha Power Lintited*       CEO       sk.narang@larsentoubro.com         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anandkumar.singh@mellanparapower.com         45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan.pandev@reflancegroupindia.com         46       Laitipur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.tb@lagar.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adan.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivoliorakash.panda@isw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of JaK*       MD, JKPTCL CE, JKPCL       mdikpttl@gmail.com       cepd	38	HPSEB*	Managing Director	md@hpseb.in
40       Aravali Power Company Pvt. Ltd*       Elect       dhananjay.singh@ppgcl.co.in         41       Aravali Power Company Pvt. Ltd*       CEO       brahmaii@@ntoc.co.in         41       Apraava Energy Private Limited*       GM-Electrical       navin.chaturyedi@@apraava.com         42       Talwandi Sabo Power Ltd.*       COO       Vibhav. Agarwal@vedanta.co.in         43       Nabha Power Limited*       CEO       sk.narang@larsentoubro.com         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anandkumar.sindh@meilanparapower.com         45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan_pandey@reliancegroupindia.com         46       Lalitpur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.sindh@wigNTC.CO.IN         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotiprakash.panda@isw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@ evrenenergv.com         51       UT of Ladakh*       Chief Engineer, LPDD       cecdadakh@mail.com         52       UT of Chandigar	39	Pravagrai Power Generation Co. Ltd.*	Head (Commercial & Regulatory), DGM -	sanjay.bhargaya@tatapower.com.
40       Aravali Power Company Pvt. Ltd*       CEO       brahmaiig@ntpc.co.in         41       Apraava Energy Private Limited*       GM-Electrical       navin.chaturvedi@apraava.com         42       Talwandi Sabo Power Ltd. *       COO       Vibhav.Agarwal@vedanta.co.in         43       Nabha Power Limited*       CEO       sk.narang@larsentoubro.com         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anandkumar.singh@meilanparapower.com         45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan.pandev@reilancegroupindia.com         46       Lalitpur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.ltp@lpgcl.com.aupadhvay.ltp@lpgcl.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotiorakash.panda@lsw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of Jaka*       MD, JKPTCL CE, JKPCL       mdikottl@gmail.com,ceikpcl2@gmail.com         53       UT of Chandigath       Executive Engineer       elop2-chd@nic.in         54	00		Elect	dhananiay.singh@ppgcl.co.in
41       Apraava Energy Private Limited*       GM-Electrical       navin.chaturved@apraava.com         42       Talwandi Sabo Power Ltd. *       COO       Vibhav.Agarva@wedanta.co.in         43       Nabha Power Limited*       CEO       sk.narang@larsentoubro.com         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anandkumar.singh@meilanparapower.com         44       MEIL Anpara Energy Ltd       GM-ELECTRICAL       Kesarinandan.pandev@reliancegroupindia.com         46       Lalitpur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.ltp@lpgcl.com.aupadhvay.ltp@lpgcl.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       lyotiorakash.panda@isw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of Ladakh*       Chief Engineer, LPDD       cepladakh@gmail.com         52       UT of Ladakh*       Chief Engineer, LPDD       cepladakh@gmail.com         53       UT of Ladakh*       Chief Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distributio	40	Aravali Power Company Pvt. Ltd*	CEO	brahmajig@ntpc.co.jn
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	41	Apraava Energy Private Limited*	GM-Electrical	navin chaturvedi@apraava.com
43       Nabha Power Limited*       CEO       sk.narang@larsentoubro.com         44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anandkumar.singh@meilanparapower.com         44       MEIL Anpara Energy Ltd       GM-ELECTRICAL       Kesarinandan.pandev@reliancegroupindia.com         45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan.pandev@reliancegroupindia.com         46       Lalitpur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.ltp@lpgcl.com.aupadhyay.ltp@lpgcl.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotiprakash.panda@isw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenerqy.com         51       UT of J&K*       MD, JKPTCL CE, JKPCL       mdkptc1l@gmail.com, cejkpcl2@gmail.com         52       UT of Ladakh*       Chief Engineer, LPDD       cepaldadak@@mail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@ tatapowerdil.com	42	Talwandi Sabo Power Ltd. *	COO	Vibhay, Agarwal@yedanta.co.in
44       MEIL Anpara Energy Ltd       COO & WTD, Executive Director       anandkumar.singh@meilanparapower.com_arun.tholia@meilanparapower.com_arun.tholia@meilanparapower.com         45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan.pandey@reliancegroupindia.com         46       Lalitpur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.ltp@lpqcl.com, aupadhyay.ltp@lpgcl.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashih.Baviska@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotiorakash.panda@iisw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@gmail.com         52       UT of Ladakh*       Chief Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HoG-PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       AVP       bibhut.prakash@pticindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO       sumant@renew.com	43	Nabha Power Limited*	CEO	sk.narang@larsentoubro.com
45       Rosa Power Supply Company Ltd       GM-ELECTRICAL       Kesarinandan.pandey@reliancegroupindia.com         46       Lalitpur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.ltp@lpqcl.com.aupadhyay.ltp@lpqcl.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotiprakash.panda@lsw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         Limited*       MD, JKPTCL CE, JKPCL       mdjkptcli@gmail.com, cejkpcl2@gmail.com         51       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@ gmail.com         52       UT of Ladakh*       Chief Engineer       eloo2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@ renew.com         58       NTPC Green Energy Limited*       CEO       sumant@ renew.com         60       Avaada Energy Private Limited*       CEO <td>44</td> <td>MEIL Anpara Energy Ltd</td> <td>COO &amp; WTD. Executive Director</td> <td>anandkumar.singh@meilanparapower.com</td>	44	MEIL Anpara Energy Ltd	COO & WTD. Executive Director	anandkumar.singh@meilanparapower.com
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46       Lalitpur Power Generation Company Ltd       Head of Maintenance, GM Electrical       alokkumar.ltp@lpqcl.com, aupadhyay.ltp@lpqcl.com         47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       jyotiprakash.panda@jsw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of J&K*       MD, JKPTCL CE, JKPCL       mdjkptcll@gmail.com, cejkpcl2@gmail.com         52       UT of Chandigarh       Executive Engineer, LPDD       cendladkh@mmail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@ tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO       sumant@renew.com         59       Azure Power India Pvt. Limited*       CEO       sumant@renew.com         60       Avaada Energy Private Limited*       CEO	45	Rosa Power Supply Company Ltd	GM-ELECTRICAL	Kesarinandan.pandey@reliancegroupindia.com
47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotirrakash.panda@isw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of J&K*       MD, JKPTCL CE, JKPCL       mdikptcl1@gmail.com, cejkpcl2@gmail.com         52       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@ qmail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@tanapowerddl.com         55       Gurgaon Palwal Transmission Limited*       Head Regulatory       Lokendra.Ranawat@indigrid.com         56       PTC India Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO       sumil.gupta@azurepower.com         59       Azure Power India Private Limited*       CEO       sumil.gupta@azurepower.com         60       Avaada Energy Private Limited*       CEO       kishor.nair@ avaada.com	46	Lalitpur Power Generation Company Ltd	Head of Maintenance, GM Electrical	alokkumar.ltp@lpgcl.com, aupadhyay.ltp@lpgcl.com
47       MEJA Urja Nigam Ltd.       AGM-EMD       SPSPUNDIR@NTPC.CO.IN         48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotiprakash.panda@isw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of J&K*       MD, JKPTCL CE, JKPCL       mdjkptcl1@gmail.com, cejkpcl2@gmail.com         52       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@gmail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@ tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       Head Regulatory       Lokendra.Ranawat@indigrid.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO       sumant@renew.com         59       Azure Power India Pvt. Limited*       CEO       sumil.gupta@azurepower.com         60       Avaada Energy Private Limited*       CEO       sumant@renew.com         61       Adani Green Energy Limited       AVP       sanjay.bhatt@adani.com				
48       Adani Power Rajasthan Limited*       GM       Ashish.Baviskar@adani.com         49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       ivotiprakash.panda@isw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of J&K*       MD, JKPTCL CE, JKPCL       mdikptcll@gmail.com, cejkpcl2@gmail.com         52       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@gmail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@enew.com         58       NTPC Green Energy Limited*       CEO       sumant@enew.com         59       Azure Power India Pvt. Limited*       CEO       sumil.gupta@azurepower.com         60       Avaada Energy Private Limited*       CEO       sanjay.bhatt@adani.com         61       Adani Green Energy Limited       AVP       sanjay.bhatt@adani.com	47	MEJA Urja Nigam Ltd.	AGM-EMD	SPSPUNDIR@NTPC.CO.IN
49       JSW Energy Ltd. (KWHEP)*       Head Regulatory & Power Sales       jvotiprakash.panda@jsw.in         50       Transition Cleantech Services Private       Deputy Manager       kswamidoss@evrenenergy.com         51       UT of J&K*       MD, JKPTCL CE, JKPCL       mdjkptcl1@gmail.com, cejkpcl2@gmail.com         52       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@gmail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG.PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       Head Regulatory       Lokendra.Ranawat@indigrid.com         56       PTC India Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO       sumil.gupta@aturepower.com         60       Avaada Energy Private Limited*       CEO       sunil.gupta@azurepower.com         61       Adani Green Energy Limited       AVP       sanjay.bhatt@adani.com         61       Adani Green Energy Limited       AVP       sanjay.bhatt@adani.com	48	Adani Power Rajasthan Limited*	GM	Ashish.Baviskar@adani.com
50         Transition Cleantech Services Private         Deputy Manager         kswamidoss@evrenenergy.com           51         UT of J&K*         MD, JKPTCL CE, JKPCL         mdikptcl1@gmail.com, cejkpcl2@gmail.com           52         UT of Ladakh*         Chief Engineer, LPDD         ceodladakh@gmail.com           53         UT of Chandigarh         Executive Engineer         elop2-chd@nic.in           54         Tata Power Delhi Distribution Limited*         HOG-PMG         sandeep.k@tatapowerddl.com           55         Gurgaon Palwal Transmission Limited*         Head Regulatory         Lokendra.Ranawat@indigrid.com           56         PTC India Limited*         AVP         bibhuti.prakash@ptcindia.com           57         ReNew Power Private Limited*         CEO         sumant@renew.com           58         NTPC Green Energy Limited*         CEO, Sr. Mgr         raiivgupta@atpc.co.in, sandeepdahiya@ntpc.co.in           59         Azure Power India Pvt. Limited*         CEO         sumil.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	49	JSW Energy Ltd. (KWHEP)*	Head Regulatory & Power Sales	jyotiprakash.panda@jsw.in
51       UT of J&K*       MD, JKPTCL CE, JKPCL       mdjkptcl1@gmail.com, cejkpcl2@gmail.com         52       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@qmail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       Head Regulatory       Lokendra.Ranawat@indigrid.com         56       PTC India Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO, Sr. Mgr       raiivgupta@atpc.co.in, sandeepdahiya@ntpc.co.in         59       Azure Power India Pvt. Limited*       CEO       sumil.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.	50	Transition Cleantech Services Private Limited*	Deputy Manager	kswamidoss@evrenenergy.com
52       UT of Ladakh*       Chief Engineer, LPDD       cepdladakh@gmail.com         53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       Head Regulatory       Lokendra.Ranawat@indigrid.com         56       PTC India Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO, Sr. Mgr       raiiyaupta@aturepower.com         59       Azure Power India Pvt. Limited*       CEO       sumil.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.	51	UT of J&K*	MD, JKPTCL CE, JKPCL	mdjkptcl1@gmail.com, cejkpcl2@gmail.com
53       UT of Chandigarh       Executive Engineer       elop2-chd@nic.in         54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       Head Regulatory       Lokendra.Ranawat@indigrid.com         56       PTC India Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO, Sr. Mgr       raiivaupta@ntpc.co.in, sandeepdahiya@ntpc.co.in         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.	52	UT of Ladakh*	Chief Engineer, LPDD	cepdladakh@gmail.com
54       Tata Power Delhi Distribution Limited*       HOG-PMG       sandeep.k@tatapowerddl.com         55       Gurgaon Palwal Transmission Limited*       Head Regulatory       Lokendra.Ranawat@indigrid.com         56       PTC India Limited*       AVP       bibhuti.prakash@ptcindia.com         57       ReNew Power Private Limited*       CEO       sumant@renew.com         58       NTPC Green Energy Limited*       CEO, Sr. Mgr       raiivqupta@ntpc.co.in, sandeepdahiva@ntpc.co.in         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.	53	UT of Chandigarh	Executive Engineer	elop2-chd@nic.in
55         Gurgaon Palwal Transmission Limited*         Head Regulatory         Lokendra.Ranawat@indigrid.com           56         PTC India Limited*         AVP         bibhuti.prakash@ptcindia.com           57         ReNew Power Private Limited*         CEO         sumant@renew.com           58         NTPC Green Energy Limited*         CEO, Sr. Mgr         raiivgupta@ntpc.co.in, sandeepdahiya@ntpc.co.in           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.	54	Tata Power Delhi Distribution Limited*	HOG-PMG	sandeep.k@tatapowerddl.com
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58       NTPC Green Energy Limited*       CEO, Sr. Mgr       raiivqupta@ntpc.co.in, sandeepdahiya@ntpc.co.in         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.	57	ReNew Power Private Limited*	CEO	sumant@renew.com
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.	58	NTPC Green Energy Limited*	CEO. Sr. Mar	raiiyoupta@ntpc.co.in. sandeepdabiya@ntpc.co.in
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.	59	Azure Power India Pvt. Limited*	CEO	sunil.gupta@azurepower.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.	60	Avaada Energy Private Limited*	CEO	kishor.nair@avaada.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.	61	Adani Green Energy Limited	AVP	sanjay.bhatt@adanj.com
	*	Organizations from where nominations are not received	d for PSC, memebers of NRPC have been mentioned	Nomination for PSC forum may be sent at the earliest.

#### List of Members of Rnenewable Energy Sub-committee

S. No.	Members of RE Sub-committiee	Representative Email ID	
1	Ministy of New and Renewable Energy	anindya.parira@nic.in;	
2	National Load Despatch Center	suhasd@grid-india.in;	
3	Northern Regional Load Despatch Center	somara.lakra@grid-india.in;	
4	Central Transmission Utility	sandeepk@powergrid.in	
		saroj.mishra@powergrid.in;	
5	Powergrid Corporation of India Ltd.	vashpal@powergrid.in	
6	Rajasthan Rajya Vidyut Prasaran Nigam Ltd.	se.pp@rvpn.co.in;	
7	Rajasthan State Load Despatch Center	se.ldrvpnl@rvpn.co.in;	
		sanjaysharma@seci.co.in;	
8	Solar Energy Corporation of India	vkumar@seci.co.in;	
		ankur.kumar@nsefi.in;	
9	National Solar Energy Federation of India	<u>ceooffice@nsefi.in;</u>	
10	Indian Wind Power Association	secretarygeneral@indianwindpower.com;	
		aman.chaturvedi@petronas.com;	
11	ABC Renewable Pvt. Ltd	deepak.asopa@petronas.com;	urvika.acharya@petronas.com
		prachi.chauhan@acme.in;	
10	ACME Hoorogorb powertach Dut I to	planthead.badisidd.solar@acme.in;	
12		ashutosh.singh@acme.in;	
10	ACME Chitterrouth Salar Energy Dut Ltd	sandeeptak@ayanapower.com;	
13	Adoni Lubrid Energy Joine Program Ltd	<u>yogesh@ayanapower.com;</u>	
14	Adami Hybrid Energy Jaisainer One Ltd.	-	
15	Adani Hybrid Energy Jaisaimer Two Ltd.	-	
16	Adani Hybrid Energy Jaisalmer Three Ltd.	-	
17	Adani Hybrid Energy Jaisalmer Four Ltd.	_	
18	Adani Renewable Energy (RJ) limited Rawara	_	
	Adani Solar Energy Jaisalmer One Pvt. Ltd450MW		
19	(Solar)	_	
20	Adani Solar Enegry Four Private Limited		
21	Adani Solar Energy Jaisalmer Two Private Limited	kailash.nagora@adani.com;	
	Adani Solar Energy Jaisalmer Two Private Limited	sanjay.bhatt@adani.com;	
22	Project Two		
23	SB ENERGY FOUR PRIVATE LIMTED, Bhadla		
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)	7	
28	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)	]	
29	Adani Green Energy 19 Limited	7	

30	Altra Xergi Pvt. Ltd.	mahendra.kumar@O2power.in;	
31	AMP Energy Green Five Pvt. Ltd.	uhattacharua@ampenerguindia.com:	
32	AMP Energy Green Six Pvt. Ltd.	vonattacharya@ampenergyinoia.com;	
33	Amplus Ages Private Limited	manish.tak@amplussolar.com;	
34	Avaada RJHN_240MW		
35	Avaada sunce energy Pvt limited		
36	Avaada Sunrays Pvt. Ltd.	aipesn.prajapati@avaada.com;	
37	Avaada Sustainable RJ Pvt. Ltd.		
38	Ayana Renewable Power Three Private Limited	Venkatraman@ayanapower.com;	
39	Ayaana Renewable Power One Pvt. Ltd.	rajeshshukla@ayanapower.com;	
40	Azure Power Forty One Pvt limited	sourin.nandi@azurepower.com;	
41	Azure Power Forty Three Pvt. LtdRSS	manohar.reddy@azurepower.com;	
42	Azure Maple Pvt. Ltd.	sourin.nandi@azurepower.com;	
43	AZURE POWER INDIA Pvt. Ltd., Bhadla	yogesh.kumar@adani.com;	
44	Azure Power Thirty Four Pvt. Ltd.	manohar.reddy@azurepower.com;	
45	Clean Solar Power (Jodhpur) Pvt. Ltd.	simhadri.kesapragada@herofutureenergies.com; atul.tomar@herofutureenergies.com; sushant.sinha@herofutureenergies.com;	
40	Eden Renewable Cite Private Limited	dejendra charma@eden-re.com	
47	Grian Energy private limited	mehul sharma@amplussolar.com;	
40	Mahindra Renewable Private Limited	mehar rahmatulla@mahindra.com; patil saurabh2@mahindra.com;	
49 50	Mena Surva Uria Pyt I td. (MSUPL)	menal 250mm ists@mahindra.com, patit.saurabit2@mahindra.com,	
51	ALIBAIYA Solar		
52			
53	SINGRALILLSOLAR		
54	Anta Solar		
55	Linchabar Solar	raiivgunta@ntnc.co.in:	
56	NTPC Devikot Solar plant 240MW		
57	NTPC Kolavat 400kV		
58	Nedan Solar NTPC		
50	NTPC Nokhra 300MW		
60	One Volt energy Pvt. I td.	amarieet thakur@amplussolar.com	
	ReNew Solar Energy (Jharkhand Three) Private		
61	Limited		
62	RENEW SOLAR POWER Pvt. Ltd. Bhadla		
63	ReNew Solar Urja Private Limited		
64	Renew Sun Bright Pvt. Ltd. (RSBPL)		
65	Renew Sun Waves Private Limited (RSEJ4L)	purnendu.chaubev@renew.com:	
66	Renew Surva Partap Pvt. Ltd.	kailash.pandey@renew.com;	
67	Renew Surya Ravi Pvt. Ltd.		
68	Renew Surva Roshni Pvt. Ltd.		
69	Renew Surya Vihan Pvt. Ltd.		
70	Renew Surya Ayaan Pvt. Ltd.		
74	RENEW SOLAR POWER Pyt 1 td Bikaner		

72	Rising Sun Energy-K Pvt. Ltd.	tushar.gahlot@risingsunenergy.in;		
73	Serentica Renewables India 4 Private Limited	prateek.rai@serenticaglobal.com;		
74	Tata Power Green Energy Ltd. (TPGEL)	vinod.kumar@tatapower.com;		
		dhmahabale@tatapower.com;		
75	Tata Power Renewable Energy Ltd. (TPREL)	imran.khan@tatapower.com;		
76	Thar Surya Pvt. Ltd.	vivek.reddy2@enel.com; mahendra.vishnoi2@enel.com		
77	TP Surya Pvt. Ltd.	sivanarayana@tatapower.com; sagar.potdar@tatapower.com;		
78	Banderwala Solar Plant TP Surya Ltd.	arun.sahoo@tatapower.com;		
79	TRANSITION ENERGY SERVICES PRIVATE LIMITED			
80	Transition Green Energy Private Limited	kak@evrenenergy.com;		
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
1	Gurgaon Palwal Transmission Ltd	INDIGRID	vivek.karthikeyan1@indigrid.com
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
10	Adani Transmission India Limited	ADANI	Sunil.Raval@adani.com
11	Bikaner Khetri Transmission Limited		

# Status of action taken on decisions of 60<sup>th</sup> PSC

S.N.	Agend a No.	Agenda	Decision of 60 <sup>th</sup> PSC	Status of action Taken
1	A.3	Submission of	Non-compliant utilities	Status of reporting
		protection	were asked to submit the	of indices has been
		performance indices	Protection performance	taken as an agenda.
		along with reason and	indices timely by 7 <sup>th</sup> day	
		corrective action taken	of month element wise	
		for indices less than	along with corrective	
		unity to NRPC	action taken for indices	
		Secretariat on monthly	less than unity.	
		basis (agenda by		
		NRPC Secretariat)		
2	A.4	Intimation of	I. Utilities and SLDCs shall	RVUN, PPGCL,
		performance of SPS	report about the operation	Gorakhpur &
		(agenda by NRPC	of SPS immediately and	Lucknow Zone
		Secretariat	detailed report shall be	(UPPTCL) have
			submitted within three days	shared performance
			of operation to the	indices of the May,
			concerned RPC and	2025 month for SPS.
			RLDC.	
			II. 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).	

# Status of action taken on decisions of 60<sup>th</sup> PSC

3	A.6	Annual protection	Non-compliant utilities	Some utilities have
		audit plan for FY 2025-	were asked to submit	submitted audit
		26 (agenda by NRPC	annual audit plan 2025-26	report. Same has
		Secretariat)	without any further delay.	been taken as
			Other utilities were asked	agenda.
			to submit report and	
			compliance status within	
			one month of completion	
			of audit.	
			PSTCL representative	PSTCL, JKPTCL,
			informed that the Annual	HPGCL, Rajasthan
			Protection Audit Plan for	SLDC, AESL, NTPC
			FY 2025-26 will be	may update.
			submitted within 15 days.	
			J&K representative	
			informed that Annual	
			protection audit plan for	
			FY 2025-26 will be	
			submitted within 15 days.	
			HPGCL representative	
			will be submitted before	
			novt PSC monting	
			Raiasthan SLDC was	
			requested to arrange the	
			internal protection audit	
			plan for Barsingar Plant	
			pertaining to Raiasthan	

			control area	
			AESL representative and NTPC representative assured to communicate the Adani Power limited and Meja Urja Nigam Limited respectively to arrange the protection audit plan.	
4	A.7	Third-party protection audit plan (agenda by NRPC Secretariat)	Forum directed utilities to submit the third-party protection audit plan. Subsequently, the audit reports along with compliance status may be submitted to NRPC Secretariat within one month of completion of audit.	Some utilities have submitted audit report. Same has been taken as agenda.
5	A.9	Review of Standard protection philosophy to be adopted in various cases (agenda by POWERGRID Nr- 3)	Forum decided that philosophy for the above cases may be finalized in the next meeting, considering the above discussion. Utilities may share the suggestions/comments if any.	Agenda has been taken.

# Status of action taken on decisions of 60<sup>th</sup> PSC

6 A.11.	Tripping of 400 kV Transmission Lines and Delay in Restoration of these 400kV lines emanating from JPL Power Station (agenda by Apraava Energy)	Forum directed IndiGrid and HVPN to provide the tripping related inputs to NRLDC. Any required remedial measures will be directed by Forum based on the discussion in the next meeting during grid event analysis.	Event has been taken for discussion during grid event analysis.
4 B.7	Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS (agenda by NRLDC)	Forum emphasized the importance of 500kV Mundra-Mahindergarh SPS and its healthiness is important to ensure rectification of issues in SPS system before summer 2025. 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.	Adani may update.

	Status of perfomance in	dices report of May 20	025 (Last da	te of submis	sion 07.06.2025)		
S. No.	Member Utility		Received	Vide mail	Remarks	Indices	Reason
			Status	dated		less than	submitted
			(Yes/No)			1	and
						(Yes/No)	corrective
							action taken
1	PGCIL	Central Government	Yes	05.06.2025	NR-1	No	NA
		owned Transmission			NR-2		L
		Company	Yes	06.06.2025	NR-3	No	NA
2	NTPC		Yes	05.06.2025	Anta	No	NA
					Auriya		
			Yes	06.06.2025	Dadri	No	NA
					Koldam		
			Yes	09.06.2025	Rihand	No	NA
					Singrauli		
		Control Constanting	Yes	06.06.2025	Unchahar	No	NA
		Company	Yes	05.06.2025	Tanda	No	NA
3	BBMB	Company					
4	THDC		Yes	06.06.2025	Tehri	No	NA
			Yes	06.06.2025	Koteshwar		
5	SJVN		Yes	06.06.2025	RHPS	No	NA
			Yes	05.06.2025	NJHPS	No	NA
6	NHPC		Yes	04.06.2025		Yes	Yes
7	NPCIL		Yes	06.06.2025	RAPS-A	No	NA
			Yes	05.06.2025	RAPS-B	No	NA
			Yes	03.06.2025	RAPS-C(5&6)	No	NA
					RAP -D (7 & 8)		
			Yes	04.06.2025	NAPS-1&2	No	NA
8	DTL		Yes	06.06.2025		Yes	Yes
9	HVPNL		Yes	13.06.2025		Yes	No
10	RRVPNL		Yes	06.06.2025		Yes	Yes
11	UPPTCL		Yes	03.06 2025	Meerut Circle	Yes	Yes
			Yes	04.06 2025	Agra Circle	Yes	No
		State Transmission	Voc	03.06.2025	Ibansi Circle	Yes	Ves
		Litility	Voc	04.06.2025	Pravagraj Circle	No	NA
		Othity	Vec	04.00.2025	Corokbour Cirolo	No	NA
			Vec	04.00.2025		No	
10	PTCIII		Yee	04.00.2025		No	NA
12	PETCI		res	00.00.2025		NU	NA
13			Vee	06.06.2025		No	N1.0
14			Yes	06.06.2025	DDC I	INO No	NA
15	IPGCL		Yes	05.06.2025	PPS-I	NO	NA
40	LIDCOL		res	05.06.2025	PPS-III, Bawana	NO	NA
16	HPGCL		Yes	04.06.2025	PTPS, Panipat	NO	NA
			Yes	04.06.2025	DCRTPP, Yamunanagar	No	NA
	DD1/////		Yes	04.06.2025	RGTPP (Khedar)	No	NA
17	RRVUNL		Yes	04.06.2025	KIPS	No	NA
			Yes	05.06.2025	CSCTPP Chhabra	No	NA
			Yes	03.06.2025	RGTPP, Ramgarh	No	NA
			Yes	03.06.2025	Ctpp,Chhabra	No	NA
			Yes	01.06.2025	DCCPP, Dholpur	No	NA
			Yes	05.06.2025	kATPP, Jhalawar	No	NA
			Yes	05.06.2025	STPS Suratgarh	No	NA
			Yes	05.06.2025	SSCTPS Suratgarh	No	NA
18	UPRVUNL				Parichha B (220 kV)		
		State Generating	Yes	02.06.2025	Parichha C (400 kV)	No	NA
		Company	Yes	05.06.2025	DTPS Anpara	No	NA
			Yes	06.06.2025	Obra A & B	No	NA
			Yes	06.06.2025	Obra C	No	NA
					Harduaganj 400 kV		
			Yes	06.06.2025	Ghatampur 765 kV	No	NA
			Yes	06.06.2025	Anpara-A&B	Yes	Yes
			Yes	06.06.2025	Panki TPS	No	NA
			Yes	06.06.2025	Jawaharpur	No	NA
19	UJVNL		Yes	04.06.2025	Dharasu	Yes	Yes
			Yes	04.06.2025	Tiloth	No	NA
			Yes	04.06.2025	Khodri	No	NA
			Yes	04.06.2025	Chibro	No	NA
			Yes	04.06.2025	Vyasi	No	NA
20	HPPCL		Yes	12.06.2025	Kashang HEP	No	NA
			Yes	12.06.2025	Sawara Kuddu	No	NA
			Yes	12.06.2025	Sainj	No	NA
21	PSPCL	State Generating	Yes	01.06.2025	RSD	No	NA
		Company & State	Yes	06.06.2025	GGSTPS, Rupnagar	No	NA
		owned Distribution	Yes	02.06.2025	GVK Power Goindwal Shahib	No	NA
		Company			Ltd.		
			Yes	06.06.2025	GHSTPS, Lehra Mohabbat	No	NA
22	HPSEBL	Distribution company	Yes	05.06.2025	Hamirpur Circle	No	NA
		having Transmission	Yes	06.06.2025	Shimla Circle	No	NA
23	Prayagraj Power Generation Co. Ltd.		Yes	01.06.2025		Yes	Yes
24	Aravali Power Company Pvt. Ltd		Yes	09.06.2025		7	
25	Apraava Energy Private Limited		Yes	04.06.2025		No	NA
26	Talwandi Sabo Power Ltd.		Yes	03.06.2025		No	NA
27	Nabha Power Limited	IPP having more than	Yes	02.06.2025		No	NA
28	MEIL Anpara Energy Ltd (Anpara-C)	1000 MW installed	Yes	14.06.2025		No	NA
29	Rosa Power Supply Company Ltd	capacity	Yes	03.06.2025	No	NA	
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30	Lalitpur Power Generation Company Ltd		Yes	04.06.2025	No	NA	
31	MEJA Urja Nigam Ltd.						
32	Adani Power Rajasthan Limited		Yes	04.06.2025	No	NA	
33	JSW Energy Ltd. (KWHEP)						
34	RENEW Power Pvt Ltd	RE Generating					
35	NTPC Green Energy Limited	Company having more	Yes	16.06.2025	Yes	No	
36	Azure Power India Pvt. Ltd.	than					
37	Avaada Energy Private Limited	1000 MW installed	Yes	07.06.2025	No	NA	
38	Adani Green Energy Limited	capacity					
39	UT of J&K						
40	UT of Ladakh	UT of Northern Region					
41	UT of Chandigarh						
	ISTS Transmission Utilities						
42	INDIGRID						
43	ADHPL		Yes	05.06.2025	No	NA	
44	Adani Transmission Limited	AESL	Yes	12.06.2025	No	NA	
45	Bikaner Khetri Transmission Limited		Yes	12.06.2025	No	NA	
46	Fatehgarh Bhadla Transmission Limited		Yes	12.06.2025	No	NA	
47	Powergrid Sikar Transmission Limited	POWERGRID, NR-1	Yes	05.06.2025	No	NA	
48	Powergrid Aligarh Sikar Transmission Limited		Yes	05.06.2025	No	NA	
49	Powergrid Ajmer Phagi Transmission Limited		Yes	05.06.2025	No	NA	
50	Powergrid Bikaner Transmission System Limited		Yes	05.06.2025	No	NA	
51	Powergrid Khetri Transmission System Limited		Yes	05.06.2025	No	NA	
52	Powergrid Ramgarh Transmission Limited		Yes	05.06.2025	No	NA	
53	Powergrid Fatehgarh Transmission Limited		Yes	05.06.2025	No	NA	
54	Powergrid Bhadla Transmission Limited		Yes	05.06.2025	No	NA	
55	Powergrid Meerut Simbhavli Transmission Limited		Yes	05.06.2025	No	NA	
56	Powergrid Kala Amb Transmission Limited	POWERGRID, NR-2					
	State Utilities						
	Uttar Pradesh						
57	Vishnuprayag Hydro Electric Plant (J.P.)		Yes	03.06.2025	No	NA	
58	Alaknanda Hydro Electric Plant (GVK)		Yes	05.06.2025	No	NA	
59	Khara Power House (Khara)		Yes	03.06.2025	Yes	Yes	
60	WUPPTCL		Yes	03.06.2025	No	NA	
61	SEUPPTCL						
62	ATSCL	AESL	Yes	12.06.2025	No	NA	
63	GTL	AESL	Yes	12.06.2025	No	NA	
64	HPTSL	AESL	Yes	12.06.2025	No	NA	
65	MTSCL	AESL	Yes	12.06.2025	No	NA	
66	OCBTL	AESL	Yes	12.06.2025	No	NA	
69	STSL	AESL	Yes	12.06.2025	No	NA	
	Rajasthan				 		
70	Barsingsar Plant	NLC	Yes	11.06.2025	No	NA	
71	Rajwest Plant	JSW	Yes	11.06.2025	No	NA	

RE	Util	itie
	oui	ILIC.

	RE Utilities		Image: Sector of the sector			
72	ABC Renewable Pvt. Ltd					
73	ACME Heeragarh powertech Pvt. Ltd					
74	ACME Chittorgarh Solar Energy Pvt Ltd					
75	Adani Hybrid Energy Jaisalmer One Ltd.					
76	Adani Hybrid Energy Jaisalmer Two Ltd.					
77	Adani Hybrid Energy Jaisalmer Three Ltd.					
78	Adani Hybrid Energy Jaisalmer Four Ltd.					
79	Adani Renewable Energy (RJ) limited Rawara					
	Adani Solar Energy Jaisalmer One Pvt. Ltd450MW					
80	(Solar)					
81	Adani Solar Enegry Four Private Limited					
82	Adani Hybrid Energy Jaisalmer Four Ltd. (AEML 2-350)					
	Adani Solar Energy Jaisalmer Two Private Limited					
83	Project Two					
84	SB Energy Six Private Limited, Bhadla					
85	Adani Solar Enegry Jodhpur Two Limited, Rawara					
86	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)					
87	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)					
88	Adani Green Energy 24 Limited (Bhimsar)					
89	Adani Green Twenty-Five Limited (Badisid)					
90	Altra Xergi Pvt. Ltd.		Yes	07.06.2025	No	NA
91	AMP Energy Green Five Pvt. Ltd.					
92	AMP Energy Green Six Pvt. Ltd.					
93	Amplus Ages Private Limited	AmPlus Solar	Yes	06.06.2025	No	NA
94	Avaada RJHN_240MW	Avaada	Yes	07.06.2025	No	NA
95	Avaada sunce energy Pvt limited		Yes	07.06.2025	No	NA
96	Avaada Sunrays Pvt. Ltd.		Yes	07.06.2025	No	NA
97	Avaada Sustainable RJ Pvt. Ltd.		Yes	07.06.2025	No	NA
98	Ayana Renewable Power Three Private Limited					
99	Ayaana Renewable Power One Pvt. Ltd.					
100	Azure Power Forty One Pvt limited					
101	Azure Power Forty Three Pvt. LtdRSS					
102	Azure Maple Pvt. Ltd.					

103	AZURE POWER INDIA Pvt. Ltd., Bhadla						
104	Azure Power Thirty Four Pvt. Ltd.						
105	Clean Solar Power (Jodhpur) Pvt. Ltd.						
106	Clean Solar Power (Bhadla) Pvt. Ltd						
107	Eden Renewable Cite Private Limited						
108	Grian Energy private limited		Yes	06.06.2025		No	NA
109	Mahindra Renewable Private Limited						
110	Mega Surya Urja Pvt. Ltd. (MSUPL)			1			
111	AURAIYA Solar						
112	DADRI SOLAR						
113	SINGRAULI SOLAR			1			
114	Anta Solar			1			
115	Unchahar Solar			1			
116	NTPC Devikot Solar plant-1	NGEL	Yes	16.06.2025		No	NA
117	NTPC Devikot Solar plant-2		Yes	16.06.2025		No	NA
118	NTPC Kolayat_400kV						
119	Nedan Solar NTPC						
120	SKB NTPC -1 (250MW)	NGEL	Yes	16.06.2025		No	NA
121	SKB NTPC-2 (300MW)		Yes	16.06.2025		No	NA
122	NTPC Nokhra_300MW		Yes	16.06.2025		Yes	No
123	NTPC Fatehgarh 296MW		Yes	16.06.2025		No	NA
124	One Volt energy Pvt. Ltd.		Yes	06.06.2025		No	NA
125	ReNew Solar Urja Private Limited	IndiGrid	Yes	04.06.2025		No	NA
126	ReNew Solar Energy (Jharkhand Three) Private Limited						
127	Renew Sun Bright Pvt   td (RSBPI)						
120	Renew Sun Wayes Private Limited (RSE.141.)						
130	Renew Surva Partap Pvt 1 td						
130	Renew Surva Ravi Pvt 1 td	ReNew					
132	Renew Surva Roshni Pvt 1 td						
132	Renew Surva Viban Pvt 1 td						
134	Renew Surva Avaan Pvt 1 td						
135	Renew Solar Photovoltaic Pyt Ltd						
135	RENEW SOLAR POWER Pvt Ltd Bikaper						
130	Rising Sun Energy-K Pvt 1 td						
138	Serentica Renewables India 4 Private Limited						
130	Tata Power Green Energy Ltd. (TPGEL)		Vec	08.06.2025		No	NA
140	Tata Power Renewable Energy Ltd. (TPREL)		Voc	08.06.2025		No	NA
140	Banderwala Solar Plant TP Surva I td	τάτα ροινγέρ	Ves	08.06.2025		No	NA
142	Thar Surva Pvt. Ltd.		103	00.00.2023		110	19/3
143	TP Surva Pvt. Ltd.			1			
140							
144	TRANSITION ENERGY SERVICES PRIVATE LIMITED						
145	Transition Green Energy Private Limited						
146	Transition Sustainable Energy Services Private Limited						

			PER	FORM	ANCE	IND	ICES			
Name o	f utility: Electricity Test & C	Commissioning Circle - Agra (TSW-A)	GRA)							Annexure-A.III
Aonth:N	AAY-2025 Sub-station	Unit/equipment	Nc	Nf	Nu	Ni	Dependability index(D)	Security index(S)	Reliability index (R)	Remarks
1		765kV Lalitpur-1	2	0	0	0	1	1	1	
2		765KV LR-1	2	0	0	0	1	1	1	
3	1	765kV Lalitpur-2	2	0	0	0	1	1	1	
4		765KV LR-2	2	0	0	0	1	1	1	
5	765KV S/S Fatenabad Agra	400kV Agra-PG	1	0	0	0	1	1	1	
6		400kV Agra-2	1	0	0	0	1	1	1	
7		400kV Mathura-1	1	0	0	0	1	1	1	
8	1	400kV Agra South	2	0	0	0	1	1	1	
9		400 KV UNNAO	4	0	0	0	1	1	1	
10	1	400 KV PG II	1	0	0	0	1	1	1	
11	400 KM S/S A CP A	400/220/33KV 315 MVA ICT III	0	0	1	1	0	0	0	Due to DC terminal contact shorting of OSR contact in Marshalling box Tripping time 09:59Hrs Dt. 6.5.2025 & Closing time 13:44Hrs Dt 6.5.2025.
12	400 KV 3/3 AGRA	220 KV IOCL I	1	0	0	0	1	1	1	
13		220 KV Shamshabad	1	0	0	0	1	1	1	-
14		220/132/11KV 160 MVA ICT I	1	0	0	0	1	1	1	
15		220/132/11KV 160 MVA ICT II	1	0	0	0	1	1	1	
16	]	220/132/11KV 160 MVA ICT III	1	0	0	0	1	1	1	
17	220 KV S/S Shamshabad	220 KV Agra4	1	0	0	0	1	1	1	
18	220 KV S/S TUNDLA	220KV AGRA PGCIL LINE	1	0	0	0	1	1	1	
19	220 KV S/S BAH	220 KV Bah -Mainpuri	2	0	0	0	1	1	1	
20		220 KV Saifai Line	2	0	0	0	1	1	1	
21	-220 KV S/S SIKANDRA	220 KV Kirawali	2	0	0	0	1	1	1	
22	400 KV S/S	400 KV Panki - Rewa Road Line	5	0	1	0	1	2	1	For unwanted triping - 400 KV Panki - Rewa Road line trip from Panki end in zone-2 and Same time at Rewa Road S/S 400 KV Rewa- Banda Line-1st tripped or Y Ph, zone-1, F/C=19000A, F/L=2 Km, (Relay sense fault in Zone-4, but not tripped at Rewa end. Line tripped at pank end only.) Tripping time 17:54Hrs Dt. 11.05.2025 & Closing time 19:05Hrs Dt 11.05.2025.
23		400 KV Panki - Unnao Line	1	0	0	0	1	1	1	
24	220 KV Phoolbagh S/S	220 KV Phoolbag - Unnao-Ist	1	0	0	0	1	1	1	
25		60 MVA T/F-I	1	0	0	0	1	1	1	
26	220 KV Panki S/S	220 KV Panki- Bithoor	1	0	0	0	1	1	1	
27	<b>`</b>	220 KV Chibramau	1	0	0	0	1	1	1	
28	220 KV Sikandara S/S	220 KV Sikandra - Orai line	1	0	0	0	1	1	1	
29	220 KV Rania	220 KV Rania - PGCIL line	1	0	0	0	1	1	1	
30	132 KV Pukharayan	132 ky Pukhrayan-lalpur TSS ckt 1	1	0	0	0	1	1	1	

31	220 KV Chhibromou	220 KV Mainpuri	1	0	0	0	1	1	1	
32		220kv Panki	1	0	0	0	1	1	1	
33	220 KV Sarh	220 KV Fatehpur PG CKT-II	1	0	0	0	1	1	1	
34	220 KV Saifai	220 KV Sikandra, Agra	2	0	0	0	1	1	1	
35	220 KV Sallal	220 KV Bharthna	1	0	0	0	1	1	1	
36	220 KV Bharthana	220 KV Saifai	1	0	0	0	1	1	1	
37		220 KV Parichha	1	0	0	0	1	1	1	
38		220kV Boner line 1	1	0	0	0	1	1	1	
39		220kV Sikandrarao line 1	1	0	0	0	1	1	1	
40	1001X S/S Aligarh	220kV Sikandrarao line 2	1	0	0	0	1	1	1	
41	400k V 5/5 Aligani	400kV Sikandrabad line	1	0	0	0	1	1	1	
42		400kV Shamli line	1	0	0	0	1	1	1	
43		400kV Harduaganj line	1	0	0	0	1	1	1	
44	220KV S/S Sikandraraa	220kV Aligarh line 1	1	0	0	0	1	1	1	
45		220kV Aligarh line 2	1	0	0	0	1	1	1	
46		220kV Akrabad line 1	1	0	0	0	1	1	1	
47	220kV S/S Boner	220kV Harduaganj line	1	0	0	0	1	1	1	
48		160 MVA T/F-II	1	0	0	0	1	1	1	
49		220kV Bah line	2	0	0	0	1	1	1	
50		220kV PGCIL Kanpur line	2	0	0	0	1	1	1	
51	220kV S/S Mainpuri	220kV Chhibramau line	1	0	0	0	1	1	1	
52		220kV PGCIL Mainpuri line	1	0	0	0	1	1	1	
53		220kV JTPS line	2	0	0	0	1	1	1	
54	220kV S/S Kasganj	220kV JTPS line	1	0	0	0	1	1	1	
55		220 KV Gokul Agra Line	1	0	0	0	1	1	1	
56	220 KV S/S Gokul	220 KV Gokul Mant Line(400KV Mant)	1	0	0	0	1	1	1	
57		400 KV MURADNAGAR LINE	1	0	0	0	1	1	1	
58	400 KV S/ Mant Mathura	400 KV FATEHABAD-II LINE	1	0	0	0	1	1	1	
59		500 MVA ICT-III	1	0	0	0	1	1	1	
60	400 KV GIS Agra South	400 KV Firozabad Line	1	0	0	0	1	1	1	
61	Agra	400 KV Fatehabad Line	1	0	0	0	1	1	1	
62		220 KV Sikandra	1	0	0	0	1	1	1	
63	220 KV Kirawali	220 KV PGCIL Line	1	0	0	0	1	1	1	
64		100 MVA TF-I	1	0	0	0	1	1	1	
	TOTAL			0	2	1				
Dependa	ependability index (D) D=(Nc/(Nc+Nf))									
Security	ccurity Index (S) S=(Nc/(Nc+Nu))									
Relibali	elibality Index (R) R=(Nc/(Nc+Ni))									

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.	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	Anpara BTPS	Anpara-Sarnath ckt-2	01.05.2025 04:40 HR	U	Line tripped on Zone -1 fault, B phase earth fault,Auto reclose not operated due to carrier fail.	PLCC is working healthy now. Auto reclose logic modified for carrier fail condition as discussed with UPSLDC,UPPTCL.Checking of PLCC panel is planned this month by OEM for counter reading.

Format NoPI-01
Reporting of performance indices for protectin system
(for elements connected at 220KV and above)
Name of utility: DHARASU POWER HOUSE MB-II
Months May 2025

S.No.	Sub Station	unit (SPS/Line/ICT/GT/etc)	FROM	то	Total Outage	Outage Reason	Ne	Nf	Nu	Ni	Dependability Index (D=Nc/Nc+Nf)	Security Index (S=Nc/Nc+Nu)	Reliability Index (R=Nc/Nc+Ni)	Reason of Failure to operate or unwanted/incorrect operation	Corrective Action Taken
1	MB-II 220KV S/Y	UK-1 Feeder (86)	15 05 2025, 15:23 Hr	20:08 Hrs	04,45 Hrs	Distance pickup on L3E at 23 3Km.	1	Nil	Nil	Nil	1	1	I	NA	NA
2	MB-II 220KV S/Y	UK-2 Feeder (82)	15.05.2025, 16:32 Hr	17:01 Hrs	00:31 Hrs	Distance pickup on L3E at 26.3Km.	1	Nil	Nil	Nil	1	1	1	NA	NA
3	MB-II 220KV S/Y	RK-1 Feeder (88)	04 05 2025, 16:34 Hr	17:01 Hrs	00:27 Hrs	Busbar protection optd.	1	Nil	1	1	1	0.5	0.5		Checked the functionality of relays installed in Feeder # 81 & found ok. Also OEM/Authorized service provider is being called to
4	MB-II 220KV S/Y	RK-2 Feeder (81)	04.05.2025, 16:10 Hrs 16:34 Hr	16:34 Hrs 10:36 Hrs	00.24 Hrs 18.02 Hrs	Distance pickup on L2E at 62.3Km. Busbar protection optd.	2	Nil	I	1	ĩ	0.66	0.66	LBB contact stick which results the operation of Busbar protection during the closing of feeder# 81 after resetting the L2E fault. Due to this Fdr # 88, 84, 81, SMVA, B/C.	
5	MB-II 220KV S/Y	Chamba Feeder (84)	04.05.2025, 16.34 Hrs 06.05.2025 19.29 Hr	17:02 Hrs 20:03 Hrs	00:28 Hrs	Busbar protection optd. Distance pickup on L1E at 9.3Km.	2	Nil	1	1	1	0.66	0.66	Gen. Unit # 3 & 4 tripped. Also due to the unavailability of power evecuation path the running units of upsteam Plant (Tiloth Power House) also tripped.	analyse the root cause of tripping 8 further testing of relays. Dex files of Dis. Protection, BU
6	MB-II 220KV S/Y	Stn. T/F	04 05 2025, 16:34 Hr	17:09 Hrs	00:35 Hr	s Busbar protection optd	1	Nil	1	а	1	0.5	0.5		& MOU is already forwared to OEM for analysis.

 $(\mathbf{a})$ 

Nc is the number of correct operations at internal power system faults. Nf is the number of failuers 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.

JE( Pest)

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Executive Engineer (Test) UJVN Ltd. Dharasu Prover Nouse Chinyalissur (Uraskachi)

AE(Test)

#### Format No.-PI-01 Reporting of performance indices for protection system (for elements connected at 220 kV and above Name of Utility: Delhi Transco Ltd

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Month: May 2025

S. No.	Substation	Unit (SPS/Line/ICT/GT etc)	Nc	Nf	Nu	Ni	Dependability Index (D=Nc/(Nc+Nf))	Security Index (S=Nc/(Nc+Nu))	Reliability Index (R=Nc/(Nc+Ni))	Remedial Action Taken (if applicable)
1	400kV Harsh Vihar	400kV Dadri Ckt-1	1	0	0	0	1	1	1	
		400kV Dadri Ckt-2	1	0	0	0	1	1	1	
2	400kV Bawana	315MVA ICT-4	0	0	1	1	0	0	0	Tripping occurred due to inadverent switching operation.
		315MVA ICT-5	1	0	0	0	1	1	1	
		315MVA ICT-6	1	0	0	0	1	1	1	
		220kV DSIDC Bawana Ckt-1	2	0	0	0	1	1	1	
		220kV DSIDC Bawana Ckt-2	1	0	0	0	1	1	1	
3	400kV Mundka	400kV Jhajhar Ckt-1	1	0	0	0	1	1	1	
		400kV Jhatikara Ckt-2	1	0	0	0	1	1	1	
		315MVA ICT-2	1	0	0	0	1	1	1	
		315MVA ICT-3	1	0	0	0	1	1	1	
		315MVA ICT-4	1	0	0	0	1	1	1	
		220kV Najafgarh Ckt	1	0	0	0	1	1	1	
		220kV Kanjhawala Ckt	1	0	0	0	1	1	1	
		220kV Peeragarhi Ckt-2	1	0	0	0	1	1	1	
		160MVA Transformer-III (220/66kV)	1	0	0	0	1	1	1	
4	400kV Bamnauli	400kV Tuglakabad Ckt-1	2	0	0	0	1	1	1	
		220kV Pappankalan-1 Ckt-1	1	0	0	0	1	1	1	
		220kV Pappankalan-1 Ckt-2	1	0	0	0	1	1	1	
		220kV Pappankalan-2 Ckt-2	1	0	0	0	1	1	1	
		220kV DIAL Ckt-2	3	0	0	0	1	1	1	
		220kV Najafgarh Ckt-2	1	0	0	0	1	1	1	
5	220kV South of Wazirabad	220kV Mandola Ckt-1	3	0	0	0	1	1	1	
		220kV Mandola Ckt-2	1	0	0	0	1	1	1	
		220kV Geeta Colony Ckt-1	1	0	0	0	1	1	1	
		220kV Gopalpur Ckt-2	1	0	0	0	1	1	1	
6	220kV Gopalpur	220kV Mandola Ckt-1	3	0	0	0	1	1	1	
		100MVA Transformer-3 (220/33kV)	1	0	0	0	1	1	1	

S. No.	Substation	Unit (SPS/Line/ICT/GT etc)	Nc	Nf	Nu	Ni	Dependability Index	Security Index (S=Nc/(Nc+Nu))	Reliability Index (R=Nc/(Nc+Ni))	Remedial Action Taken (if applicable)
7	220W/Narola	220W/Mandala Ckt 2	1	0	0	0	$\frac{D=NC/(NC+NT)}{1}$	1	1	
/		220kV Midliuoid Ckt-2	1	0	0	0	1	1	1	
		220kV Rolliak Road Ckt-1	1 2	0	0	0	1	1	1	
			2	0	0	0	1	1	1	
Q		220kV Abyar Ckt-1	Λ	0	0	0	1	1	1	
0	ZZUKV DIFJ	220kV Alwal Ckt-1 220kV Ballabgarh Ckt-1	7	0	0	0	1	1	1	
		220kV Ballabgarh Ckt-1	2	0	0	0	1	1	1	
		220kV Dailabgarn Ckt-2	1	0	0	0	1	1	1	
		220kV Akhla Ckt-1	1	0	0	0	1	1	1	
			-	0	-	0	<b>±</b>	1	-	
9	220kV DIAI	220kV Bamnauli Ckt-2	3	0	0	0	1	1	1	
			-		-		_	_	_	
10	220kV IP	220kV Patpargani Ckt-1	2	0	0	0	1	1	1	
		220kV Patpargani Ckt-2	2	0	0	0	1	1	1	
				-	-	-				
11	220kV Kanihawala	220kV Naiafgarh Ckt	1	0	0	0	1	1	1	
					-	-				
12	220kV Maharani Bagh	220kV Gazipur Ckt-1	1	0	0	0	1	1	1	
	Ŭ	220kV Gazipur Ckt-2	1	0	0	0	1	1	1	
13	220kV Mehrauli	220kV DIAL Ckt-2	1	0	0	0	1	1	1	
		220kV Tuglakabad Ckt-1	1	0	0	0	1	1	1	
		220kV Tuglakabad Ckt-2	2	0	0	0	1	1	1	
14	220kV Najafgarh	220kV Bamnauli Ckt-1	1	0	0	0	1	1	1	
		220kV Bamnauli Ckt-2	1	0	0	0	1	1	1	
15	220kV Okhla	100MVA Transformer-III (220/33kV)	1	0	0	0	1	1	1	
		100MVA Transformer-IV (220/33kV)	1	0	0	0	1	1	1	
		100MVA Transformer-V (220/33kV)	1	0	0	0	1	1	1	
		100MVA Transformer-II (220/66kV)	1	0	0	0	1	1	1	
16	220kV Pappankalan-I	220kV Bamnauli Ckt-2	1	0	0	0	1	1	1	
17	220kV Ridge Valley	160MVA Transformer-I (220/66kV)	1	0	0	0	1	1	1	
18	220kV Rohini	220kV Shalimar Bagh Ckt-1	1	0	0	0	1	1	1	
19	220kV Sarita Vihar	220kV Pragati Ckt-1	2	0	0	0	1	1	1	
		220kV Maharani Bagh	1	0	0	0	1	1	1	
20	220kV SGTN	220kV Shalimar Bagh Ckt-1	1	0	0	0	1	1	1	
		220kV Shalimar Bagh Ckt-2	1	0	0	0	1	1	1	

S. No.	Substation	Unit (SPS/Line/ICT/GT etc)	Nc	Nf	Nu	Ni	Dependability Index (D=Nc/(Nc+Nf))	Security Index (S=Nc/(Nc+Nu))	Reliability Index (R=Nc/(Nc+Ni))	Remedial Action Taken (if applicable)
21	220kV Shalimar Bagh	220kV SGTN Ckt-1	1	0	0	0	1	1	1	
		220kV SGTN Ckt-2	1	0	0	0	1	1	1	
22	220kV Geeta Colony	100MVA Transformer-1 (220/33kV)	1	0	0	0	1	1	1	
		220kV South of Wazirabad Ckt-1	1	0	0	0	1	1	1	
23	220kV Subzi Mandi	220kV Timarpur Ckt-2	1	0	0	0	1	1	1	
		100MVA Transformer-2 (220/33kV)	2	0	0	0	1	1	1	
24	220kV Timarpur	220kV Subzi Mandi Ckt-2	1	0	0	0	1	1	1	
25	220kV Tuglakabad	220kV BTPS Ckt-1	1	0	0	0	1	1	1	
		220kV BTPS Ckt-2	1	0	0	0	1	1	1	
		220kV Mehrauli Ckt-2	2	0	0	0	1	1	1	
26	220kV Wazirpur	220kV Peeragarhi Ckt-2	1	0	0	0	1	1	1	
27	220kV Rajghat	100MVA Transformer-1 (220/33kV)	1	0	0	0	1	1	1	
		100MVA Transformer-2 (220/33kV)	1	0	0	0	1	1	1	
28	220kV Vasant Kunj	100MVA Transformer-1 (220/66kV)	1	0	1	1	1	0.5	0.5	Transformer tripped on HV REF. After DR analysis and SLG testing, HV NCT ratio revised as per actual.
29	220kV Masjid Moth	100MVA Transformer-1 (220/33kV)	1	0	0	0	1	1	1	
		100MVA Transformer-2 (220/33kV)	1	0	0	0	1	1	1	

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

#### Annexure-X

#### Format No.-PI-01

#### Reporting of performance indices for protection system

(for elements connected at 220 kV and above)

#### Name of Utility: HVPNL

#### Month: May 2025

S.N.	Substation	Unit (SPS/Line/ICT/GT/ etc)	Nc	Nf	Nu	Ni	Dependability Index (D=Nc/Nc+Nf)	Security Index (S=Nc/Nc+Nu)	Reliability Index (R=Nc/Nc+Ni)
M&P Division (	Gurugram								
1	400kV Daultabad	400kV Jhajjar-Daultabad Ckt -2	1	0	0	0	1	1	1
2	400kV Daultabad	400kV Jhajjar-Daultabad Ckt-1	1	0	0	0	1	1	1
3	400kV Daultabad	400kV Daultabad - Sector-72_PG Gurugram Ckt- 1	1	0	0	0	1	1	1
4	400kV Daultabad	400kV Daultabad - Sector-72_PG Gurugram Ckt- 2	1	0	0	0	1	1	1
5	400KV Dhanonda	400kV Dhanonda-Daultabad Ckt-1	1	0	0	0	1	1	1
6	400KV Dhanonda	220kV Dhanonda- Lula Ahir Ckt-1	1	0	0	0	1	1	1
7	220KV Mau	220KV Mau-Manesar_PG Ckt-1	1	0	0	0	1	1	1
8	220KV Rewari	220KV Rewari-Bhiwadi Ckt-1	1	0	0	0	1	1	1
9	220KV Mau	220KV Mau-MSIL line	1	0	0	0	1	1	1
10	220KV Badshapur	220KV Badshapur-BBMB Samaypur Ckt-1	1	0	0	0	1	1	1
11	220KV Badshapur	220KV Badshapur-BBMB Samaypur Ckt-2	1	0	0	0	1	1	1
12	220KV Sector-65 Gurugram	220KV Sector-65 Gurugram-Kadarpur Ckt-2	1	0	0	0	1	1	1
13	400KV Daultabad	400KV Daultabad-Dhanonda Ckt-2	1	0	0	0	1	1	1
14	400KV Daultabad	400KV Sector-72 Gurugram_PG- Daultabad Ckt-1	1	0	0	0	1	1	1
15	220KV Sector-95 Gurugram	220KV Sector-95 (Gurugram)-MSIL line	1	0	0	0	1	1	1
16	220KV Rewari	220KV Rewari-Bhiwadi Ckt-1	1	0	0	0	1	1	1
17	220KV Rewari	220KV Rewari-Bhiwadi Ckt-2	1	0	0	0	1	1	1
18	400KV Daultabad	400KV Daultabad to Sec-72_PG Ckt-1	1	0	0	0	1	1	1

19	400KV Daultabad	400KV Daultabad to Sec-72_PG Ckt-2	1	0	0	0	1	1	1
20	220KV Panchgaon	220/33KV 100MVA T-1	1	0	0	0	1	1	1
21	220kV Daultabad	220kV Bus Coupler	1	0	0	0	1	1	1
22	400kV Daultabad	400/220KV 315MVA ICT-2	1	0	0	0	1	1	1
23	400kV Daultabad	400/220KV 315MVA ICT-3	1	0	0	0	1	1	1
24	400kV Daultabad	400/220KV 315MVA ICT-4	1	0	0	0	1	1	1
25	220KV Lula Ahir	220KV Dadri(BBMB)-Lula Ahir line	1	0	0	0	1	1	1
26	220KV Mau	220KV Mau-IMT Bawal line	1	0	0	0	1	1	1
M&P Division I	lisar								
1	220 KV S/Stn. Sangwan	220 KV Hisar PG – Sangwan Ckt. I	1	0	0	0	1	1	1
2	220 KV S/Stn. Sangwan	220 KV Hisar PG – Sangwan Ckt. II	1	0	0	0	1	1	1
3	220 KV S/Stn. Sirsa	220 KV Fatehabad PG – Sirsa Line	1	0	0	0	1	1	1
4	220 KV S/Stn. Hukmawali	220 KV Fatehabad PG – Hukmawali Ckt. I	1	0	0	0	1	1	1
5	220 KV S/Stn. Bhiwani	220 KV BBMB – Bhiwani Ckt. 01	3	0	0	0	1	1	1
6	220 KV S/Stn. Bhiwani	220 KV BBMB – Bhiwani Ckt. 02	3	0	0	0	1	1	1
7	220 KV S/Stn. Bhiwani	220 KV Bhiwani PG – Bhiwani Ckt. 02	1	0	0	0	1	1	1
8	400 KV S/Stn. Kirori	400 KV Kirori – Jind PG Ckt. 01	2	0	0	0	1	1	1
9	220 KV S/Stn. Jind	220 KV Jind – PTPS Ckt. 02	1	0	0	0	1	1	1
10	220 KV S/Stn. Fatehabad	220 KV Hisar PG – Fatehabad Ckt. 02	1	0	0	0	1	1	1
11	220 KV S/Stn. Narwana	220 KV Jind PG – Narwana Ckt. 02	1	0	0	0	1	1	1
M&P Division I	Faridabad								
1	400KV Nawada	400LV Nawada-Greater Noida line. (03.05.2025)	1	0	0	0	1	1	1
2	220KV Palli	220KV BBMB S/Pur-Palli Ckt-2. (05.05.2025)	1	0	0	0	1	1	1
3	220KV FGPP	220KV FGPP-Sector-58 Faridabad Ckt-1	1	0	0	0	1	1	1
4	220KV Palli	220KV Palli-BBMB Samaypur Ckt-2. (15.05.2025)	1	0	0	0	1	1	1
5	220KV Harfali	220KV Harfali-BBMB Samaypur Line (15.05.2025)	1	0	0	0	1	1	1

6	220KV Palwal	220KV Palwal-BBMB Samaypur Ckt-1. (15.05.2025)	1	0	0	0	1	1	1
7	220KV Sector-58 Faridabad	220KV FGPP- Sector-58 Faridabad Ckt-1. (16.05.2025)	1	0	0	0	1	1	1
8	220KV Sector-58 Faridabad	220KV FGPP- Sector-58 Faridabad Ckt-2. (16.05.2025)	1	0	0	0	1	1	1
9	220KV Sector-78 Faridabad	220KV FGPP- Sector-78 Faridabad Ckt-1. (16.05.2025)	1	0	0	0	1	1	1
10	220KV Sector-78 Faridabad	220KV FGPP- Sector-78 Faridabad Ckt-2. (16.05.2025)	1	0	0	0	1	1	1
11	220KV Palla	220KV FGPP- Palla line.(16.05.2025)	1	0	0	0	1	1	1
12	220KV Palli	220KV Palli-Kadarpur Ckt-1. (16.05.2025)	0	0	1	1	0	0	0
13	220KV Palli	220KV Palli-Kadarpur Ckt-2. (16.05.2025)	1	0	0	0	1	1	1
14	220KV Palli	220KV S/Pur(BBMB)- Palli Ckt-2. (16.05.2025)	1	0	0	0	1	1	1
15	400KV Nawada	220kV Nawada- DFCCIL Ckt-2. (16.05.2025)	1	0	0	0	1	1	1
16	400KV Nawada	220kV Nawada- DFCCIL Ckt-1. (16.05.2025)	1	0	0	0	1	1	1
17	400KV G/Noida	400KV G/Noida-Nawada line. (16.05.2025)	1	0	0	0	1	1	1
18	100KV Nawada	400/220MIV/A 315MIV/A ICT 3	0	0	4	1	<b>n</b>	<b>n</b>	0
10		400/220101VA 313101VA 101-3	U	v	•		<mark>0</mark>	U U	0
19	220KV Palli	220KV Palli-Kadarpur Ckt-1. (17.05.2025)	<b>0</b> 1	0	0	0	0 1	1	1
19 20	220KV Palli 400KV Nawada	220KV     Palli-Kadarpur     Ckt-1.       (17.05.2025)     400KV     Nawada-G/Noida     Ckt-1.       (17.05.2025)     Ckt-1.     Ckt-1.     Ckt-1.	0 1 1	0	0 0	0 0	1 1	1 1	1 1
19 20 21	220KV Palli 400KV Nawada 220KV Palwal	220KV     Palli-Kadarpur     Ckt-1.       (17.05.2025)     400KV     Nawada-G/Noida     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.	0 1 1 1	0 0 0 0	• 0 0 0	• 0 0 0	1       1       1       1       1	1 1 1	1 1 1
19 20 21 22	220KV Palli 400KV Nawada 220KV Palwal 220KV Palwal	220KV     Palli-Kadarpur     Ckt-1.       (17.05.2025)     400KV     Nawada-G/Noida     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV S/pur-Palli Ckt-2.     (21.05.2025)	0 1 1 1 1 1	0 0 0 0	• 0 0 0	0 0 0 0	0       1       1       1       1       1       1       1	1 1 1 1 1	1 1 1 1 1
10   19   20   21   22   23	220KV Palli 400KV Nawada 220KV Palwal 220KV Palli 220KV Palli	220KV     Palli-Kadarpur     Ckt-1.       (17.05.2025)     400KV     Nawada-G/Noida     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Kadarpur-Palli     Ckt-2.       (21.05.2025)     220KV     Kadarpur-Palli     Ckt-2.	1       1       1       1       1       1       1       1	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0       1       1       1       1       1       1       1       1       1       1       1       1	1 1 1 1 1 1	1 1 1 1 1 1
19 20 21 22 23 24	220KV Palli 400KV Nawada 220KV Palwal 220KV Palli 220KV Palli 220KV Palli	220KV     Palli-Kadarpur     Ckt-1.       (17.05.2025)     400KV     Nawada-G/Noida     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Kadarpur-Palli     Ckt-2.       (21.05.2025)     220KV     Kadarpur-Palli     Ckt-2.       (21.05.2025)     220KV S/pur-Palwal line.     (21.05.2025)	1 1 1 1 1 1 1 0	0 0 0 0 0 0 0	0 0 0 0 0 0 1	0 0 0 0 0 0 1	0   1   1   1   1   1   1   0	1   1   1   1   1   1   0	1 1 1 1 1 1 1 1 0
10     19     20     21     22     23     24     25	220KV Palli 400KV Nawada 220KV Palwal 220KV Palli 220KV Palli 220KV Palli 220KV Palwal 220KV Palwal	220KV   Palli-Kadarpur   Ckt-1.     (17.05.2025)   400KV   Nawada-G/Noida   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   S/pur-Palli Ckt-2.   (21.05.2025)     220KV   Kadarpur-Palli   Ckt-2.   (21.05.2025)     220KV   S/pur-Palwal line.   (21.05.2025)   220KV Palwal-Harfali line	1   1   1   1   1   1   1   1   1   1   1   1   1   1   1	0 0 0 0 0 0 0 0	0 0 0 0 0 1 0	0 0 0 0 0 0 1 0	0   1   1   1   1   1   1   0   1	1   1   1   1   1   1   0   1	1 1 1 1 1 1 1 0 1
10     19     20     21     22     23     24     25     26	220KV Palli 400KV Nawada 220KV Palwal 220KV Palli 220KV Palli 220KV Palwal 220KV Palwal 220KV Palwal 220KV Palwal	220KV     Palli-Kadarpur     Ckt-1.       (17.05.2025)     400KV     Nawada-G/Noida     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Palwal-Prithala     Ckt-1.       (17.05.2025)     220KV     Kadarpur-Palli     Ckt-2.       (21.05.2025)     220KV     Kadarpur-Palli     Ckt-2.       (21.05.2025)     220KV Palwal-Harfali line     220KV Palwal-Harfali line       220KV     BBMB     S/pur-Harfali     line.       (21.05.2025)     220KV     220KV     BMB	0   1   1   1   1   1   1   1   0   1   0   1	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1	0 0 0 0 0 1 0 1	0     1     1     1     1     1     1     1     1     1     1     1     1     0     1     0     1     0     1     0	1     1     1     1     1     0     1     0     1     0     1     0     1     0     1	0   1   1   1   1   0   1   0   1   0   1   0
10     19     20     21     22     23     24     25     26     27	220KV Palli 400KV Nawada 220KV Palwal 220KV Palli 220KV Palli 220KV Palwal 220KV Palwal 220KV Palwal 220KV Palwal 220KV Palwal	220KV   Palli-Kadarpur   Ckt-1.     (17.05.2025)   400KV   Nawada-G/Noida   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV S/pur-Palli Ckt-2. (21.05.2025)   220KV   Kadarpur-Palli   Ckt-2.     (21.05.2025)   220KV S/pur-Palwal line. (21.05.2025)   220KV Palwal-Harfali line   220KV BBMB   S/pur-Harfali   line.     (21.05.2025)   220KV Samaypur(BBMB)-Palli   Ckt-1.   (25.05.2025)	0   1   1   1   1   1   1   0   1   0   0   0   0   0	0 0 0 0 0 0 0 0 0 0 0	0   0   0   0   0   1   1   1	0 0 0 0 0 1 0 1 1	0   1   1   1   1   1   0   1   0   0   0   0   0   0	1     1     1     1     1     1     1     1     0     1     0     0     0     0     0     0     0     0	0   1   1   1   1   1   0   1   0   0   0   0   0
10     19     20     21     22     23     24     25     26     27     28	220KV Palli 400KV Nawada 220KV Palwal 220KV Palwal 220KV Palli 220KV Palwal 220KV Palwal 220KV Palwal 220KV Palwal 220KV Palli	220KV   Palli-Kadarpur   Ckt-1.     (17.05.2025)   400KV   Nawada-G/Noida   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Kadarpur-Palli   Ckt-2.     (21.05.2025)   220KV   Kadarpur-Palli   Ckt-2.     (21.05.2025)   220KV   BBMB   S/pur-Harfali   line.     (21.05.2025)   220KV   BBMB   S/pur-Harfali   line.     (21.05.2025)   220KV   Samaypur(BBMB)-Palli   Ckt-1.     (25.05.2025)   220KV   Samaypur(BBMB)-Palli   Ckt-1.     (25.05.2025)   220KV   Samaypur(BBMB)-Palli   Ckt-2.	0   1   1   1   1   1   0   1   0   0   0   0   0   0   0   0   0   0	0 0 0 0 0 0 0 0 0 0 0	0   0   0   0   0   1   1   1	0   0   0   0   1   1   1	0     1     1     1     1     1     1     1     1     1     0     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0	1     1     1     1     1     1     0     1     0     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0	0   1   1   1   1   1   0   1   0   0   0   0   0   0   0   0   0
10     19     20     21     22     23     24     25     26     27     28     29	220KV Palli 400KV Nawada 220KV Palwal 220KV Palwal 220KV Palli 220KV Palwal 220KV Palwal 220KV Palwal 220KV Palli 220KV Palli 220KV Palli	220KV   Palli-Kadarpur   Ckt-1.     (17.05.2025)   400KV   Nawada-G/Noida   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV   Palwal-Prithala   Ckt-1.     (17.05.2025)   220KV S/pur-Palli Ckt-2. (21.05.2025)   220KV     220KV   Kadarpur-Palli   Ckt-2.     (21.05.2025)   220KV Palwal-Harfali line   220KV Palwal-Harfali line.     220KV   BBMB   S/pur-Harfali   line.     (21.05.2025)   220KV Samaypur(BBMB)-Palli   Ckt-1.     (25.05.2025)   220KV Samaypur(BBMB)-Palli   Ckt-2.     220KV   Palli-Kadarpur   Ckt-1.	0   1   1   1   1   1   0   1   0   0   0   0   1   1   1   1   1   0   1   1   1   1   1   1   1   1   1   1   1   1   1	0 0 0 0 0 0 0 0 0 0 0 0 0	0   0   0   0   0   1   1   1   0	0   0   0   0   0   1   1   1   0	0     1     1     1     1     1     1     1     1     0     1     0     1     0     1     0     1     1     0     1     1     1     1     1     1     1     1     1     1	1     1     1     1     1     1     0     1     0     1     0     1     0     1     0     1     0     1     1     1     1     1     1     1     1     1     1     1     1	0   1   1   1   1   1   0   1   0   1   0   1   0   1   0   1   1   0   1   0   1   1   1   1   1   1   1   1   1

31	220KV Rangala	220KV Sohna Road-Rangala Rajpur	1	0	0	0	1	1	1
51	Rajpur	Ckt-1. (25.05.2025)	•	U	v	Ŭ	1	•	1
32	220KV Rangala	220KV Sohna Road-Rangala Rajpur	1	0	0	0	1	1	1
52	Rajpur	Ckt-2. (25.05.2025)	•	U	v	Ŭ	1	•	1
33	220KV Palwal	220KV Prithla-Palwal Ckt-2. (25.05.2025)	1	0	0	0	1	1	1
34	220KV Palwal	220KV Samaypur(BBMB)-Palwal line. (25.05.2025)	1	0	0	0	1	1	1
35	220KV Palli	220KV Palli-Kadarpur Ckt-2. (26.05.2025)	1	0	0	0	1	1	1
36	220KV Palli	220KV Palli-Kadarpur Ckt-1. (26.05.2025)	0	0	<mark>1</mark>	1	0	<mark>0</mark>	0
37	220KV Palli	220KV Palli-Kadarpur Ckt-1. (26.05.2025)	<mark>0</mark>	0	1	1	0	<mark>0</mark>	0
38	220KV Palli	220KV Palli to Sec-46 Ckt-1. (26.05.2025)	1	0	0	0	1	1	1
39	220KV Palli	220KV Palli to Sec-46 Ckt-2. (26.05.2025)	1	0	0	0	1	1	1
40	220KV Palli	220KV Palli-Kadarpur Ckt-1. (27.05.2025)	0	0	1	1	0	0	0
41	220KV Palli	220KV Palli-Kadarpur Ckt-1. (28.05.2025)	0	0	<mark>1</mark>	1	0	0	0
42	220KV Palli	220KV BBMB S/Pur-Palli Ckt-1. (29.05.2025)	1	0	0	0	1	1	1
43	220KV Palli	220KV BBMB S/Pur-Palli Ckt-2. (29.05.2025)	1	0	0	0	1	1	1
44	220KV Rangala Rajpur	220/33KV 100MVA T-1. (30.05.25)	1	0	0	0	1	1	1
M&P Division	Dhulkote								
1.	220 KV Madanpur	220 KV Madanpur- Raiwali	1	0	0	0	1	1	1
2.	220 KV Sec32	220 kV Sec32Panchkula-PKL-PG ckt-	1	0	0	0	1	1	1
	Panchkula	2(07.05.2025)	-	•			-		-
3.	220 KV Pinjore	220 kV Pinjore- Naggal PG ckt- 2(15.05.2025)	1	0	0	0	1	1	1
4.	220 KV Shahbad	220 KV Shahbad - Durala Ckt 1(19.05.2025)	1	0	0	0	1	1	1
5.	220 KV Pinjore	220 kV Pinjore- Naggal PG ckt- 1(21.05.2025)	1	0	0	0	1	1	1
6.	220 KV Pinjore	220 kV Pinjore- Baddi ckt- 1(21.05.2025)	1	0	0	0	1	1	1
7.	220 KV Pinjore	220 kV Pinjore- Baddi ckt- 2(21.05.2025)	1	0	0	0	1	1	1
M&P Division F	Rohtak	· · · ·							
1	220kV Daultabad	220kv Daultabad - Nuna Majra line	1	0	0	0	1	1	1
2	400kV Kabulpur	220kV Kabulkpur - Badhana Ckt1	1	0	0	0	1	1	1

3		220kV Kabulkpur - Badhana Ckt2	1	0	0	0	1	1	1
4	220kV Chhajpur	220kV Sewah (BBMB) - Chhajpur Ckt 2	1	0	0	0	1	1	1
5	220kV Rohtak	220kV Rohtak - PTPS Ckt2	1	0	0	0	1	1	1
6	220kV Chajjpur	220kV Sewah (BBMB) - Chajjpur Ckt 1	1	0	0	0	1	1	1
7		220kV B/Garh_PG - Nuna Majra Ckt-1	1	0	0	0	1	1	1
8	220kv Nuna Majra	220kV B/Garh_PG - Nuna Majra Ckt-2	1	0	0	0	1	1	1
9	220kV GIS Rai	220kV Sonipat_PG - GIS Rai Ckt1	1	0	0	0	1	1	1
M&P Division I	Karnal					•			
1	220KV Substation kaithal	220KV Kaithal-PG-kaithal ckt-I	2	0	0	0	1	1	1
2	220KV substation Bastara	220KV Bastara- Kurukshetra PG Ckt-2	1	0	0	0	1	1	1
3	220KV substation Kaul	220KV kaul- Kurukshetra PG Ckt-2	2	0	0	0	1	1	1
4	220KV Substation Neemwala	220KV PGCIL kaithal –Neemwala Ckt-1	2	0	0	0	1	1	1
5	220KV Substation Neemwala	220KV PGCIL kaithal –Neemwala Ckt-2	2	0	0	0	1	1	1

#### 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.

Sr. No	Dated	Divn	Name of sub/ station	Trippin g /Break down	Lengt h of line	Durat /Brea	ion of T k down	ripping	Relays Op along with Data	erated 1 Relay	Reason s of Trippin a	Area Affected if any	Analysis of Tripping/Break down by designated committee.	Remar ks if any.
				elemen t		Fro m (Hrs .)	To (Hrs .)	Total (Hrs.)	This end (Reporti ng Substati on)	Other end (in case of line)	/break -down			
1	03.05 .25	XEN 400 KV	400KV Nawada	400LV Nawad a- Greater	29.93 Km	15:4 9	16:3 0	00:41	Not Tripped	Bus bar protectio n operated	Transie nt fault	NIL	The 400kV Nawada – Greater Noida line tripped due to operation of Bus Bar Protection at 400kV S/Stn. Noida end. No tripping	

		Naw ada		Noida line									occurred at 400kV S/Stn.Nawada. The line is under the jurisdiction of UPPCL and being maintained by them.	
2	05.05 .25	XEN TS Fari daba d	220KV Palli	220KV BBMB S/Pur- Palli Ckt-2	9.85K m	12:2 3	16:2 0	03:57	DPR, Z-4 RYB-Ph &D=26.4 6Km	RYB-Ph & MR-86	Transie nt Fault	3No 66KV S/Stn up to 12:45hrs * 66KV NH- 3, Load affected 25MW & Population affected 39300 * 66KV FCI Load affected 25MW & Population affected 68500 * 66KV Dhouj Load affected 14MW & Population affected 20000	The 220kV Pali – Samaypur Ckt-2 tripped from both ends with following relays. At 220kV Pali end: DPS Main – 1,Started Phase–A,B,C, Tripped Phase ABC. At 220kV Samaypur BBMB end : DPS Main-1,Z-4, RYB Phase Distance = 26.46 km. During patrolling of the line no fault was found. Line probably tripped due to transient fault.	
3	16.05 .25	XEN TS Fari daba d	220KV Sector-58 Faridabad	220KV FGPP- Sector- 58 Faridab ad Ckt-1	16.3K m	17:3 1	19:3 9	02:08	DPR, Z- 2, R&B- ph, Master8 6 relay	DPR, Z- 1, D=0.071 Km, R- ph, Master8 6 relay	Transie nt fault	NIL	The 220kV FGPP – Sector 58 Ckt-1 tripped with the opeartion of following relays. At Sector 58 end: DPS, Z-1, R-ph, Dist.: 0.071km, Fault current: 27kA. At FGPP end: DPS z-2, R-ph, Dist.: 23.95km, fault current: 1.93kA. The line tripped on transient nature of fault as there was heavy rain and thunder storm in the area.	
4	16.05 .25	XEN TS Fari daba d	220KV Sector-58 Faridabad	220KV FGPP- Sector- 58 Faridab ad Ckt-2	16.3K m	17:3 1	19:5 2	02:21	DPR, Z- 1, D=23.95 Km, RYB-ph, Master8 6 relay	DPR, Z- 1, D=0.258 Km, B- ph, Master8 6 relay			The 220kV FGPP – Sector 58 Ckt-2 tripped with the opeartion of following relays: At 220kV Sector 58 end: DPS, Z-1, Dist.: 0.258km, fault current: 26kA, R-ph. At 220kV FGPP end: Over voltage protection. The line	

													tripped on transient nature of fault as there was heavy rain and thunder storm in the area.
5	16.05 .25	XEN TS Fari daba d	220KV Sector-78 Faridabad	220KV FGPP- Sector- 78 Faridab ad Ckt-2	8.65K m	17:2 8	21:3 0	04:02	O/V, Master8 6 relay	Not tripped	Transie nt fault		The supply of 220kV GIS Sec-78, HVPNL, Fbd failed from FGPP end, and no tripping was observed at 220kV GIS Sector 78.
6	16.05 .25	XEN TS Fari daba d	220KV Palla	220KV FGPP- Palla line	17.6K m	17:3 0	21:2 4	03:54	Over voltage, Y&b-ph, Master8 6 relay	Not tripped	Transie nt fault	NIL	The 220kV Palla – FGPP line tripped from FGPP end with the operation of over/under voltage protection relay. No relay operated at 220kV Palla end. The line probably tripped on transient nature of fault due to heavy wind storm and rain in the area.
	16.05 .25	XEN TS Fari daba d	220KV Palli	220KV Palli- Kadarp ur Ckt- 1	19Km	15:4 8	21:2 9	05:41	Not tripped	DPR, Z- 3, D=36.01 Km, E/F, B-ph, Master8 6 relay	Transie nt fault	NIL	The 220kV Pali – Kaderpur Ckt-1 tripped form 400kV Kaderpur end and no tripping occurred at 220kV Pali end. The line probably tripped due to transient nature of fault as no fault observed during patrolling of the line.
7	16.05 .25	XEN 400 KV Naw ada	400KV Nawada	220kV Nawad a- DFCCIL Ckt-2	3.4K m	17:3 1	21:3 0	03:59	DPr, Z- 1, D=1.806 Km, B- ph, Master8 6 relay	Not tripped	Transie nt fault	NIL	The 200kV Nawada – DFCCIL Ckt-2 tripped at 400kV S/Stn. Nawada end with the operation of DPS, Z- 1, B-ph, Fault current = 10.73kA, dist.: 1.806km. During patrolling of the line it was gathered that the line tripped due to higher sag of line jumper on TL no. 10. Additional insulator string is to be provided by TS wing to avoid any future false tripping.
8	16.05 .25	XEN 400 KV Naw ada	400KV Nawada	220kV Nawad a- DFCCIL Ckt-1	3.4K m	17:4 1	18:5 5	01:14	DPr, Z-, D=3.4K m, R-ph, Master8 6 relay	Not tripped			The 200kV Nawada – DFCCIL Ckt-1 tripped at 400kV S/Stn. Nawada end with the operation of DPS, Z- 1, R-ph, Fault current = 2.196kA. During patrolling of the line it was gathered that the line tripped due to higher sag of line jumper on TL no.

													10. Additional insulator string is to be provided by TS wing to avoid any future false tripping.
9	16.05 .25	Pow er Grid	400KV G/Noida	400KV G/Noid a- Nawad a line	29.93 Km	14:3 0	23:1 0	08:40	DPR, Z- 1, D=20.16 Km, B- ph, Master8 6 relay	DPR, Z-1 , O/C B- ph, Master8 6 relay	Transie nt fault	NIL	The 400kV Nawada – Greater Noida loop in circuit tripped with the operation of following relays. At 400kV Nawada end: DPS, Z-1, B- ph, O/C with fault current = 12.08kA. At 400kV Greater Noida end: DPS, Z-1, B-ph, O/C , fault location = 20.16km. The line is being maintained by PGCIL authorities. During patrolling of the line OPGW was found snapped between tower no. 62 & 63.
10	16.05 .25	XEN 400 KV Naw ada	400KV Nawada	400/22 0MVA 315MV A ICT-3		17:3 0	18:4 0	01:10	O/C Y-ph, re	Master86 lay	No fault found	NIL	The 315 MVA, 400/220/33kV ICT-3 tripped due to maloperation of Master 86 relay. The suspected master relay was replaced and the ICT was successfully charged.
	17.05 .25	XEN TS Fari daba d	220KV Palli	220KV Palli- Kadarp ur Ckt- 1	19Km	09:0 3	14:4 8	05:45	DPR Main-1, Z-1, AR Lockout, R-Ph & D=14.13 Km	DPR, Z- 3, R-Ph, E/F & MR-86	Transie nt Fault	NIL	The 220kV Pali – Jaderpur Ckt-1 tripped with following relays. At 220kV S/Stn. Pali : DPS M-1, Z-1, R-ph, Dist: 14.13km, AR lockout. At 400kV S/Stn. Kaderpur end : DPS, Z-3, R-ph, E/F and master relay. The line probably tripped due to transient nature of Fault. The line id maintained by XEN/TS Gurugram.
11	17.05 .25	XEN 400 KV Naw ada	400KV Nawada	400KV Nawad a- G/Noid a Ckt-1	29Km	15:3 0	19:3 5	04:05	DPR, Z- 1, B-Ph, O/C & D=11.93 Km	DPR, Z- 1, B-Ph & D=12.66 Km	Transie nt Fault	NIL	The 400kV Nawada – Greater Noida line tripped with the operation of following relays. At Nawada end: DPS M-1, B- ph, AR L/O, Fault current= 10.19kA, Distance= 11.93km. At Noida end : DPS M-2, Z-1, B-ph, Fault current = 1.33kA, Distance = 16.33km. The line pertains to PGCIL. NO fault was found during patrolling of the line. Line tripped probably due to transient nature of fault.

12	21.05 .25	XEN TS Fari daba d	220KV Palli	220KV S/pur- Palli Ckt-2	9.85K m	20:3 0	00:5 0 (22. 05.2 5)	4:20	DPR, Z- 1, D=5.4k m, B-ph, master8 6	DPR, Z- 1, R-ph, master8 6	Transie nt fault	NIL	The 220kV Pali - Samaypur Ckt-2 tripped with the operation of following relays.At 220kV Pali end: DPS Main – 1 = Blue – Phase, Zone – 1, Fault Current = IC = 14.86 KA. At 220kV Samaypur end: DPS Main-1 Zone-1, Fault location-5.420 km, Phase C – N, IC = 15.46 KA. The line tripped due to conductor being in close proximity to roof of unauthorized constructed house not maintaining proper horizontal and vertical clearance between tower no 13 and 14. There was heavy wind storm in the area.
13	21.05 .25	XEN TS Palw al	220KV Palwal	220KV S/pur- Palwal line	18.09 Km	20:2 1	00:4 2 (22. 05.2 5)	4:21	DT send	DT received	Transie nt fault	NIL	The 220kV Samaypur – Palwal line tripped from 220kV Samaypur end due to receiving of DT command from 220kV S/Stn. Palwal end. Issue of false DT to be resolved, to avoid further tripping of the line.
14	21.05 .25	XEN TS Palw al	220KV Harfali	220KV BBMB S/pur- Harfali line	6Km	20:3 5	23:2 5	02:50	DT received	DT send	Transie nt fault	NIL (220KV Harfali on no load)	The 220kV Samaypur - Harfali line tripped due to DT trip command operated at 220kV Samaypur end. No tripping operated at 220kV Harfali end. There was heavy windstorm in the area and line probably tripped on transient nature of fault.
15	25.05 .25	XEN TS Fari daba d	220KV Palli	220KV Samay pur(BB MB)- Palli Ckt-1	9.85K m	02:0 5	06:2 8	04:23	DPR, Z- 2, D=7.7K m, R&Y- ph, Master8 6 relay	R&Y- ph,Maste r86 relay	Transie nt fault	NIL	The 220KV Samaypur(BBMB)-Palli Ckt-1 tripped with the operation of following relays. At 220kV S/Stn. Pali end : DPS Main – 1 = Phase R & Y , Tripped element – NO, Under Voltage – V < I, Started Phase = A, B. At 220kV Samaypur end: DPS Main-1

													Started Phase- A,B, Tripped Phase- A,B,C, Fault location 7.742 km, Zone-2, Ia- 6.286kA, Ib-5.817kA, Ic- 448.3A DPS Main-2 Started Phase- A,B,C, Tripped Phase- A,B,C, Fault location 8.594 km, Zone-2, Ia-6.211 kA, Ib-722.7 A, Ic- 485.6 A. No fault was found during patrolling of the line.	
16	25.05.2 5	XEN TS Farid abad	220KV Palli	220KV Samayp ur(BBMB )-Palli Ckt-2	9.85K m	02:05	06:28	04:23	DPR, Z-2, D=8.69Km , R&Y-ph, Master86 relay	R&Y- ph,Master 86 relay			The 220kV Pali Samaypur Ckt-II tripped from 220kV Samaypur end. Relay operated are as under. DPS Main-1 Started Phase- A,B,N, Tripped Phase- A,B,C, Fault location 8.690 km, Zone-2, Ia- 6.213 kA, DPS Main-2 Started Phase- A,B,N, Tripped Phase- A,B,C, Fault location 8.671 km, Zone-2, Ia-6.242 kA. No tripping occurred at 220kV S/Stn. Pali end. The line tripped simultaneously with the tripping of 220kV Pali – Kaderpur Ckt-1 & Ckt-2. Protection relays settings were checked along with relay coordination. There was no fault in the 220kV Pali – Samaypur line.	
	25.05.2 5	XEN TS Farid abad	220KV Palli	220KV Palli- Ka darpur Ckt-1	19Km	01:56	14:39	12:43	D=10.1Km , R-ph, Master86 relay	D=6.6Km, B-ph to E/F, Master86 relay	Transien t fault	NIL	The 220kV PAli – kaderpur Ckt-1 tripped from both ends with following relays. At 220kV S/Stn. Pali end: DPS relay, Distance = 10.1km, R- ph, master relay. At 400kV S/Stn. Kaderpur end: DPS relay, Distance : 6.6km, B- phase E/F, Master relay. The line tripped on transient nature of fault.	
	25.05.2 5	XEN TS	220KV Palli	220KV Palli- Ka	19Km	02:05	14:39	12:34	D=11.09K m, B-ph,	R-ph to E/F,			The 220kV Pali – Kaderpur Ckt – 2 tripped from both ends with following operatio	

		Farid abad		darpur Ckt-2					Arlockout, Master86 relay	Master86 relay			of relays. At 220kV Pali end: DPS relay, Distance: 11.9km, B-ph, AR lockout and master relay.At 400kV S/Stn. Kaderpur end: DPS relay, R-ph E/F and master relay. Line probably tripped on transient nature of fault.
17	25.05.2 5	XEN TS Palw al	220KV Palwal	220KV Prithla- Palwal Ckt-2	6.6Km	02:02	09:50	07:48	DPR, Z-1, D=3.78Km , B-ph to E/F, Master86 relay	Not tripped	Transien t fault	NIL	The 220kV Prithla – Palwal Ckt-2 tripped from prithla end with the operation of DPS M1 showing :- Z-1, distance- 3.78km, Fault current – 12kA, B-ph earth fault. No relay operated at 220kV Palwal end. The line tripped due to transient nature of fault.
18	25.05.2 5	XEN TS Palw al	220KV Palwal	220KV Samayp ur (BBMB)- Palwal line	18.09K m	01:53	09:54	08:01	DPR, Z-1, D=7.56Km , R-phase to earth fault. Master86 relay	Not tripped	Transien t fault	NIL	The 220kV BBMB Samaypur – Palwal line tripped from 220kV Samaypur end with the opeartion of DPS M1 Zone-1, distance-7.56km, Fault current – 16kA, R phase earth fault. NO tripping occurred at 220kV S/Stn. Palwal. Line probably tripped due to transient nature of fault.
	26.05.2 5	XEN TS Farid abad	220KV Palli	220KV Palli- Kadarpu r Ckt-1	19Km	15:07	17:15	02:08	DPR, Z-2, Y-Ph & D=26Km	DPR, Z-3, Y-Ph, E/F & D=43.57K m	Tripped while taking charging try of 220KV Palli- Kadarpu r Ckt-2	NIL	The 220kV Pali – Kaderpur ckt-1 tripped from both ends while charging of 220kV Pali – Kaderpur Ckt-2. At 220kV Pali end: DPS relay, Z-2, Y- ph, Distance: 26km. At 400kV S/Stn. Kaderpur end: DPS relay, Z-3, Y-ph E/F, Distance = 43.57km. The line is maintained by XEN/TS Division, Gurugram. There was no fault in the line.
	26.05.2 5	XEN TS Farid abad	220KV Palli	220KV Palli- Kadarpu r Ckt-1	19Km	23:02	01:07 (27.0 5.25)	02:05	DPR, Z-2, Y-Ph &D=25.7K m	DPR, Z-3, Y-Ph, E/F &D=43.54 Km	Again Tripped while taking charging try of 220KV Palli- Kadarpu r Ckt-2	NIL	The 220kV Pali – Kaderpur ckt-1 tripped for the second time with the operation of following relays. AT 220kV Pali end: DPS relay, Z-2, Y- ph, Distance : 25.7km. At 400kV S/Stn. KAderpur end: DPS relay, Z-3, Y-ph E/F , distance=43.54km. There was no fault in the line.

	27.05.2 5	XEN TS Farid abad	220KV Palli	220KV Palli- Kadarpu r Ckt-1	19Km	20:05	22:55	02:50	DPR, D=(- 26.04km), Y-Ph master86	DPR, B- Ph & D=49Km, master86	This line tripped while trying to charge 220KV Palli- Kadarpu r Ckt-2 due to some unidentifi ed fault for which testing/ patrolling is being carried out since 26.05.20 25.	NIL	The 220kV Pali – Kaderpur ckt-1 tripped from both ends while charging of 220kV Pali – Kaderpur Ckt-2. At 220kV Pali end: DPS relay, Y-ph, Distance: -26.04km. At 400kV S/Stn. Kaderpur end: DPS, B-ph, Distance = 49 km. The line is maintained by XEN/TS Division, Gurugram. There was no fault in the line.	
	28.05.2 5	XEN TS Farid abad	220KV Palli	220KV Palli- Kadarpu r Ckt-1	19Km	20:31	19:52 (30.0 5.25)		DPR, D=- 27.9Km, Y-ph, Master86 relay	DPR, Z-3, D=45.22K m, Y-ph to E/F, Master86 relay	This line tripped while trying to charge 220KV Palli- Kadarpu r Ckt-2 & now charged after the replace ment work of polymer disc insulator at T.no.35	220KV Sector- 46(Faridabad) up to 20:40hrs, load affected=55MW , population affected= 48000 aprox.	The 220kV Pali – Kaderpur ckt-1 tripped from both ends while charging of 220kV Pali – Kaderpur Ckt-2. At 220kV Pali end: DPS relay, Y-ph, Distance: -27.9km. At 400kV S/Stn. Kaderpur end: DPS, Z-3, Y-ph, Distance = 45.22 km. The line is maintained by XEN/TS Division, Gurugram. There was no fault in the line.	
	29.05.2 5	XEN TS Farid abad	220KV Palli	220KV BBMB S/Pur- Palli Ckt- 1	9.85K m	17:15	19:17	02:02	DPR, Z-3, R-Ph, D=18.90K m & MR- 86	Not tripped	Tripped due to heavy windstor m	220KV Palli & 220KV Sec-46 up to 17:35hrs * 220KV Palli, total Load affected: 100MVA & Population affected 10000 * 220KV Sec-	The 220kV Pali – Samaypur Ckt-1 tripped from 220kV BBMB Samaypur end during heavy wind storm in the area. Relays operated are as under: DPS Main-1 Started Phase- A,B, Tripped Phase- A, Fault location 18.9 km, Zone-3, Ia-8.987kA, Ib- 8.028kA.	

											46, total load affected: 45MW & Population affected 45000	DPS Main-2 Started Phase- A,N, Tripped Phase- A, Fault location 10.60 km, Zone-2, Ia-8.922 kA.No fault was found during patrolling of the line.	
19	29.05.2 5	XEN TS Farid abad	220KV Palli	220KV BBMB S/Pur- Palli Ckt- 2	9.85K m	17:15	19:17	02:02	DPR, Z-2, R-Ph, D=10.62K m & MR- 86	Not tripped		The 220kV Pali – Samaypur Ckt-2 tripped from 220kV BBMB Samaypur end during heavy wind storm in the area. Relays operated are as under: DPS Main-1 Started Phase- A,N,Tripped Phase- A, Fault location 10.62 km, Zone-2, Ia-8.963 kA,Ic-1.034 kA DPS Main-2 Started Phase- A,N, Tripped Phase- A, Fault location 10.54 km, Zone-2, Ia-8.985 kA, Ic-1.053kA. No fault was found during patrolling of the line.	

U P POW	ER TRANSMISSION CO	RPORATION LIMITED
0.1.1.0.1.	उ०प्र0 पावर ट्रांसमिशन कारप	गोरेशन लिमिटेड
	(उ०प्र० सरकार का	उपक्रम)
Office Of The Superintending Engineer Electricity Test. & Comm. Circle		कायालय अधीक्षण अभियन्ता विद्युत परीक्षण एवं परिचालन मण्डल 132 के0वी0 सब—स्टेशन हंसारी, झाँसी
132kv Sub Station, Hansari, Jhansi Mobile:- 9458096679	GST No. :- 09AAACU8823E1Z9	दूरमाष :- 9458096679 ई–मेल :– setncjhansi@upptcl.org
E-mail:- setncjhansi@upptcl.org	P. C. managindices	Dated:03/06/25
No-153/ET&CC(J) Protection	on Performance indices	
Subject:- Calculation of Pro	tection Performance indi	ces report for the month of May
Chief Engineer (A) Director Operation U.P. Power Transmission Shakti Bhawan Extention, Lucknow.	Corp. Ltd.,	Via:- E-mail
Kindly find enclo indices report of 220KV an Zone Jhansi for your kind ir	osed herewith the Calcu d above Sub station for t nformation and necessary	llation of Protection Performance he month of May-2025, Under TSC action.

**Encls:- As above** 

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(Sandeep Singh Kushwaha) Superintending Engineer ET&CC-Jhansi

No- 153 /ET&CC(J) Protection Performance indices

### Copy via E-mail to :-

- 1. Chief Engineer, TSC Jhansi.
- 2. Superintending Engineer(R&A), U.P. Power Transmission Corp. Ltd., Lucknow.
- 3. Superintending Engineer, T&C, Meerut.

Sam

Dated: 03/06/25

(Sandeep Singh Kushwaha) Superintending Engineer ET&CC-Jhansi

#### Format No.-PI-01 Reporting of performance indices for protection system (for elemets connected at 220 KV and above) Name of Utility: ET&CC-JHANSI

#### Protection Performance Indices of Transmission Elements For The Month- MAY-2025

							Dependability Index	Focurity Inday (6)	Baliability Inday (B)	
S.N.	Sub-Station	Unit (SPS/Line/ICT/GT/etc)	Nc	Nf	Nu	Ni	(D)	S=(NC((NC+Nu)))	R=(NC/(NC+Ni))	Remark
							D=(NC/(NC+Nf))	3-(NC/(NC+NU))		
1	400KV ORAI	400KV PARICHHA-I LINE	1	0	0	0	1	1	1	
2	400KV ORAI	400KV PARICHHA-II LINE	2	0	0	0	1	1	1	
3	400KV BANDA	400KV REWA-I LINE	2	0	0	0	1	1	1	
4	400KV BANDA	400KV REWA-II LINE	3	0	0	0	1	1	1	
5	400KV ORAI	400KV PGCIL-I LINE	1	0	0	0	1	1	1	
6	400KV ORAI	400KV PGCIL-II LINE	1	0	0	0	1	1	1	
7	400KV ORAI	400KV BANDA-I LINE	1	0	0	0	1	1	1	
8	400KV ORAI	400KV BANDA-II LINE	2	0	0	0	1	1	1	
9	220KV DUNARA	220KV LPGCL LINE	3	0	0	0	1	1	1	
10	220KV BABINA	220KV LPGCL LINE	3	0	0	0	1	1	1	
11	220KV LALITPUR	220KV LPGCL-I LINE	2	0	0	0	1	1	1	
12	220KV LALITPUR	220KV LPGCL-II LINE	2	0	0	0	1	1	1	
13	220KV ORAI	220KVMOTH LINE	1	0	0	0	1	1	1	
14	220KV PAHADI	220KV REWA-I LINE	1	0	0	0	1	1	1	
15	220KV PAHADI	220KV REWA-II LINE	2	0	0	0	1	1	1	
16	220KV PAHADI	220KV BANDA-I LINE	1	0	0	0	1	1	1	
17	PTPS	220KV BHARTHANA LINE	1	0	0	0	1	1	1	
18	400KV ORAI	220KV SIKANDRA LINE	1	0	0	0	1	1	1	
19	220KV DUNARA	220KV PARICHHA-I LINE	1	0	0	0	1	1	1	
20	220KV ORAI	220KV PARICHHA-III LINE	1	0	0	0	1	1	1	
21		315 MVA ICT-I	0	0	1	1	0	o	0	220KVBUS-II TRIPPED DUE TO OPERATION OF LBB. CONSEQUENTLY, ALL LINES CONNECTED TO BUS-II WERE ALSO
22		220KV BUS COUPLER	0	0	1	1	0	O	0	TRIPPED. NOTE:-A DEFECTIVE LBB CONTRACTOR OF 220KV BANDA- PAHADI-II LINE WAS CONTINUOUSLY SENDING LBB INITIATION-
23	400KV BANDA	220KK BANDA-II LINE	0	0	1	1	0	0	0	TO THE BUSBAR RELAY PU. WHEN 220KV PAHADI-REEWA LINE TRIPPED BECAUSE OF WHICH LOAD INCREASED ON 220KV
24		220KV MAHOBA LINE	0	0	1	1	0	0	0	THE FALSE LBB INITIATION, LED TO THE ACTIVATION OF THE LBB PROTECTION SYSTEM AND BUS-II GOT DEAD.
25		220KV PAHADI-II LINE	0	0	1	1	0	0	0	ABOVE FAULTY LBB CONTRACTOR HAS BEEN CHANGED AND NOW LBB PROTECTION IS HEALTHY.

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

(Sandeep singh Kushwaha) Superintending Engineer ET&CC-Jhansi

#### Protection Performance Indices (PPI) for the month of May 2025 of KPH, Khara.

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		220 KV Khara - Saharanpur (PG)	05/05/2025, 00:35 Hrs	F	Distance Protection Z1, SOTF	SOTF disabled after consultation
2	Whara Bower House (Whara)	220 KV Khara - Behat	13/05/2025, 13:27 Hrs	F	SOTF	with Testing & Commissioning
3	Kilara Fower House (Kilara)	220 KV Khara - Saharanpur (PG)	13/05/2025, 13:27 Hrs	F	SOTF	Engineer.
4		220 KV Khara - Saharanpur (PG)	28/05/2025, 19:52 Hrs	F	Distance Protection Z1	

# Reporting of performance indices for protection system (For element connected at 220kV and above) Name of Utility : ET&CC,UPPTCL,MEERUT Month : May-2025

LIC	XUU, UL ITUUA									
S.N.	. Sub-station	Unit (SPS/Line/ICT/GT/etc)	Nc	IN	Nu	Ni	Dependability Index (D)	Security Index (S)	Reliability Index (R)	REMARK
		220 K.V Sikandrabad-400K.V.Sikandrabad -I	2	0	0	0	1	1	1	
1	220 kV Sikandrabad	220 K. V Sikandrabad-400K. V. Sikandrabad -I	1	0	0	0	1	1	1	
		220 K.V Sikandrabad-400K.V.Sikandrabad -I	1	0	0	0	1	1	1	
		220 kV Matore Line	2	0	0	0	1	1	1	
		765 kV Hapur line ckt-I	1	0	0	0	1	1	1	
2	220 kV Simbhaoli	765 kV Hapur line ckt-II	1	0	0	0	1	1	1	
		400 kV GIS Simbhaoli line	2	0	0	0	1	1	1	
		200 MVA T/F-I	1	0	0	0	1	1	1	
m	220 kV Hvbrid Hapur	765 kV Hapur line	1	0	0	0	1	1	1	
	4	400kV Gr.Noida -Dadri line	3	0	0	0	1	1	1	
										400kV Gr.Noida-Nawada line initiated false LBB on single phase to ground fault.Later on checking the LBB circuit and circuit breaker found in order
		400kV Gr.Noida -Nawada line	2	0	1	7	1	0.67	0.67	thus line charged accordingly. Remedial measures taken:- LBB relay of
										this line shall be checked during next shutdown.
		400kV Gr.Noida ckt-1	2	0	0	0	1	1	1	
4	400kV Gr.Noida	400kV Gr.Noida ckt-2	3	0	0	0	1	1	1	
		315MVA 400/220kV ICT-1	1	0	0	0	1	1	1	
		315MVA 400/220kV ICT-2	1	0	0	0	1	1	1	
		500MVA 400/220kV ICT-3	2	0	0	0	1	1	1	
-		500MVA 400/220kV ICT-4	2	0	0	0	1	1	1	
		220kV Gr.Noida-Noida sec-129	1	0	0	0	1	1	1	
		220kV Gr.Noida-Noida sec-20 ckt-2	1	0	0	0	1	1	1	
		220kV Gr.Noida-RC Green ckt-2	1	0	0	0	1	1	1	
		132kV Gr.Noida-Surajpur ckt-2	1	0	0	0	1	1	1	
		CB No 88, 220kV Khurja- Napp Line	2	0	0	0	1	1	1	
		CB No 86, 220kV Khurja- Jahangirabad Line	1	0	0	0	1	1	1	
		CB No 83, 220kV Khurja- Harduaganj ckt-1st Line	1	0	0	0	1	1	1	and the second se
S	220 kV KHURJA	CB No 82, 220kV Khurja- Sikandrabad Line	1	0	0	0	1	1	1	
		200 MVA T/F -1 (CB NO - 883/783)	1	0	0	0	1	1	1	
		200 MVA T/F -2 (CB NO - 884/784)	1	0	0	0	1	1	1	
		160 MVA T/F -3 (CB NO -887 /787)	1	0	0	0	1	1	1	
9	220 kV Jahangirabad	CB No 88 , 220kV Jahangirabad - Khurja Line	1	0	0	0	1	1	1	
2	220 kV DEBAI	CB No 87, 220kV Debai - NAPP Line	2	0	0	0	1	1	1	

row

ETS	&CD, Ghaziabad									
S.N.	Sub-station	Unit (SPS/Line/ICT/GT/etc)	Nc	Nf	Nu	iz	Dependability Index (D)	Security Index (S)	Index (R)	REMARK
-		220 kV Dadri line	1	0	0	0	1	1	1	
2		220 kV Sikandra bad line	1	0	0	0	1	. 1	1	
m n	220 kV Muradnagar	220kV I/C- 2nd line 400kV Muradnagar-1st	1	0	0	0	1	1	. 1	
4	1	220kVNCRTC -1st line	1	0	0	0	1	1	1	
2		220 kV Modipuram line	1	0	0	0	1	1	1	
9	220kV Faridnagar	220 kV line 400kV Muradnagar-Ist	1	0	0	0	1	1	1	
7	220kV Sahibabad	CB NO. 84 220kV SBB-Muradnagar Line	1	0	0	0	1,	1	1	
∞	220kV MORTI	220kV NRCTC II	1	0	0	0	1	1	1	
6	220kV Sahibabad	CB NO. 84 220kV SBB-Muradnagar Line	1	0	0	0	1	1	1	
10	220kV Pratap Vihar	220kV Muradnagar Line	1	0	0	0	1	1	1	
=	220kV Morta	220kV Muradnagar Line	1	0	0	0	1	1	1	
12	220kV Pratap Vihar	60 MVA T/F I	1	0	0	0	1	. 1	1	
13		400 kV Aligarh Line	3	0	0	0	1	1	1	
14		400 kV Ataur Line	• I 9	0	0	0	1	1	1	
15	*	400 kV Hapur Line	1	0	0	0	1	1	1	
16	400 kV Muradnagar-I	220 kV Sahibabad Line	2	0	0	0	1	1	1	
17	,	220 kV Pratapvihar Line	1	0	0	0	1	1	1	
18		220 kV Faridnagar Line	1	0	0	0	1	1	1	
19	1	220 kV Interconnector-II	1	0	0	0	1	1	1	
20		400kV MATHURA LINE	7	0	0	0	1	1	1	
21		400kV DADRI LINE	1	0	0	0	1	1	1	
22	T	400kV SIMBHAOLI CKT-I	1	0	0	0	1 .	< 1	1	
33		400kV SIMBHAOLI CKT-II	1	0	0	0	1	1	1	
24	400 kV -II MURADNAGAR	400kV BUSBAR-II	0	0	-	-	NA	0	0	Unwanted operation of LBB protection due to false operation of LBB in idle Bay 3 thereby resulting into Bus 2 tripping. There was no supply interruption as all element connected to bus 2 was charged through TIE CB. Substation has one and half breaker scheme busbar arrangement. Remedial measures taken:- Trip initiation of this idle bay has measures taken
25		220kV BARAUT LINE	1	0	0	0	1	1	<ul><li>1</li></ul>	
26		220kV MORTA LINE	3	0	0	0	1	1	1	
ET	&CD, Moradabad-I					ſ				
S.N	. Sub-station	Unit (SPS/Line/ICT/GT/etc)	Nc	Nf	Nu	Ni	Dependability Index (D)	Security Index (S)	Keliability Index (R)	REMARK
Ľ		400 kV Moradabad-Hapur Line	1	0	0	0	1	1	1	
-	400 kV Moradabad	400 kV Moradabad-Bareilly Line	1	0	0	0	1	1	1	
2	220 kV Sambhal	220 kV Sambhal - Napp Line	1	0	0	0	1	1	1	

ture

ET&CD, Moradabad-II

REMARK				REMARK																	
Reliability Index (R)	1	1		Reliability Index (R)		1	1	1	1	1			1	1	1	1	1	1	1		1
Security Index (S)	1	1		Security Index (S)	1	1	1	1	1	1		1	1		1	1	1 ]	1	1	1	1
Dependability Index (D)	1	1		Dependability Index (D)	1	1	1	1	1	1	1	1	1	1	1	1	1	5 I 1 1	1	100 C	1
Ni	0	0		Ni	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nu	0	0		Nu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nf	0	0		Nf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nc	3	1		Nc	1	3	3	3	1	2	1	2	1	1	1	2	1	1	1	1	2
Unit (SPS/Line/ICT/GT/etc)	220 kV NEHTAUR- MATAUR (PG) Line	220 kV Gajraula Matore line		Unit (SPS/Line/ICT/GT/etc)	400 kV ALAKNANDA LINE	400 kV MATOR LINE	400 kV ATAUR LINE	220 kV CHARLA LINE	220 kV BAGHAPAT LINE	220 kV SRE PGCIL LINE	220 kV NIRPURA LINE	400 kV THDC KHURJA LINE	400 kV ALIGARH LINE	220 kV DBD-PGCIL CKT-2	220kV Nara- Mator LINE	220kV Nara-ROORKE LINE	160MVA T/F	220kV KHODRI LINE	220kV BEHAT LINE	220kV PGCIL LINE	220kV KHODRI
Sub-station	220 kV SS NEHTAUR	220 kV Gajraula	CD, Muzaffarnagar	Sub-station			400 KV MUZAHAMAGAI			220 kV SHAMLI		T TALE OF STATE OF	400 KV GIS SHAMLI	220kV Deoband		220kV Nara			220kV SAHARANPUR		220kV SARSAWA
S.N.	2	4	ET&	S.N.			-			2			· ·	4		5			9		1

# ET&CD, NOIDA

IARK										
REN					1					
Reliability Index (R)	1	1	1	1	1	1	1	1	1	and the second second second
Security Index (S)	1	1	1	1	1	1	1	1	1	
Dependability Index (D)	I	I manage	1	1	1	1	1	1	I and	Same and the second second
Ni	0	0	0	0	0	0	0	0	0	The second second
Nu	0	0	0	0	0	0	0	0	0	
Nf	0	0	0	0	0	0	0	0	0	
Nc	3	3	1	1	1	3	2	2	1	
Unit (SPS/Line/ICT/GT/etc)	220kV KP5- SEC148 Line	220 kV KP5 - Metro Depot Line	220 kV Dadri - Muradnagar Line	160 MVA T/F	220 kV RC Green-Gr noida Ckt 2	220kV SEC148 -KP5Line	220kV SEC148 -sec 129Line	100MVA T/F 1	100MVA T/F 2	
Sub-station	3 U.A. 5/ 5 / 71 000	C-111 C/C AN 077	. F CLOID IN LOCC	120 KV 5/S Uadh	220 kV S/S RC Green			14004	400KV S/S Sector 148	
S.N.	1	2	3	4	5	9	7	8	6	

1	1		1		1		1	
1	1		1		1		1	
1	1		1				1 .	
0	0		0		0		0	-
0	0		0		0		0	-
0	0		0		0		0	
1	1	-	-		-		-	Contraction of the second
400kV SFC 148- IAHANGIRPUR CKT 1	ADDEV SEC 148. TAHANGIRPLIR CKT 2	TOOR DECITO SILLING COLORED	220 kV SEC 20 TO GHAZIPUR LINE (CB82)		220 kV SEC 20 TO PALI LINE (CB84)		220 kV SEC 38A TO BTPS LINE	
			220 kV S/S SEC 20 NOIDA				220 kV GIS S/S SEC 38A NOIDA	VIII
10	11	11	12	Contraction of the second	13	1.7	14	

# ET&CD, MEERUT

	- Andrew for the second						the second se				-
S.N.	Sub-station	Unit (SPS/Line/ICT/GT/etc)	Nc	Nf	Nu	Ni	Dependability Index (D)	Security Index (S)	Reliability Index (R)	REMARK	
-	220kV S/S Nirpura	220kV Nirpura - Shamli Line	1	0	0	0	1	1	1		
5	220kV S/S Baraut	220 kV Baraut - Nirpura	1	0	0	0	1	1	1		
3	220kV S/S Baraut	220 kV Baraut - Muradnagar	-	0	0	0	1	1	1		-
4	220kV S/S Shatabdinagar	220kV Shatabdinagar-Matore Line	1	0	0	0	1	1	1		-
5	220kV S/S Partapur (Jagriti Vihar)	220kV Partapur (J.V.) - Hapur-I	1	0	0	0	1	1	1		-
9	220kV S/S Partapur (Jagriti Vihar)	220kV Partapur (J.V.) - Hapur-II	1	0	0	0	1	1	1		-
6	220kV S/S Shatabdinagar	220kV Shatabdinagar-Matore Line	1	0	0	0	1	1	1		
~	220kV S/S Modipuram	220kV Modipuram - Matore-1 Line	1	0	0	0	1	1	1		
6	220kV S/S Modipuram-2	220kV Modipuram-2 - Shamli-1 Line	1	0	0	0	1	1	1		-
10	220kV S/S Modipuram-2	220kV Modipuram-2 - Shamli-2 Line	1	0	0	0	1	1	-		1
11	220kV S/S Modipuram-2	220kV Modipuram-2 - Baghpat-2 Line	1	0	0	0	1	1	1		-
12	220kV S/S Charla	220kV Charla - Muzaffar Nagar	3	0	0	0	1	1	1		_
1		GRAND TOTAL	149	0	2	2					

## INDICES FROM TW ZONE UPPTCL PERFORMANCES

Dependability index (D) D=(Nc/(Nc+Nf))	-
Security Index (S) S=(Nc/(Nc+Nu))	0.99
Relibality Index (R) R=(Nc/(Nc+Ni))	66.0

NOTE:- (i) Reason for performance indices less than unity is mentioned in respective element remark.

È 2

Superintending Engineer (Pramod Kumar Mishra)

Nf - No. of failures to operate at internal power system faults Nu - No. of unwanted operations Ni - No. of incorrect operations, (Ni=Nf+Nu)

Nc - No. of correct operations at internal power system faults

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

s	l No	Name of Utility	Name of PS	Elements (Line/ Unit)	Fro	m	т	o	Total Outage	Outage Reason	Nc	Nf	Nu	Ni	Dependa bility Index (D=Nc/(N c+Nf))	Security Index (S=Nc/(N c+Nu))	Reliabilit y Index (R=Nc/(N c+Ni))	Reason for wrong operation	Action Taken
	1	NHPC Ltd	TANAKPUR	132 KV Tanakpur- Mahendranagar Line#3	8-May-25	15:04	8-May-25	15:46	0:42	Over Current protection Operated	1	0	0	0	1	1	1	NA	NA
	2	NHPC Ltd	URI-II	400 KV Uri-II- Woogora Line#1	8-May-25	23:08	12-May-25	16:13	89:05	Distance Protection relay operated in Z1 at B-N Phase fault	1	0	0	0	1	1	1	NA	NA
	3	NHPC Ltd	URI	400 KV Uri- Amargarh Line#2	13-May-25	16:15	13-May-25	18:15	2:00	Distance Protection relay operated in Z1 at B-N Phase fault	1	0	0	0	1	1	1	NA	NA
	4	NHPC Ltd	DULHASTI	400 KV Dulhasti- Kishanpur L#2	15-May-25	18:30	15-May-25	19:44	1:14	Distance Protection relay operated in Z1 at Y-N Phase fault	1	0	0	0	1	1	1	NA	NA
	5	NHPC Ltd	URI	400 KV Uri- Amargarh Line#2	15-May-25	17:49	15-May-25	19:11	1:22	Distance Protection relay operated in Z1 at B-N Phase fault	1	0	0	0	1	1	1	NA	NA
	6	NHPC Ltd	SEWA-II	132 KV Sewa-II- Hiranagr Line#4	16-May-25	18:31	16-May-25	19:44	1:13	Distance Protection relay operated in Z1 at R-N Phase fault	1	0	0	0	1	1	1	NA	NA
	7	NHPC Ltd	URI	400 KV Uri- Amargarh Line#2	16-May-25	18:42	17-May-25	08:26	13:44	Distance Protection relay operated in Z1 at B-N Phase fault	1	0	0	0	1	1	1	NA	NA
	8	NHPC Ltd	URI	400 KV Uri- Amargarh Line#1	16-May-25	20:10	16-May-25	21:59	1:49	Distance Protection relay operated in Z1 at B-N Phase fault	1	0	0	0	1	1	1	NA	NA
	9	NHPC Ltd	URI	400 KV Uri-Uri-II Line#3	18-May-25	22:34	18-May-25	22:59	0:25	Distance Protection relay operated in Z1 at R-N Phase fault	1	0	0	0	1	1	1	NA	NA
	10	NHPC Ltd	URI-II	400 KV Uri-II- Woogora Line#1	18-May-25	21:35	N	ot Restored		Distance Protection relay operated in Z1 at R-N Phase fault	1	0	0	0	1	1	1	NA	NA

11	NHPC Ltd	URI-II	400 KV Uri-Uri-II Line#2	18-May-25	22:34	18-May-25	22:59	0:25	Distance Protection relay operated in Z1 at R-N Phase fault	1	0	0	0	1	1	1	NA	NA
12	NHPC Ltd	SEWA-II	132 KV Sewa-II- Hiranagr Line#4	19-May-25	07:09	19-May-25	07:54	0:45	Distance Protection relay operated in Z1 at R-N Phase fault	1	0	0	0	1	1	1	NA	NA
13	NHPC Ltd	PARBATI-II	400 KV Parbati- II_Banala Line#1	21-May-25	21:05	21-May-25	22:45	1:40	LBB protection operated ( intiated from Unit#3)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection was intiated from Unit#3	Proper logic/ scheme is incorporated
14	NHPC Ltd	PARBATI-II	400 KV Parbati- II_Sainj Line#2	21-May-25	21:05	21-May-25	22:41	1:36	LBB protection operated ( intiated from Unit#3)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection was intiated from Unit#3	Proper logic/ scheme is incorporated
15	NHPC Ltd	PARBATI-II	400 KV Parbati- II_Banala Line#1	23-May-25	10:37	23-May-25	12:04	1:27	LBB protection operated ( intiated from Unit#3)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection was intiated from Unit#4	Proper logic/ scheme is incorporated
16	NHPC Ltd	PARBATI-II	400 KV Parbati- II_Sainj Line#2	23-May-25	10:37	23-May-25	12:49	2:12	LBB protection operated ( intiated from Unit#4)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection was intiated from Unit#4	Proper logic/ scheme is incorporated
17	NHPC Ltd	DULHASTI	400 KV Dulhasti- Kishanpur L#2	27-May-25	20:49	29-May-25	17:26	44:37	Distance Protection relay operated in Z1 at R-Y Phase fault	1	0	0	0	1	1	1	NA	NA
18	NHPC Ltd	SALAL	220 KV Salal-Jammu Line#1	30-May-25	00:00:06	30-May-25	00:00:07	00:00:01	Distance Protection relay operated in Z1 at R-N Phase fault & Sucessfully auto reclosed from Salal end	1	0	0	0	1	1	1	NA	NA
19	NHPC Ltd	SALAL	220 KV Salal-Jammu Line#1	30-May-25	02:52	30-May-25	19:16	16:24	LBB protection operated ( intiated from captive bay)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection operated	Proper logic/ scheme is incorporated
20	NHPC Ltd	SALAL	220 KV Salal-Jammu Line#2	30-May-25	02:52	30-May-25	05:49	2:57	LBB protection operated ( intiated from captive bay)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection operated	Proper logic/ scheme is incorporated
21	NHPC Ltd	SALAL	220 KV Salal- Kishanpur Line#1	30-May-25	02:52	30-May-25	04:12	1:20	LBB protection operated ( intiated from captive bay)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection operated	Proper logic/ scheme is incorporated
22	NHPC Ltd	SALAL	220 KV Salal- Kishanpur Line#2	30-May-25	02:52	30-May-25	04:14	1:22	LBB protection operated ( intiated from captive bay)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection operated	Proper logic/ scheme is incorporated
23	NHPC Ltd	SALAL	220 KV Salal- Kishanpur Line#3	30-May-25	02:52	30-May-25	04:06	1:14	LBB protection operated ( intiated from captive bay)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection operated	Proper logic/ scheme is incorporated

24	NHPC Ltd	SALAL	220 KV Salal- Kishanpur Line#4	30-May-25	02:52	30-May-25	04:07	1:15	LBB protection operated ( intiated from captive bay)	1	0	1	1	1	0.5	0.5	Due to improper logic/ scheme, LBB protection operated	Proper logic/ scheme is incorporated
25	NHPC Ltd	TANAKPUR	220 KV Tanakpur- CB Ganj Line#1	31-May-25	20:51	31-May-25	21:57	1:06	Distance Protection relay operated in Z1 at R-Y-B Phase fault	1	0	0	0	1	1	1	NA	NA
26	NHPC Ltd	TANAKPUR	220 KV Tanakpur- Sitaraganj Line#2	31-May-25	20:52	31-May-25	21:44	0:52	Over Voltage protection operated	1	0	0	0	1	1	1	NA	NA
	No Line tripping has been observed from other Power Stations of NHPC of NR region for Month of May'2025																	

Station	Description		April'25	May'25
	Number of Correct Operations at internal power system faults	(Nc)	1	1
	Number of failures Operations at internal power system faults	(Nf)	0	0
	Number of Unwanted Operations	(Nu)	0	1
Nokhra Solar	Number of Incorrect Operations	(Ni) = (Nf) + (Nu)	0	1
NOKITA SOlar				
Station	Dependability Index	D = Nc/(Nc+Nf)	1	1
	Security Index	S = Nc/(Nc+Nu)	1	0.5
	Reliability Index	R = Nc/(Nc+Ni)	1	0.5

#### PPGCL

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	BARA	765 kV BARA - MAINPURI- 2	22-05-2025 01:01:36:390	U	Main 1 Distance protection relay (P444) sensed single phase to earth fault in zone 1 with fault current IB = 3.415kA. Main and Tie CB "B" Phase CB opened as per Zone 1 protection philosophy. But after 350 ms Main 2 distance protection relay (75A522) Zone 2 operated and issued the three-phase tripping.	The matter has been discussed and relay file shared with M/s Siemens (OEM) to find the root cause. PPGCL asked to OEM to share the corrective action plan to avoid the future reoccurrence.

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

#### Case-1 400kV 125 MVAR Bus Reactor at 400 KV GSS HINDAUN on 06.05.2025

#### No. of Unwanted operation – 1

#### Reason of unwanted operation -

Interruption occurred due to VT selection relay problem.

#### **Corrective Action taken – YES**

VT selection relay problem rectified.

#### Case-2 400/220 KV, ILT-II at 400KV GSS HEERAPURA on 26.05.2025

No. of Unwanted operation – 1  $\,$ 

#### Reason of unwanted operation -

Interruption occurred due to manual error during reading taken.

#### **Corrective Action taken – YES**

Technicians instructed to work carefully

### Case-3 220 KV Sakatpura- KTPS ckt. No.4 at 220KV GSS SAKATPURA on 05.05.2025

No. of Unwanted operation – 1  $\,$ 

#### Reason of unwanted operation -

MBCI line differential relay defective.

#### **Corrective Action taken – Partial**

Defective relay has been put out of circuit, other line differential relay of this circuit is healthy.

#### Case-4 220 KV Khetri-Dadri II Line at 220KV GSS KHETRI on 08.05.2025

No. of Unwanted operation – 1

#### Reason of unwanted operation -

Tripping occurred due to cable damage by wild rodent animal.

#### **Corrective Action taken – YES**

Damaged cable repaired.

#### Case-5 220 KV LALSOT-ANTA at 220 KV GSS LALSOT on 21.05.2025

No. of Unwanted operation -1

#### Reason of unwanted operation -

Interruption occurred due to VT selection relay problem.

#### **Corrective Action taken – YES**

VT selection relay problem rectified.

## Case-6 220 KV KOTPUTLI (RVPN) – KOTPUTLI (PG) LINE at 220 KV GSS KOTPUTALI on 25.05.2025

No. of Unwanted operation – 1

#### Reason of unwanted operation -

EPAC distance protection relay defective.

#### **Corrective Action taken – Partial**

Defective relay put out of circuit, Main-2 distance protection relay is healthy.

#### **<u>Case-7</u>** 220 KV BARAN- KAWAI Line at 220 KV GSS BARAN and 220kV D/C Beawar-Gulabpura line at 220 KV GSS BEAWAR on 31.05.2025

No. of Unwanted operation – 2

#### Reason of unwanted operation -

Interruption occurred due to VT selection relay problem.

#### **Corrective Action taken – YES**

VT selection relay problem rectified.

<u>Case-8</u> 220/132 KV 160 MVA EMCO Make TRF-I at 220KV GSS ALWAR on 15.05.2025 No. of Unwanted operation – 1

#### Reason of unwanted operation -

REF relay was recently commissioned and have wrong neutral CT Polarity.

#### **Corrective Action taken – YES**

CT polarity checked and corrected.

#### Case-9 220/132 KV 100 MVA NGEF Tr. AT 220 KV GSS JODHPUR on 30.05.2025

No. of Unwanted operation – 1

#### Reason of unwanted operation -

NDR relay was wired for TRIP.

#### **Corrective Action taken –YES**

NDR relay tripping removed and put on ALARM only.
	Status of Internal	Protection Audit Plan for FY 202	4 -25						
S. No.	NRPC Member	Category	Status	Schedule	Present Status Comlpleted (yes/no)	Audit	Report Submission Date	Discussion held in	Compliance status
				as per		Date	by audit party	number	
				utililty		Duto	by usual party	indimoti.	
1	PGCIL	Central Government owned	Received		POWERGRID NR-3 (765kV Bareilly, Aligath, Eatebour				
		Transmission Company			Orai, Rampur, Varanasi, 400kV Allhabad,	May, July, Sept, Oct,			
					Bareilly, Firozabad, Jauljibi, Mainpuri, Mohanlalganj, Pithoragash Sambhal Sobawal	Dec- 2024, Jan-Feb- March 2025	21.02.2025 (by mail)	60	
2	NTPC		Received		Pululagan, Sanuna, Sunawa	Ivial cli, 2025	21.03.2023 (by mail)	00	
3	BBMB	1	Received						
4	THDC	Central Generating Company	Received		Tehri	Feb-25	28.02.2025	58	
5	SJVN		Received	-	RHPS, NJHPS	Mar-25	2503.2025	59	
7	NPCL	1	Received						
8	Delhi SLDC								
9	Haryana SLDC	-							
10	Rajasthan SLDC	4	Chatana Thana Bauar						
	Ottar Pradesh SEDC		Station		Ver		25.02.2025	50	
			ALAKNANDA		Yes		Feb, 2025	59	
		SLDC	Vishnuprayag		Yes		27.7.2024	52	
			WUPPTCL						
					Greater Noida, Sikandrabad, Dasna, Indirapuram,			59	
40	Litteratives of CLDC	-			Nahtaur, ataur, hapur)		(25.03.2025)		
13	Puniab SLDC	-							
14	Himachal Pradesh SLDC	1							
15	DTL		Received						
16	HVPNL		Received		Mohana	Jan-25	17.1.2025	58	complied
17	RRVPNL		Received		220kV Substations				
					Bhadla, Basani, Aau, Amarsagar, Badisid, Balotra, BAP,				
					Bhinmal, Kanasar, Phalodi, Ramgarh, Reodar, Sirohi,				
					Hamirgarn, PPS4 Nokn, KSDCL-I, KSDCL-II, Sawa			59	
1					Ratangarh, Badnu, Bikaner. Chhatargarh. Gainer				
1					Halasar, Goner, NPH, Sangnaer, SEZ, VKIA, Shri				
1					Dungargarh, Sujangarh, Tehendesar, Akal, Chittorgarh			58	Pending Roo fin r
1								5/	rending
1									
					BEHROR, BHARATPUR, BHIWADI,				
					CHHONKARWADA, DHOLPUR, KG BAS,				
		State Transmission Utility			MANOHARPUR, NADBAL NEEMRANA, PHAGI				
					AJMER, DOONI, GGC, SIKRAI, HINDAUN,				
					SWM, BHENSARA, ANTA, BHILWARA, RAMGARH, RATANGARH, LALSOT				
					220 kV Chaksu			56	Pending
					220 kV Mansarovar				
					765 kV Anta				
					220 kV Mandaigam 220 kV Pratapgarh				
					220 kV Halapgan				
18	UPPTCL		Received for Jhansi, Lucknow,						
			Agra zone)		Completed		24.05.2025	61	
19	PTCUL	1	Received		completed		14.03.2023	01	
20	PSTCL		Received						
21	HPPTCL		Received		Gumma, Lahal, Phozal			56	Pending
22	HPGCL	-	Received (PPCL-1,III)		PCTPP (Khadar)	Jan-25	07 02 2025	58	Pending
24	RRVUNL		Received		KSTPS, Kota	Jan-25	22.02.2025	60	rending
					CSCTPP, Chhabra	Dec-24	19.02.2025	58	
1					DCCPP, Dholpur	Nov-24	19.02.2025	58	
1					Ramoarh Gas	Jan-25	06.02.2025	58	Pending
		State Generating Company			Sutargarh Supercritical			50	renuing
25	UPRVUNL		Received (obra -B, Anpara-B,D		Parichha BTPS	Jan-25	08.03.2025	58	
			switch yard, Harduganj-C,D,E))		Parichha CTPS	Feb-25	07.03.2025	58	
					Harduaganj, Anpara-B, C, D	Jan-Eak 2025	19 03 2025	57	Pending
26	UJVNL	1	Received (Khodri, Chibro,		Sound D	20111100 2025	10.02.2025	33	
		4	Vyasi, Dharasu , Tiloth)		Dharasu			58	
27	HPPCL		Completed		Sainj	17.03.2025	24.05.2025	61	
28	PSPUL	State Generating Company & State	CHTP COSSTP CATP)						
29	HPSEBL	Distribution company having	Received						
		Transmission connectivity ownership							
I									
30	Prayagraj Power Generation Co. Ltd.	4	Received		Yes	24.07.2024	12.09.2024	56	Pending
31	Apraval Power Company Pvt. Ltd Apraava Energy Private Limited	1	Received			1			
33	Talwandi Sabo Power Ltd.	1	Completed		Nov'24	Nov' 24			
34	Nabha Power Limited	4	Received		400 kV NPL Sub-station		-	56	Pending
35	MEIL Anpara Energy Ltd	IPP having more than 1000 MW	Received						
36	Rusa Power Supply Company Ltd	installed capacity	Received			Jan-25	11.02.2025	59	
37	Lalitpur Power Generation Company Ltd		Received		Yes			57	Pending
20	ME IA Liria Nigam Ltd	4				Oct-Nov 2024	30.11.2024		
38	Adani Power Rajasthan Limited	1	Received			1			
40	JSW Energy Ltd. (KWHEP)	1	Received			1			
41	AESL		Received (ATIL -400kV						
1		Other transmission licensee	Mohindergarh S/s, OBTL,						
1			HPTSL, MISCE, ATSCE,						
42	Tata Power Renewable Energy Ltd.		Received (TPGEL, BTPSL)		300MW TPREL Chhayan	28.02.2025	11.03.2025	58	
1					300MW TP Saurya Banderwala Solar Plant	01.03.2025	11.03.2025	58	
43	UT of J&K				225MW TPGEL and 110MW KSEB Solar Plant	28.02.2025	11.03.2025	58	
44	UT of Ladakh	UT of Northern Region				1			
45	UT of Chandigarh	· · · · · · · · · · · · · · · · · · ·							
46	INDIGRID		Received			L			
47	ADHPL		Received		Completed	Mar-25	08.03.2025	58	issue taken up with HPPTCL

	Status of Internal Protection	on 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	Discussion held in PSC meeting	Compliance status
1	PGCIL	Central Government owned	Received (NR-1,2,3)			audit party	number	
2	NTPC	Transmission Company	Received					
3	BBMB		Received					
4	THDC		Received	Tehri- March, 2026 Koteshwar- December, 2025				
5	SJVN	-	Received (NJHPS, RHPS)					
6	NHPC	Central Generating Company	Received (RAP C)	July. 2025				
'				,,				
8	Delhi SLDC	-						
10	Raiasthan SLDC	-						
11	Uttar Pradesh SLDC	1	Received (Jaypee Vishnuprayag,					
		SLDC	WUPPTCL, SEUPPTCL, Alaknanda, GTL )	GTL- Jan'2026 & Feb'2026				
12	Uttarakhand SLDC							
13	Punjab SLDC	-						
15	DTL		Received					
16	HVPNL	-	Received					
17	UPPTCL	State Transmission Utility	Received (All zones)	Jan-March 2026				
19	PTCUL		Received	July-December 2025				
20	PSTCL HPPTCI	-	Received					
22	IPGCL		Received (PPS-III, I)					
23	IPGCL RRVUNI	4	Received					
25	UPRVUNL	1	Received (Anpara B)	Jun-25				
			Received (Obra A & B)	Jan - March 2026				
			Received (Harduaganj )	April -May 2025				
			Received (Harduaganj D)	April -May 2025				
		State Generating Company	Received (Parichha)	May-25				
			Received (Parichha Ext)	Feb-26				
			Received (Obra C) Received (Jawabarour)	Mar-26 Jul-25				
26	UJVNL	-	Received (Chibro)	Oct-25				
			Received (Khodri)	Nov-25 Dec-25				
			Received (Dharashu, Tiloth)	50215				
27	HPPCL		Received (Kasheng HEP, Sawara	Nov'25-Mar'26				
28	PSPCL	State Generating Company & State	Received (GHTP, GGSSTP, GATP,					
00		owned Distribution Company	RSD)					
29	HPSEBL	Transmission connectivity ownership	Received					
		······································						
30	Aravali Power Company Pvt. Ltd.	-	Received	Aug 25				
32	Apraava Energy Private Limited	-	Received	May'25				
33	Talwandi Sabo Power Ltd.	-	Received Received	May'25 May'25				
35	MEIL Anpara Energy Ltd	IPP having more than 1000 MW	Received	May'25				
36	Rosa Power Supply Company Ltd	installed capacity	Received	Jan'26				
37	Lalitpur Power Generation Company Ltd	-	Received	Oct - Nov 2025				
38	Adani Power Rajasthan Limited	-						
40	JSW Energy Ltd. (KWHEP)		Received	Nov-25 to Feb 26				
41	UT of J&K UT of Ladakh	UT of Northern Region						
43	UT of Chandigarh							
	ISTS Transmission I Itilities							
44	INDIGRID		Received	Aug-25 to March-26				
45	ADHPL Adapti Transmission Limited		Pacaived(400k) (Mahindargarh SS)	October 2025				
40	Bikaner Khetri Transmission Limited		Received (765 kV Bikaner and Khetri	September, 2025				
40	Foldwark Dhadle Tengentering Limited		extension bays)	Sostember 2025				
48	Powergrid Sikar Transmission Limited		Received (400 kV Fatengarn SS)	Sikar- August,25				
50	Powergrid Aligarh Sikar Transmission Limited		Received	Aligarh- April, 25 Sikar-				
51	Powergrid Ajmer Phagi Transmission Limited		Received	March,2025				
52	Powergrid Bikaner Transmission System Limited		Received	Bikaner-II Feb,2025 Khetri-Feb 2025				
54	Powergrid Ramgarh Transmission System Limited		Received	Fatehgarh-II Dec, 2025		t		
55	Powergrid Fatehgarh Transmission Limited		Received	Fatehgarh-III May, 2025 Fatehgarh-II Dec, 2025	+	+		
56	Powergrid Bhadla Transmission Limited		Received	Bhadla-II Jan, 2025 Fatehgarh-II Dec. 2025				
50	Doworarid Moorut Simbhouli Transmission Limited		Pacalvad	Bhadla-II Jan, 2025				
58	Powergrid Kala Amb Transmission Limited		Received	September, 2025		-		
	0					1		
-	State Utilities Uttar Pradesh				+	+		
59	Vishnuprayag Hydro Electric Plant (J.P.)		Received	Jun-25				
60 61	Alaknanda Hydro Electric Plant (GVK) Ghatampur TPS		Received	Dec 25 - Mar 26 February, 26	+	+		
62	Khara Power House (Khara)							
63	WUPPTCL SEURPTCI		Received	Oct-25		<u> </u>		
65	ATSCL	AESL	Received (400/220KV Alwar SS)	September, 2025				
66	GTL		Received (765 kV Hapur extension	September, 2025		<u> </u>		
67	GTL	AESL	Received (765 kV Agra and Gr.	September, 2025				
	1970	AESL	Noida extension bays)					
68 69	MTSCI	AESL	Received (220kV Ranpur SS) Received (400/220/132KV	August, 2025 August, 2025				
		AESL	Deedwana SS)					
70	OBTL	AFSI	Received (400/220/132KV Badaun SS)	Jan'2026				
71	STSL	AESL			L			
70	Rajasthan Barsingsar Plant	NIC						
73	Rajwest Plant	JSW						
			I		1			

	RE I Itilities					1
74	ABC Renewable Pvt 1 td					
75	ACME Hearagash powortech But 1 td	Provide and	lun-25			
76	ACME Dealidi	Preceived	lun-25			
70	AGME Phone	Received	Jun-25			
//	ACME Deagarn	Received	Jun-25			
78	ACME Raisar	Received	Jun-25			
79	ACME Dhoulpar	Received	Jun-25			
80	ACME Chittorgarh Solar Energy Pvt Ltd					
81	Adani Hybrid Energy Jaisalmer One Ltd.	Received	Jul-25			
82	Adani Hybrid Energy Jaisalmer Two Ltd.	Received	Jul-25			
83	Adani Hybrid Energy Jaisalmer Three Ltd.	Received	Aug-25			
84	Adani Hybrid Energy Jaisalmer Four Ltd.	Received	Aug-25			
85	Adani Renewable Energy (R.I) limited Rawara	Received	Sen-25			
90	Adapi Salar Epergy, Jaisalmer One But, Ltd., 450MW (Salar)	Deschad	0:#-35			
00	Adani Solar Energy Salsalifier Offer Fitt. Etd. 450WW (Solar)	Received	500.25			
07	Adani Solai Enegry Four Private Limited	Received	3ep-25			
88	Adani Hybrid Energy Jaisaimer Four Ltd. (AEML 2-350)	Received	Sep-25			
89	Adani Solar Energy Jaisalmer Two Private Limited Project Two	Received	Oct-25			
90	SB Energy Six Private Limited, Bhadla	Received	Oct-25			
91	Adani Solar Enegry Jodhpur Two Limited, Rawara	Received	Sep-25			
92	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)	Received	Nov-25			
93	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)	Received	Nov-25			
94	Adani Green Energy 24 Limited (Bhimsar)	Received	Nov-25			
95	Adani Green Twenty-Five Limited (Badisid)	Received	Dec-25			
96	Altra Xergi Pvt. I td.					
97	AMP Energy Green Eive Pyt 1 td					
09	AMP Energy Green Six Put 1 td		1			
98	America Area Delesta Limitad					
99	Ampius Ages Private Limited					 
100	Avaada KJHN_240MW					
101	Avaada sunce energy Pvt limited					
102	Avaada Sunrays Pvt. Ltd.					
103	Avaada Sustainable RJ Pvt. Ltd.					
104	Ayana Renewable Power Three Private Limited					
105	Avaana Renewable Power One Pvt. Ltd.					
106	Azure Power Forty One Pyt limited					
107	Azure Power Forty Three Pvt 1 td RSS					
108	Azure Manle Pvt 1 td					
100	AZURE Maple I VI. Etc.					
109	AZURE POWER INDIA PVI. LIU., BIladia					
110	Azure Power Thirty Four Pvt. Ltd.					
111	Clean Solar Power (Jodnpur) 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					
110	SINGRALILI SOLAR					
120	Anto Solar					
120	Anta Solar					
121	NTDO Devilent Onless First Orion Mill					
122	INTPO 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	Received	19-11-2025			
128	RENEW SOLAR POWER Pvt. Ltd. Bikaner	Received	17-11-2025			
129	ReNew Solar Uria Private Limited			1	l	i
130	Renew Sun Bright Pvt Ltd. (RSBPL)	Paraivad	20-11-2025	1	1	
131	Renew Sun Wayes Private Limited (RSE ML)	income.				
131	Renew Sun waves r'Ilvate Limiteu (ROEJ4L)		21 11 2025			
132	Renew Surya Partap PVI. Ltd.	Received	21-11-2023			
133	Renew Surya Ravi PVt. Ltd.	Received	18-11-2025			
134	Renew Surya Rosnni Pvt. Ltd.	Received	24-11-2025			
135	Renew Surya Vihan Pvt. Ltd.	Received	28.11.2025			
136	Renew Surya Ayaan Pvt. Ltd.					
137	Renew Solar Photovoltaic Pvt Ltd	 Received	25-11-2025			
138	Renew Hans Urja Pvt Ltd	Received	26-11-2025			
139	Renew Surya Jyoti Pvt Ltd	Received	27-11-2025			
140	RENEW SOLAR POWER Pvt. Ltd. Bhadla				1	1
141	Rising Sun Energy-K Pvt 1 td					
142	Serentice Renewables India / Private Limited		1			
142	Tata Dower Green Energy Ltd. (TDGEL) (225MM)		20.1.2026			
143	Tata Fower Dependence (IFGEL) (220000)	Received	30-1-2020			
144	Tata Power Renewable Energy Ltd. (TPREL) (300MW)	Received	28-1-2026			
145	Thar Surya Pvt. Ltd.					
146	TP Surya Ltd., Noorsar (110MW)	Received	30-1-2026			
147	Banderwala Solar Plant TP Surya Ltd. (300MW)	Received	28-02-2026			
148	TRANSITION ENERGY SERVICES PRIVATE LIMITED					
149	Transition Green Energy Private Limited					 · · · · · · · · · · · · · · · · · · ·
150	Transition Sustainable Energy Services Private Limited					

S No.	NRRC Member	Status of Sid Party Flot	Status	Schodulo submitted as per utility	Brocont Status	Penert Submission	Discussion hold in	Compliance
5. NO.	NRPC wember	Category	Status	Schedule submitted as per utility	Completed (ves/no)	Date by audit party	PSC meeting	status
					Completed (Jeano)	bate by addit party	number	oluluo
1	PGCIL	Central Government owned	Received (7 S/s of NR-1, 1 S/s of NR-2,	By Jan 2025				
		I ransmission Company	4 S/s of Nr-3)					
2	NTPC		Received (Singrauli, Riband, Unchabar,	By Oct 2028				
_			Dadri, Dadri Gas, Auraiya Gas,	-,				
			Faridabad Gas, Anta Gas Power Station					
			Reseived (Tende)	Pir 17 07 2025				
3	BBMB	Central Generating Company	Received	Feb-27				
4	THDC	÷	Received	March 2026-Tehri, F.Y. 2025-26- Koteshwar				
5	SJVN			Nov-Dec 2025 for RHPS, Nov 24- March 25 for				
6	NUDC	+	Received	NJHPS EV 2025-26				
7	NPCIL	†	Completed (220kV) (NAPS)	Jan'25	Completed	18.01.2025	57	
8	Delhi SLDC				een perez			
9	Haryana SLDC							
10	Rajasthan SLDC	+	Resolved (Tends extension)	10.00				
11	Uttar Pradesh SLDC	SLDC	Received (Tanda)	17.07.2025				
12	Uttarakhand SLDC	1						
13	Punjab SLDC	-						
14	nti Pradesh SLDC		Peraived	September 2025 to November 2026				
16	HVPNL	1	Precisives.	September, 2023 to November, 2020				
17	RRVPNL							
18	UPPTCL	State Transmission Utility	Received	2025	Under tendering			
20	PICOL	-	Received	By Jan 2025				
21	HPPTCL	1	Received	FY 25-26				
22	IPGCL		Received (PPS-III)	FY 25-26				
23	HPGCL	ł	Desciond					
24	UPRVUNI	ł	Obra-B	2026-27				
			Obra-C	Feb-26				
			Anpara D	2025	Under tendering			
			Harduagani	2025	Under tendering	<u> </u>		
		State Generating Company	Harduagani D	2025	Under tendering			
			Parichha Parichha Ext	2025	Under tendering			
			Jawaharpur	2025	Under tendering	<u> </u>		
			Paricha BTPS	2026				
26		ł	Panki		Completed in No. 2021			and an entry of the second
20	HPPCL	t	Swara Kuddu	2026	completed in Nov, 2024		đc	supmitted
	· · · · · · · · · · · · · · · · · · ·		Kashang HEP	FY 2025-26				
28	PSPCL	State Generating Company & State	Reeceived (GHTP)					
		owned Distribution Company	Received (GATP)	Dec. 2025				
			GGSSTP	2026				
			RSD/ Sahapur Kandi					
29	HPSEBL	Distribution company having	Kunihar	Conducted			55	
		Transmission connectivity ownership	Upper Nangal Raddi	Conducted			61	
			Badd					
				Conducted			61	
30	Prayagraj Power Generation Co. Ltd.		Received	Dec-24	Januray 2025	08.01.2025	59	
31	Aravali Power Company Pvt. Ltd		Received	Pri May 2025				
33	Talwandi Sabo Power Ltd.	+	Conducted	Der'22	completed	20 12 2024	60	
34	Nabha Power Limited	IPP having more than 1000 MW	Received	By December, 2025				
35	MEIL Anpara Energy Ltd	installed capacity	Received	* May 2025				
36	Lalitour Power Ceneration Company Ltd		Conducted	By 30.09.2024	08.08.2024	13.01.2025	57	
38	MEJA Uria Nigam Ltd.	t	Conducted	20.03.2024	Completed in Oct. 2024	22.03.2025	59	
			Opensity stand	Nevember 2024	Kawai		56	Pending
39	Adani Power Rajasthan Limited		Conducted	November, 2024	Ruwui			
39 40	Adani Power Rajasthan Limited JSW Energy Ltd. (KWHEP)		Received	December 2024 to March 2025	Completed		57	Pending
39 40 41 42	Adani Power Rajasthan Limited JSW Energy Ltd. (KWHEP) UT of J&K UT of Ladakh	UT of Northern Region	Received	December 2024 to March 2025	Completed		57	Pending
39 40 41 42 43	Adan Power Rajasthan Limited JSW Energy Ltd. (KWHEP) UT of J&K UT of Ladakh UT of Chandigarh	UT of Northern Region	Received	December 2024 to March 2025	Completed		57	Pending
39 40 41 42 43	Adani Power Rajastina Limited JSW Energy Lid. (KWHEP) UT of J&K UT of Ladakh UT of Ladakh UT of Chandigarh	UT of Northern Region	Received	December 2024 to March 2025	Completed		57	Pending
39 40 41 42 43 43	Adan Power Rajashan Lmited JSW Penegr Luk (KWHEP) UT of Jakk UT of Ladakh UT of Chandigarh ISTS Transmission Utilities IISTS Pransmission Utilities	UT of Northern Region	Received (PTCL)	November 2024 to March 2025	Completed		57	Pending
39 40 41 42 43 44	Adan Power Rajashan Lunted JSW Energy Lud, (KWHEP) UT of Jakk UT of Ladakh UT of Chandigarh ISTS Transmission Utilities INDIGRID	UT of Northern Region	Received (PTCL) Received (NRSS 29)	Protection 2024 December 2024 to March 2025	Completed		57	Pending
39 40 41 42 43 43 44 44	Adam Power Kajashian Lumido JSW Energy Lud, (KWHEP) UT of Ladsh UT of Chandicarh UT of Chandicarh ISTS Transmission Utilities INDIGRID ADHPL Admit Teasemanne 1	UT of Northern Region	Received (PTCL) Received (NRSS 29) Received (MRSS 29)	Norman, 2024 December 2024 to March 2025 Pr 25:36 Pr 2	Completed		57	Pending
39 40 41 42 43 43 44 44 45 46 47	Adan Power Rajashian Limited JSW Energy Lut (KWHEP) UT of Jakk UT of Chandicarh ISTS Transmission Utilities INDIGRID ADHPL Adani Transmission Limited Bikaner Khenti Transmission Limited	UT of Northern Region	Received (PTCL) Received (PTCL) Received (PTCL) Received (NRSS 29) Received (400K/ Mohiderash SS) Received (400K/ Mohiderash Ks++	Notember 2024         to March 2025           December 2024 to March 2025           Pr 25:26           Pr 25:26           Pr 25:26           Pr 25:26           December 2026           October, 2025           Sectember, 2025	Completed		57	Pending
39 40 41 42 43 44 44 44 45 46 47	Adan Power Rajashan Limited JSW Energy Luk (KWHEP) UT of Ladakh UT of Chandigarh ISTS Transmission Utilities INDIGRID ADHPL Adani Transmission Limited Bikaner Khetri Transmission Limited	UT of Northern Region	Received (PTCL) Received (PTCL) Received (NRSS 29) Received (NRSS 29) Received (OVK) Mohindergarh SS) Received (OVK) W Bikane and Khetri extension bays)	Norman, 2024           December 2024 to March 2025           Presenter 2024           Presenter 2026           October 2025           September 2026           October 2025           September 2025	Completed		57	Pending
39         39           40         41           42         43           44         44           45         46           47         48	Adam Power Rajashan Lunied JSW Energy Luk (KWHEP) UT of Jadakh UT of Chandiaarh ISTS Transmission Utilities IISTS Transmission Utilities IISTS Transmission Utilities IISTGRID ADHPL Adam ITransmission Limited Eikaner Khetri Transmission Limited Fatehoarh Bhadia Transmission Limited	UT of Northern Region	Received (PTCL) Received (PTCL) Received (NRSS 29) Received (AVKS 29) Received (AVKV Mohindergaft SS) Received (AVKV Mohindergaft SS) Received (AVK V Fatehgaft SS)	Normal, 2024           December 2024 to March 2025           P 25:26           P 26:27           September, 2025           September, 2025	Compirted		\$7 	Pending
39         39           40         41           42         43           43         44           44         45           46         47           48         49	Adam Power Rajashian Limited JSW Energy Luk (KWHEP) UT of Jadakh UT of Chandicarh ISTS Transmission Utilities INDIGRID ADHPL Adami Transmission Limited Bikaner Khetri Transmission Limited Fateharh Biada Transmission Limited Powerqid Sika Transmission Limited Powerqid Sika Transmission Limited	UT of Northern Region	Received (PTCL) Received (PTCL) Received (NPSS 29) Received (ADK Wohindersaft SS) Received (400K Wohindersaft SS) Received (400 KV Fatehgart SS) Received (400 KV Fatehgart SS)	Notember 2024         to March 2025           December 2024 to March 2025           Pr 25:26           Pr 25:26           Pr 25:26           Pr 25:26           December 2025           September, 2025           September, 2025	Completed		57	Pending
39         39           40         41           42         43           44         45           46         47           48         49           50         51	Adan Power Rajashan Lunted JSW Energy Luk (KWHEP) UT of Ladakh UT of Ladakh UT of Chandigarh ISTS Transmission Utilities INDIGRID ADHPL Adani Transmission Limited Bikaner Khetti Transmission Limited Powerdid Alart Transmission Limited Powerdid Alart Transmission Limited Powerdid Alart Transmission Limited Powerdid Alart Transmission Limited	UT of Northern Region	Conductived Received Received (PTCL) Received (PTCL) Received (NRSS 29) Received (AOKV Mohinderraht SS) Received (AOKV Mohinderraht SS) Received (AOKV Mohinderraht SS) Received (AOKV V Fatehgarh SS)	Noreinea, 2024 December 2024 to March 2025 Pr 25:26 Pr 25:26 Pr 25:26 Pr 26:25 September 2026 October 2025 September, 2025 September, 2025	Completed		\$7 	Pending
39         39           40         41           42         43           43         44           45         46           47         48           49         50           51         52	Adam Power Rajashian Lunied 35W Fenergy Lud, KWHEP) UT of Jadakh UT of Chandiaarh ISTS Transmission Utilites INDIGRID ADHPL Adami Transmission Limited Bikaner Khetri Transmission Limited Fatehaarh Bhadia Transmission Limited Powerorid Skar Transmission Limited Powerorid Jikan Skar Transmission Limited Powerorid Almar Phagi Transmission System Limited	UT of Northern Region	Received (PTCL) Received (PTCL) Received (NRSS 29) Received (RMSS 29) Received (AdVKV Mohindersaft SS) Received (AdVKV Mohindersaft SS) Received (AdVKV Katehgaft SS)	Normen, 2024 December 2024 to March 2025 Pr 25:26 Pr 25:26 Pr 25:26 Pr 25:26 October, 2025 September, 2025 September, 2025	Completed		57	Pending
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39           39           40           41           42           43           44           45           46           47           48           49           50           51           52           53           54           55           56           57           58           59           60           61	Adam Power Rajashian Lunied JSW Energy Lud (KWHEP) UT of Jakk UT of Ladakh UT of Chandiaarh ISTS Transmission Utilities IINDIGRID ADHPL Adami Transmission Limited Fatehqarh Bhadia Transmission Limited Poweroid Skar Transmission Limited Poweroid Skar Transmission Limited Poweroid Skarh Skar Transmission Limited Poweroid Jakan Skar Transmission Limited Poweroid Jakan Skar Transmission Limited Poweroid Jakan Skar Transmission Limited Poweroid Jakan Transmission Limited Poweroid Jakana Transmission Limited Poweroid Jakana Transmission Limited Poweroid Kata Transmission Limi	UT of Northern Region	Received (PTCL) Received (PTCL) Received (PTCL) Received (NRSS 29) Received (Add Whindercarh SS) Received (Add Whindercarh SS) Received (Add VV Fatehgarh SS) Received (Add VV Fatehgarh SS) Received Rec	November, 2024 to March 2025 December 2024 to March 2025  Pr 25:26 Pr 25:26 Pr 26:25 September 2026 October, 2025 September, 2	Completed Completed		57	Preding
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39         39           40         41           42         44           45         56           60         50           50         56           57         57           59         60           61         62           63         64           65         66	Adam Power Kajastihan Lumido JSW Energy Luk (KWHEP) UT of Jakk UT of Chandicarh ISTS Transmission Utilities INDGRID ADHPL Adami Transmission Utilities INDGRID Bikaner Kheri Transmission Limited Eatehoarh Bhadia Transmission Limited Poweroid Alson Sikar Transmission Limited Poweroid Sikar Transmission Limited Poweroid Alsona Transmission Limited Poweroid Bhadia Transmission Limited Poweroid Kala Amb Transmission Limited Poweroi	UT of Northern Region	Received (PTCL) Received (PTCL	Noreined, 2024         March 2025           December 2024 to March 2025           Prist 2014           Prist 2015           September 2026           Cotober 2025           September, 2025           Prist 2015           September, 2025           September, 2025           September, 2025           September, 2025	Completed Completed Completed Completed		57 57 59 59 59	Predeg
39         39           40         41           41         42           43         3           44         42           44         45           46         6           57         57           59         60           61         65           66         66	Adam Power Rajashan Lumidd JSW Energy Luk (KWHEP) UT of Jakk UT of Ladakh UT of Chandiaarh ISTS Transmission Utilities INDIGRID ADHPL Adam Transmission Limited Bikaner Khefti Transmission Limited Fatebaarh Bhadia Transmission Limited Poweroid Skar Transmission Limited Poweroid Skar Transmission Limited Poweroid Skar Transmission Limited Poweroid Almach Skar Transmission Limited Poweroid Almach Skar Transmission Limited Poweroid Almar Transmission Limited Poweroid Almach Skar Transmission Limited Poweroid Almach Skar Transmission Limited Poweroid Almada Transmission Limited Poweroid Fatebaarh Transmission Limited Poweroid Fatebaarh Transmission Limited Poweroid Fatebaarh Transmission Limited Poweroid Haada Transmission Limited Poweroid Karaba Transmission Limited Poweroid Karaba Transmission Limited State Utilities Uttar Pradesh Uttar Pradesh VuPPTCL ATSCL GTL	UT of Northern Region	Received (PTCL) Received (PTCL) Received (PTCL) Received (NRSS 29) Received (Additional Mathematical S) Received (Additional Mathematical S) Received (Additional Mathematical S) Received (Additional S) Received (Ros (V) Hapur extension Bys)	Norman, 2024 December, 2024 to March 2025 Pr 25-26 Pr 25-26 Pr 25-26 Cotober, 2025 September, 2025 September, 2025 September, 2025 December, 2028 Mar 25 FY 27-28 Dec:25 September, 2025 September, 2025	Completed Completed Completed Completed		57 57 59 59	
39         39           40         41           42         44           45         54           46         47           48         47           50         50           51         51           54         55           56         57           59         60           60         61           62         66           67         67	Adam Power Kajashian Lumido JSW Energy Luk (KWHEP) UT of Jakk UT of Chandigarh IST Stransmission Utilities INDGRID ADHPL Adam Transmission Limited Bikaner Khetri Transmission Limited Powernid Akar Transmission Limited Powernid Bkaner Transmission Limited Powernid Kala Arnb Transmission Limited Pow	UT of Northern Region	Received (PTCL) Received (PTCL	Note:incl. 2024           Note:incl. 2024           Viscomber 2024 to March 2025           P 28-25           P 28-25           * September 2026           October 2025           September, 2025           September, 2025           Prember, 2025           September, 2025	Completed Completed Completed		\$7 57 59 59 59 59	
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39         40           41         42           44         43           44         43           44         44           45         46           47         48           50         55           56         57           57         58           59         60           61         65           66         66           67         68           69         90	Adam Power Kajashian Lumidd JSW Fenergu Lu (KWHEP) UT of JAK UT of Ladakh UT of Chandiaarh ISTS Transmission Utilities INDIGRID ADHPL Adami Transmission Limited Eathbaarh Bhadia Transmission Limited Fatehaarh Bhadia Transmission Limited Poweroid Skar Transmission Limited Poweroid Skara Transmission Limited Poweroid Alach Skar Transmission Limited Poweroid Alaca Transmission Limited Poweroid Alaca Transmission Limited Poweroid Fata Transmission Limited Poweroid Kata Transmission Limited State Utilities Uttar Pradesh VUPPTCL ATSCL GTL HPTSL MTSCL	UT of Northern Region	Received (PTCL) Received (PTCL) Received (PTCL) Received (NRSS 29) Received (NRSS 29) Received (Addit Mchindergarh SS) Received (Received Addit Mchindergarh SS) Received (Received Addit SS) Received (Received Addit SS) Received (RS KV Hapur extension Bays) Received (RS KV Agra and Gr. Noida extension Bays) Received (220X/ Rangur SS) Received (220X/	Normber 2024 to March 2025           Presember 2024 to March 2025           Presember 2024 to March 2025           Presember 2026           October 2025           September 2026           October 2025           September 2025	Completed		57 57 57 57 59 59 59	Preding  Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Preding Predin
39         40           40         41           42         43           43         44           45         46           47         7           48         49           50         55           55         55           56         55           56         66           67         68           69         69	Adam Power Kajashian Lumido Jäsik Tenergu Lu (KWHEP) UT of Jadakh UT of Chandioarh IT of Ladakh UT of Chandioarh ISTS Transmission Utilities INDGRID ADHPL Adam Transmission Limited Bikamer Khem Transmission Limited Powerdid Kanar Siker Limited Gruet Sitte Utilites Utat Pradesh Vishnuprava Hydro Electric Plant (J.P.) Alakanada Hydro Electric Plant (J.P.) Alakana	UT of Northern Region	Received (PTCL) Received (PTCL	Noreinel, 2024         Image: Content of Cont	Completed Completed		57 57 59 59 59	
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39         40           40         40           41         41           42         42           43         44           44         45           46         67           59         60           61         62           62         63           64         65           67         66           69         70           71         72	Adam Power Rajashan Lunied 35W Energy Lu (KWHEP) UT of Jakk UT of Chandiaah ISTS Transmission Utilites INDIGRID ADHPL Adam Transmission Limited Bikaner Khefti Transmission Limited Fatebaarh Bhadia Transmission Limited Poweroid Skar Transmission Limited Poweroid Skar Transmission Limited Poweroid Skar Transmission Limited Poweroid Skar Transmission Limited Poweroid Skara Transmission Limited Poweroid Almach Skar Transmission Limited Poweroid Almach Skar Transmission Limited Poweroid Almach Transmission Limited Poweroid Almada Transmission Limited Poweroid Fatagath Transmission Limited Poweroid Skara Amb Transmission Limited Poweroid Kata Transmission Limited State Utilities Uttar Pradesh VIEPTCL ATSCL GTL GTL HPTSL MTSCL OC6TL STSL Rajasthan Barsinoas Plant	UT of Northern Region	Received (PTCL) Received (PTCL) Received (PTCL) Received (NRSS 29) Received (Additional Content of the second of t	Normber 2024 to March 2025           Presember 2024 to March 2025           Presember 2024 to March 2025           Presember 2026           October 2025           September 2025	Completed Comple		57 57 57 59 59 59	Preding
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89	Adani Solar Energy Jaisaimer Two Private Limited						
	Project Two						
90	SB Energy Six Private Limited, Bhadla						
91							
	Adani Solar Energy Jodhour Two Limited, Rawara						
02	Adam Solar Energy Collipar Not Ltd. (David						
02	Adam Solar Energy K3 Two PVL Etc. (Devloci)						
93	Adani Solar Energy RJ 1Wo PVL Etd. (Phalodi)						
94	Adani Green Energy 24 Limited (Bhimsar)						
95	Adani Green Twenty-Five Limited (Badisid)						
96	Altra Xergi Pvt. Ltd.	Conducted		Completed	03.02.2025-04.02.2025	60	
97	AMP Energy Green Five Pvt. Ltd.						
98	AMP Energy Green Six Pvt. Ltd.						
99	Amplus Areas Private Limited						
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101	Avaada sunce energy Pvt limited						
102	Avaada Sunrays Pvt. Ltd.						
103	Avaada Sustainable RJ Pvt. Ltd.						
104	Avana Renewable Power Three Private Limited	Conducted		18.05.2025		61	
105	Avaana Renewable Power One Pvt. Ltd.	Conducted		09.03.2025		59	
106	Azure Power Forty One Pyt limited						
107	Azura Dowar Forty Three Dut Ltd. RSS						
107	ALUIO I ONO I ONY INICE EVI. LIUNOO						
108	Azure Maple PVI. 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						
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110	Meda Surva Orla PVI. Etd. (MSOPE)						
117	AURAIYA Solar						
118	DADRI SOLAR						
119	SINGRAULI SOLAR						
120	Anta Solar						
121	Unchahar Solar						
122	NTPC Devikot Solar plant 240MW						
123	NTPC Kolavat 400kV						
124	Nedan Solar NTDC						
125	NTPC Nothers 300MW						
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120	One voit energy Pvt. Etc.						
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 Sun Waves Private Limited (RSE.I4)						
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138	RENEW SOLAR POWER Pvt. Ltd. Bikaner	1					
139	Rising Sun Energy-K Pvt. Ltd.						
140	Serentica Renewables India 4 Private Limited						
141							
	Tata Power Green Energy Ltd. (TPGEL) (225MW)	Description	21 02 2022		1		
142	Tate Dever Renewable Energy Ltd. (TDREL)		31 03 10L7				
142	Tata Power Kenewable Energy Ltd. (TPREL)						
H	(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						
1	LIMITED	1					
147	Transition Green Energy Private Limited						
148	Transition Sustainable Energy Services Private						
	Limited	1	1	1	1		
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	Status of actions points recommended during previous PSC meetings (to be discussed in 60th PSC meeting)								
S No	Agenda	Pendial actions recommanded during DSC meeting	Status of remdial	action taken					
5. NO	Agenua	Rendral actions recommended during FSC meeting	60th PSC (26.05.2025)	61st PSC (26.06.2025)					
1	Frequent multiple elements tripping at 220kV Kunihar, Baddi, Upperla Nangal complex and load loss event in HP control area	<b>51 PSC:</b> 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 representative stated that they are going for combined scheme through PSDF fund for rectification of issues. NRLDC representative highlighted that this issue is going on for last several PSC meetings, hence HP need to have proper action plan and cost estimate for rectification of issues to ensure healthiness of protection system at the earliest. CGM(SO), NRLDC also emphasized that if there is any problem in getting PSDF fund for rectification of issues, HP need to expedite the process at their own cost and action plan may be made accordingly. 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 work will be completed within 1 month. 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 representative informed that relays are already purchased, they will be commissioned after OPGW work is completed. NRLDC representative raised concern over PLCC maloperation issue at Sainj end. Sainj representative stated that Over-voltage protection is disabled at Sainj end and PLCC will be made available/healthy within 15-20 days. 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	<b>51 PSC:</b> 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 differential protection scheme implementation on 400kV Koteshwar(PG)-Tehri(TH) D/C is in tendering stage and work will be completed within 4-5 months. 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	<b>51 PSC:</b> 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 materials arrived at site. Due to shutdown unavailability during paddy season, bus bar protection will be commissioned after paddy season. 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 delayed by 2 months due to issue (plan change) in civil work. 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 representative informed that relays are available at site. Relay replacement will be done as per shutdown availability. PSC forum requested UPPTCL to expedite the replacement of relay at Khara(UP) end.						
9	Multiple elements tripping event at Patiala(PG) on 19th July 2024, 18:50 hrs	52 & 53 PSC: POWERGRID was requested to expedite the process of commissioning of new bus bar scheme.	POWERGRID(NR-2) representative informed that implementation of bus bar protection at Patiala(PG) will be completed by 15th June 2025. PSC forum requested POWERGRID(NR-2) to expedite the process.						

10	Multiple elements tripping at 220kV Khodri HEP & Chibro HEP on 5th, 11th & 19th September 2024	<b>53 PSC:</b> 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 offer is received from GE and tender is at approval stage. PSC forum requested UJVUNL & HPSEBL to take necessary remedial action at their end and ensure proper operation of protection system. UJVUNL shall expedite the action plan and HPSEBL shall review the protection setting of 220kV Khodri-Majri line-II.	
11	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 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	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 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.	
13	Multiple elements tripping at 220kV Dausa(RS) on 21st October 2024 and on 29th December, 2024	<ul> <li>54 &amp; 56 PSC Recommendations:</li> <li>a) RVPNL will expedite the replacement of all the static relays at 220kV Dausa 5/s with numerical relays.</li> <li>b) Time synchronization of all the recording instruments need to be ensured.</li> <li>c) Healthiness of protection system and their proper operation need to be ensured.</li> <li>d) Timely submission of disturbance recorder (DR) and event logger (FL) files pred to be ensured.</li> </ul>	RVPNL representative informed that RVPNL representative informed that 2 static relays replacement will require atleast 3-4 months. However, issue is resolved for now as 2 static relays DR extraction facility is made available through Main-I/II numerical relay till they are replaced. NRLDC representative stated that in that case issue will be again followed up after 3 months for knowing the status of work.	
14	Frequent tripping of 220 KV RAPS_A(NP)- Sakatpura (RS) (RS) Ckt-1 &2	55 PSC Recommendations: Expeditious corrective actions to minimise frequent faults in line.	RVPNL representative informed that RVPNL representative informed that work in 220kV RAPS_B(NP)- Sakatpura (RS) (RS) Ckt is completed. NRLDC representative raised concern about the fact that A/R is disabled at RAPS_A end. However, NPCIL representatives were not present in the meeting. PSC forum requested NPCIL to enable A/R at RAPS_A end of 220kV RAPS_A(NP)- Sakatpura (RS) (RS) Ckt-1 & 2.	
15	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 PO (Purchase order) is in process and work will be completed before foggy season 2025. NRLDC representative requested PSTCL for expedite the replacement of insulators in these lines (by October 2025) to minimise the tripping events due to fog during next winter season. PSTCL agreed for the same. PSC forum requested PSTCL to for expeditious actions for insulators replacement.	
16	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 carrier cabinet is to be installed at both Aligarh(UP) and Muradnagar_1(UP) end, but they are yet not allotted. PSC forum requested UPPTCL for expedited corrective actions.	
17	Frequent tripping of 220 KV Agra(PG)- Bharatpur(RS) (PG) Ckt-1	57 PSC Recommendations: Impedance measurement and distance relay settings of the line need to be reviewed before summer (high demand period).	RVPNL representative informed that RVPNL informed that ground clearance issue is resolved.	
18	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 carrier cabinet is yet to be allotted. PSC forum requested UPPTCL for expedited corrective actions.	
19	Frequent tripping of 400 KV Noida Sec 148- Noida Sec 123 (UP) Ckt-1	57 PSC Recommendations: a) Timely submission of disturbance recorder (DR) and event logger (EL) files need to be ensured. b) Time sync issue need to be addressed. c) Issue in A/R non-operation need to be resolved.	UPPTCL representative informed that issue couldn't be resolved by third party, hence they are again trying to do the work through OEM which is under process. PSC forum requested UPPTCL to take necessary follow up actions for expeditious completion of work.	

20	Frequent tripping of 400 KV Merta- Ratangarh (RS) Ckt-1	57 PSC Recommendations: a) DR standardization need to be checked (DR time window of ~800ms is not as per standard). b) Phase sequence issue need to be resolved. c) Status of A/R operation at Ratangarh end need to be reviewed.	RVPNL informed that work is completed on 13th May 2025.	
21	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 was not present. PSC forum requested PSPCL to share detailed report along with observations and remedial action taken.	
22	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 estimated timeline for bus bar relay replacement is approx. 6 months (by Nov 2025). PSC forum requested RVPNL to share the timeline of replacement of relays and take expedited corrective actions at their end.	
23	Frequent tripping of 220 KV Debari(RS)- RAPS_A(NP) (RS) Ckt-1	58 PSC Recommendations: Expeditious corrective actions to minimise frequent faults in line.	RVPNL representative informed that strengthening work has already been started as complete line refurbishment will require long shutdown. Work is expected to get completed within 4 months (by Sep 2025). PSC forum requested RVPNL to take expeditious corrective action to minimise frequent faults in line.	
24	Frequent tripping of 400 KV Bareilly-Unnao (UP) Ckt-1	59 PSC Recommendations: A/R issue at Bareilly end need to be resolved at the earliest.	UPPTCL representative stated that testing is already done on 5th May 2025 and issue is resolved at Bareilly end also.	
25	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 stated that A/R operation review is already done at Merta end and the same at Kankani end will be done by June 2025. PSC forum requested RVPNL to review A/R operation at Kankani end at the earliest.	
26	Multiple elements tripping at 220KV Dasuya(PS) at 14:32 hrs on 10th March, 2025	59 PSC Recommendations: PSTCL shall share the DR/EL & tripping details within one week.	PSTCL representative informed that detailed report is shared though mail.	
27	Multiple elements tripping at 220/132/33kV Baraut(UP) at 01:06 hrs on 12th March, 2025	59 PSC Recommendations: DT scheme of 220 KV Baghpat(PG)- Shamli(UP) (UP) Ckt need to be checked during earliest available shutdown.	UPPTCL representative stated that if there is delay in getting shutdown, DT scheme will be checked by removing the actual connection to lockout relay. The work is expected to get completed within 1 month (by June 2025). PSC forum requested UPPTCL to expedite checking of DT scheme of 220 KV Baghpat(PG)- Shamli(UP) (UP) Ckt.	
28	Multiple elements tripping at 220/66/33kV Delhi Rohtak Road(BB) at 18:34 hrs on 14th March, 2025	59 PSC Recommendations: a) Resistive reach settings of zones need to be reviewed. b) In stead of keeping Main-2 relay out of service, it can be kept in service with zone-1 settings of 100 ms until it is being replaced by new relay.	BBMB representative stated that review of resistive reach settings of zones is done and zone-1 settings of Main-2 relay is updated to 100 ms.	
29	Multiple elements tripping at 400kV Parbati_3(NH) and 400kV Sainj HEP(HP) at 14:46 hrs on 16th March, 2025	59 PSC Recommendations: SLDC HP need to ensure under-voltage at Sainj end of 400 KV Parbati_2(NH)-Sainj(HP) (PKTCL) Ckt is disabled.	Sainj representative stated that under-voltage at Sainj end of 400 KV Parbati_2(NH)- Sainj(HP) (PKTCL) Ckt is disabled.	
30	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 they are yet to confirm the status of over-voltage protection operation (disabled or not) at Nokhra end. PSC forum requested NTPC to ensure over-voltage is disabled at Nokhra end of 220kV Nokhra-Bhadla2 Ckt.	

### Grid Event summary for May 2025

	Grid Event summary for May 2025											
S.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Out	age	Loss of generat during the Gr	ion / loss of load id Disturbance	Fault Clearance time (in ms)	Compliance	of Protection Pro	tocol/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	i)220 KV Ludhiana(PG)-Laitokalan(PS) (PSTCL) Ckt-2 ii)400/220 kV 500 MVA ICT 4 at Ludhiana(PG) iii)400/220 kV 500 MVA ICT 1 at Ludhiana(PG) iv)220 KV Pakhowal(PS)-Ludhiana(PG) (PSTCL) Ckt-1 v)220KV Bus 2 at Ludhiana(PG)	Punjab	PGCIL &PSTCL	2-May-25	00:00	0	110	320	N (Partial details received)	N (Partial details received)	N (Partial details received)
2	GD-1	i)400 KV Deepalpur(IHKT)-Kabulpur(HV) (HVPNL) Ckt-1 ii)400 KV Deepalpur(IHKT)-Kabulpur(HV) (HVPNL) Ckt-2 iii)400 KV CLP Jhajjar(CLP)-Kabulpur(HV) (HVPNL) Ckt-1 v)400 KV CLP Jhajjar(CLP)-Kabulpur(HV) (HVPNL) Ckt-2 v)400 KV Bahadurgarh(PG)- Kabulpur(HV) (PG) Ckt-1 v)400/220 KV ICT-2 at Kabulpur(HV)	Haryana	HVPNL, CLP & PGCIL	2-May-25	04:25	0	167	480	N (Partial details received)	N (Partial details received)	N
3	GD-1	ii)400 KV CLP Jhajjar(CLP)-Dhanoda(HV) (HVPNL) CKt-1 ii)400 KV CLP Jhajjar(CLP)-Dhanoda(HV) (HVPNL) CKt-2 iv)660 MW JHAJJAR(CLP) - UNIT 2 v)660 MW JHAJJAR(CLP) - UNIT 1	Haryana	HVPNL, & CLP	2-May-25	05:22	763	0	NA	N (Partial details received)	N (Partial details received)	N
4	GD-1	i) 400 KV Dhanoda-Daulatabad (HV) Ckt-2	Haryana	HVPNL	2-May-25	05:22	0	288	600	Y(d)	N	N (Partial details received)
5	GD-1	i)220 KV Lalitpur -Babina (UP) CKT ii)220 KV Lalitpur -Jhansi (UP) CKT ii)220K VL ses-1 at Lalitpur iv)7c5/220KV 315MVA ICT-1 at Lalitpur(UP) v)220KV Lalitpur-Lalitpur20C kK-1 v)100MVA ST-2 at Lalitpur(UP) vii)755 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-1 vii)755 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-2 ix)660 MW Lalitpur Unit-1 x)660 MW Lalitpur Unit-2 xi)660 MW Lalitpur Unit-3 xii)220kV Lalitpur-Lalitpur220 ckt-2	Uttar pradesh	UPPTCL	3-May-25	15:32	1040	90	560	Y	Y	Y
6	GD-1	i)400 KV Gr.Noida_2(UPC)-Gr.Noida(UPC) (UP) Ckt-2 ii)400 KV Gr.Noida_2(UPC)-Gr.Noida(UPC) (UP) Ckt-1 ii)400 KV Gr.Noida(UPC)-Nawada(HV) (PG) Ckt-1 v)400 KV Dadri(NT)-Gr.Noida(UPC) (PG) Ckt-1 v)400/220 kV 315 MVA ICT 1 at Gr.Noida(UPC) vi)400/220 kV 315 MVA ICT 2 at Gr.Noida(UPC) vii)400/220 kV 500 MVA ICT 5 at Gr.Noida(UPC) vii)400/220 kV 500 MVA ICT 5 at Gr.Noida(UPC) vii)400/220 kV 500 MVA ICT 5 at Gr.Noida(UPC) xii)400 KV Gr.Noida_2(UPC) = Bu S 2 x)400 KV Gr.Noida_2(UPC) - Bu S 1	Uttar pradesh	PGCIL & UPPTCL	3-May-25	15:47	1068	0	80	Y(d)	Y(d)	N (Partial details received)
7	GI-2	i)220KV Jaisalmer- NTPC Solar ckt ii)400/220 kV 500 MVA ICT 3 at Jaisalmer(RS) iii)400/220 kV 500 MVA ICT 4 at Jaisalmer(RS) iv)220kV Jaisalmer-Green Infra ckt vi)220kV Jaisalmer-Green Infra ckt vi)220kV Jaisalmer-Green Infra ckt vi)240kV Jaisalmer-REI Ckt 1 vii)400/220 kV 500 MVA ICT 1 at Jaisalmer(RS) viii)400 KV Akal-Jaisalmer (RS) Ckt-1	Rajasthan	RVPNL, ACME & NTPC	5-May-25	11:53	1050	0	800	Y(d)	Y(d)	N (Partial details received)
8	GI-2	i)400/220 KV 315 MVA ICT 1 AT OBRA_B(UP) ii)400/220 KV 315 MVA ICT 2 AT OBRA_B(UP) ii)200 MW OBRA TPS - UNIT 10 iv)400 KV 0BRA 2T OBRA_B(UP) y1400 KV 0BRA_B-SULTANPUR (UP) CKT-1 vi)400 KV ANPARA-OBRA_B (UP) CKT-1 vi)400 KV ANPARA-OBRA_B (UP) CKT-1	Uttar Pradesh	UPPTCL	8-May-25	06:56	184	69	NA	N	N	N
9	Gi-2	i)765 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-2 ii)220 KV Lalitpur -Jhanai (UP) CKT ii)220 KV Lalitpur-Lalitpur220 Ckt-2 kV)220 KV Lalitpur-Lalitpur220 Ckt-1 v)660 MW Lalitpur Unit-2 vi)660 MW Lalitpur Unit-2 vi)220 KV Lalitpur -Babina (UP) CKT viii)765 KV Agra Fatehabad(UP)-Lalitpur(LPG) (UP) Ckt-1	Uttar Pradesh	UPPTCL	11-May-25	13:49	1040	0	120	Y	Y	Y

S.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Out	age	Loss of generat during the Gr	ion / loss of load id Disturbance	Fault Clearance time (in ms)	Compliance	of Protection Pro	ocol/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)
10	GD-1	i)220 KV BHADLA_2 (PG)-RSDCL(PSS2) _SL_BHD2_PG (RSDCL) CKT-1 ii)220 KV NOKHRA SL_BHD2 (NTPC)-BHADLA_2 (PG) (NTPC_NOKHRA) CKT-1 iii)400 KV BIKANER(RS)-DEEDWANA(MTS) (RS) CKT-1 iv)STATCOM NO 2(-425/+5SOMVAR) AT 400 KV BHADLA_2 (PG)	Rajasthan	RSDCL, PGCIL and RVPNL	11-May-25	12:31	2215	0	80	N (Partial details received)	N (Partial details received)	N (Partial details received)
11	GI-2	i)120 MW URI-1 HPS - UNIT 2 ii)120 MW URI-1 HPS - UNIT 3 iii)400 KV URI_1(NH)-AMARGARH(INDIGRID) (INDIGRID) CKT-2	J&K	INDIGRID, NHPC	13-May-25	16:15	238	0	80	Y(d)	Y(d)	Y(d)
12	GD-1	i)220 KV Phozal(HP)-Nallagarh(PG) (ADHPL) Ckt ii)220 KV AD hydro(AD)-Nallagarh(PG) (ADHPL) Ckt iii)96 MW Unit-1 at AD Hydro HEP	НР	ADHPL, HPPTCL, POWERGRID	16-May-25	15:25	87	0	120	Y(d)	Y(d)	N (Partial details received)
13	GD-1	()120 MW URI-1 HPS - UNIT 1 (i) 120 MW URI-1 HPS - UNIT 2 (ii) 120 MW URI-1 HPS - UNIT 3 (v) 120 MW URI-1 HPS - UNIT 3 (v) 120 MW URI-2 HPS - UNIT 4 (v) 60 MW URI-2 HPS - UNIT 2 (vii) 60 MW URI-2 HPS - UNIT 2 (vii) 60 MW URI-2 HPS - UNIT 4 (v) 400 KV URI_1(NH)-AMARGARH(INDIGRID) (INDIGRID) CKT-2	J&K	INDIGRID, NHPC	16-May-25	20:10	710	0	120	Y(d)	Y(d)	Y(d)
14	GD-1	i)400 KV URI_2(NH)-WAGOORA(PG) (PG) CKT ii)400 KV URI_2(NH)-URI_1(NH) (PG) CKT iii)60 MV URI-11 HPS - UNIT 1 iv)60 MV URI-11 HPS - UNIT 2 v)60 MV URI-11 HPS - UNIT 3 v)60 MV URI-11 HPS - UNIT 4	J&K	INDIGRID, NHPC	18-May-25	21:35	244	0	400	Y(d)	Y(d)	Y(d)
15	GD-1	i)220 KV Amargarh (INDIGRID)-Ziankote(JK) (PDD JK) Ckt-1 ii)220 KV Amargarh (INDIGRID)-Ziankote(JK) (PDD JK) Ckt-2	J&K	INDIGRID, PDD J&K	18-May-25	22:57	0	85	120	N (Partial details received)	N (Partial details received)	N (Partial details received)
16	GD-1	1400 KV Dadri(NT)-Loni Harsh Vihar(DV) (NT) Ckt-1           11210 MW Unit-1 at Dadri-I TPS           11210 MW Unit-3 at Dadri-I TPS           11300 MW Unit-1 at Dadri-I TPS	UP	NTPC & PGCIL	21-May-25	20:00	975	0	80	Y(d)	Y(d)	N
17	GD-1	IN SEQ VAY HOLE Manage Japan (LYC) LYC-2 II) 755 KV Bhiwani- Meerut (PG) Ckt II) 755 KV Berut-Gr Nold (PG) Ckt II) 755 XV Job WA ICT-1 at Meerut(PG) Vi) 755/400 KV 1500 MVA ICT-1 at Meerut(PG) VI) 755/400 KV 1500 MVA ICT-3 at Meerut(PG) VI) 755/400 KV 1500 MVA ICT-3 at Meerut(PG) VII) 755/400 KV 1500 MVA ICT-3 at Meerut(PG) VII) 755/400 KV Tehri(THDC)- Koteshwar(PG) (PG) Ckt-1 VII) 700 KV Tehri(THDC)- Koteshwar(PG) (PG) Ckt-3 XI) 100 MV Unit-2 at Koteshwar IPS XII) 100 MV Unit-3 at Koteshwar IPS XII) 100 MV Unit-3 at Koteshwar IPS XII) 200 MV Unit-3 at Koteshwar IPS XII) 200 MV Unit-3 at TEHRI IPS XII) 250 MW Unit-3 at TEHRI IPS XII) 250 MW Unit-4 at TEHRI IPS XII) 250 MW Unit-4 at TEHRI IPS XII) 250 MW Unit-4 at TEHRI IPS XII] 756/400 KV 800 MVA ICT 1 at Koteshwar(PG) XIII] 756/400 KV 800 MVA ICT 2 at Koteshwar(PG) XIII] 756/400 KV 800 MVA ICT 3 at Koteshwar(PG)	UP & UK	PGCIL	21-May-25	19:55	645	150	1640	Y(d)	Y(d)	N
18	GI-2	i)800 kV HVDC Kurukshetra (PG) Pole-02 ii)800 kV HVDC Kurukshetra (PG) Pole-04	Haryana	PGCIL	21-May-25	22:50	0	0	NA	Y(d)	Y(d)	Y(d)
19	GD-1	i)400 KV Parbati_2(NH)- Parbati Pooling Banala(PG) (PKTCL) Ckt-1 ii)400 KV Parbati_2(NH)- Sainj(HP) (PKTCL) Ckt-1 iii)200 MV Whit-1 at Parbati II HEP iv)200 MW Unit-2 at Parbati II HEP v)200 MW Unit-3 at Parbati II HEP vi)200 MW Unit-4 at Parbati II HEP	Himachal Pradesh	PGCIL & NHPC	21-May-25	21:05	192	26	NĂ	Y(d)	Y(d)	Y(d)
20	GD-1	i)400 KV Parbati _2(NH)- Parbati Pooling Banala(PG) (PKTCL) Ckt-1 ii)400 KV Parbati _2(NH)- Sainj(HP) (PKTCL) Ckt-1 iii)200 MW Unit-2 at Parbati II HEP iv)200 MW Unit-2 at Parbati II HEP v)200 MW Unit-3 at Parbati II HEP v)200 MW Unit-4 at Parbati II HEP	Himachal Pradesh	PGCIL & NHPC	23-May-25	10:37	505	0	NA	Y(d)	Y(d)	Y(d)

s	.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area Owner/ Agency		Outage		Loss of generat during the Gr	ion / loss of load id 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)
	21	GD-1	()400/220 kV 315 MVA ICT 3 at Bareilly (UP) ii)400/220 kV 315 MVA ICT 3 at Bareilly (UP) iii)4.22 NW Tanakpur HP5 - UNIT 1 iv)31.42 NW Tanakpur HP5 - UNIT 2 v)220kV Bareilly(UP) – Paltibhit Ckt-1 vii)220kV Bareilly(UP) – Pilibhit Ckt-2 vii)220kV Bareilly(UP) – Polihot Ckt-2 iv)220kV Bareilly(UP) – Polihot Ckt-2 vii)220kV Bareilly(UP) – Polha Ckt-2 iv)220kV Bareilly(UP) – Polha Ckt-2 vii)220kV Bareilly(UP) – Polha Ckt-2 vii)220kV Bareilly(UP) – Polha Ckt-1 xi)400/220 kV 315 MVA ICT 1 at Bareilly (UP) xii)220 kV Bareilly(UP) – Cbhan Ckt-1 xiv)220kV Bareilly(UP) – Cbhan Ckt-1 xiv)220kV Bareilly(UP) – Cbhan Ckt-1 xiv)220kV Bareilly(UP) – CB Ganj Ckt-1 xvi)220 kV Tanakpur (NH)-CB Ganj (CPG) Ckt-1 xvi)220 kV Tanakpur (NH)-Stargan(PG) (PG) Ckt-1 xvii)32.4 KV Tanakpur (NH)-Stargan(PG) (PG) Ckt-1	UP and Uttarakhand	PGCIL, UPPCL & NHPC	31-May-25	20:24	38	533	440	Y(d)	N	N (Partial details received)

# Annexure-B.III

Sr No	Element Name	Outage Date	Outage Time	Reason
		05-May-25	12:23	Phase to earth fault R-N
		05-May-25	12:23	Phase to earth fault R-N
		15-May-25	19:31	LBB operated
1	220 KV Samaypur(BB)-Palli(HV) (HVPNL) Ckt-2	16-May-25	15:43	Phase to earth fault B-N
_		21-May-25	20:30	Transient fault
		25-May-25	02:05	Dhase to earth fault R-N
		20 May 25	17:05	
		29-IVIdy-25	17:05	Transient raut
		08-May-25	03:33	Phase to earth fault Y-N
		11-May-25	14:52	Over Voltage
2	400 KV Rewa Road-Panki (UP) Ckt-1	11-May-25	17:54	Phase to earth fault R-N
		11-May-25	21:37	Maloperation of Relay
		14-May-25	10:57	Phase to earth fault K-N
		21-IVIdy-25	02:01	Pridee LU edi Lin I dull, D-N
		01-Iviay-25	05:17	
		16-May-25	16:51	Phase to earth fault R-N
3	220 KV Ballabhgarh-Charkhi Dadri (BB) Ckt-1	21-May-25	20:01	Phase to carth fault Y-N
		25-May-25	03:33	Phase to earth fault B-N
		29-May-25	16:30	Phase to Ground Fault R-N
		15-May-25	04:45	Tripped due to butterfly valve mal-operation.
		21-May-25	21:05	LBB operated
4	200 MW/ Parbati II HEP - LINIT 1	23-May-25	10:37	LBB operated
-		27-May-25	17:13	Generator Rotor Earth Fault
		28-May-25	19:48	Generator Fault
		28-May-25	20:59	Generator Rotor Earth Fault
		14-May-25	14:29	Phase to earth fault Y-N
-		22-May-25	19:28	Phase to earth fault B-N
5	220 KV Debari(KS)-KAPS_A(NP) (KS) CKT-1	24-May-25	13:40	Phase to earth fault B-N
		27-IVIAy-25	10:34	Phase to earth fault S-N
		26-May-25	04:10	Phase to Phase the act fault 1°D
		07-May-25	16:24	Phase to earth fault FM
6	400 KV Agra-Unnao (UP) Ckt-1	08-May-25	02:07	Phase to earth fault Y-N
		12-May-25	21:57	Phase to earth fault R-N
		22-May-25	00:05	Phase to earth fault R-N
		02-May-25	05:23	Generator Fault
		04-May-25	10:46	Generator Fault
7	60 MW Bairasiul HPS - UNIT 3	16-May-25	19:32	Unit-3 tripped on Generator Shaft Current Very High.
		19-May-25	09:17	Generator Rotor Earth Fault
		20-May-25	21:41	Generator Fault
		03-May-25	15:42	Bus Bar Protection Operated
8	220 KV Bhilwara(RS)-Kota(PG) (RS) Ckt-1	06-May-25	05:35	Phase to Phase Fault R-Y
		17-IVIay-25	02:30	Bus bar Protection Operated
		24-IVIdy-25 02-May-25	12:07	Pridee LO Edit IT I I I I I I I I I I I I I I I I I I
		02-Way-25	01.21	Phase to earth fault B-N
9	220 KV Fatehgarh_III(PG)-RSJPL_SL_Ftg3(PG) (ReNew_SJPL) Ckt-1	05-May-25	03:32	Phase to earth fault B-N
		08-May-25	17:13	Phase to earth fault B-N
		05-May-25	05:35	Phase to Phase Fault Y-B
10	220 KV Jaulini (PC) Baram Jaulini CIS(UK) (PTCU) Cht 2	11-May-25	18:35	Phase to Phase Fault Y-B
10	220 KV Jauijivi (PG)-Baram_Jauijidi GIS(UK) (PTCUL) CKt-2	16-May-25	16:49	Phase to Phase Fault R-B
		19-May-25	15:26	Phase to earth fault Y-N
		11-May-25	18:57	Phase to earth fault Y-N
11	220 KV Kaithal(PG)-Kaithal(HV) (HVPNL) Ckt-1	16-May-25	14:35	Phase to earth fault B-N
		21-May-25	18:30	Phase to earth fault B-N
		24-May-25	23:09	Phase to earth fault B-N

		03-May-25	17:57	Phase to earth fault Y-N
12	220 KV Mandola/RG) Conalour(DTL) (DTL) Ckt 1	11-May-25	20:11	Phase to earth fault Y-N
12		12-May-25	14:19	Phase to earth fault R-N
		19-May-25	09:43	Phase to earth fault R-N
		03-May-25	21:26	Phase to earth fault R-N
12	400 KV Kankani-GSS Pachnadra (PS) Ckt-1	04-May-25	01:43	Phase to earth fault R-N
15		05-May-25	05:53	Phase to earth fault R-N
		29-May-25	20:02	Transient fault
		21-May-25	20:21	Pole-2 trip on commutation failure.
14	FOO W/ HVDC Riband Dadri (RG) Ckt 2	21-May-25	23:01	AC Supply Fail
14		21-May-25	23:57	AC Supply Fail
		24-May-25	17:11	To attend hot spot
		02-May-25	03:58	Phase to Phase Fault Y-B
15	765 KV Gr Noida, 2(LIPC)-Meerut(PG) (PG) (kt-1	16-May-25	18:08	Phase to earth fault B-N
15		17-May-25	16:03	Phase to earth fault B-N
		21-May-25	21:19	Phase to earth fault R-N

# Annexure-B.IV

#### Grid Events to be discussed in 61st PSC Meeting

S.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Out	age	Event (As reported)	Loss of generat during the Gr	ion / loss of load id Disturbance	Fault Clearance time (in ms)	Points of discussion
	(GI-I to GD-V)	-			Date	Time		Generation Loss(MW)	Load Loss (MW)		
1	GI-2	1)220 KV Ludhiana(PG)-Laltokalan(PS) (PSTCL) Ckt-2 ii)400/220 KV 500 MVA ICT 4 at Ludhiana(PG) iii)400/220 KV 5300 MVA ICT 1 at Ludhiana(PG) iii)400/220 KV P360va(PS)-Ludhiana(PG) (PSTCL) Ckt-1 v)220 KV P36va Ludhiana(PG)	Punjab	PGCIL &PSTCL	2-May-25	00:00	(A00/220/V Ludhiana has one and half breaker scheme at 400/V level and has double main transfer scheme at 220/V level. II/JA reported, at 0000hrs, due to operation of 220/V Bus Bar 2 protection 220/V Bus 2 at Ludhiana/FG tripped. The tripping details for the exact cause of Bus Bar protection are still awaited. III/JA reported, at 0000hrs, due to operation of 220/V Bus Bar 2 protection 220/V Bus Car 2 at Ludhiana/FG tripped. The tripping details for the exact cause of Bus Bar protection are still awaited. III/JA reported: 0000 protection operation (A0/220 V S00 MUC 11 & 4 at LudhiangE) and 220/V feeders to Pakawai, Jagraon, Danshari Kalan-I and Laito kaalan-I tripped. V/AJ per K50AD, duege in demand of opport, III/W is observed in Angle Cardina are.	0	110	320	Details analysis of the event and remedial action taken details.
2	GD-1	400 KV Deepalpur( HKT)-Kabulpur(HV) (HVPNL) Ck+1   400 KV Deepalpur( HKT)-Kabulpur(HV) (HVPNL) Ck+2   400 KV C2 H-Jaiger(C2)-Fabulpur(HV) (HVPNL) Ck+1   400 KV C2 H-Jaiger(C2)-Fabulpur(HV) (HVPNL) Ck+2   400 KV Babalpur(HPG)-Kabulpur(HV) (FG) Ck+1   400 KV ICT-2 at Kabulpur(HV)	Haryana	INDIGRID, HVPNL, CLP & PGCIL	· 2-May-25	04:25	(400)/220/132X/ Kabulpur sub-station has one and half breaker amngement at 400KV side and double main and transfer bus scheme in 220KV side . II/During antecedent condition, 400 KV Bihwani(PG)-kabulpur(MV) (PG) was out of service along with 400/220 KV 312KV MX (FL). Bible reported, 400 KV Bihwani(PG)-kabulpur(MV) (PG) was out of service along with 400/220 KV 312KV MX (FL). Bible reported, 400 KV Bihajjar(CD)-Kabulpur(MV) (PWN) CL S1-tripped on R-N phase to earth fault. As per DR, 2-2 distance protection operated, with fault current of 5.06 KA and the fault distance was Bible report. 400 KV Deepalpur(IHK)-Kabulpur(MV) (HVPNL) CL S1-tripped on R-N phase to earth fault. As per DR, 2-2 distance protection operated, with fault current of 5.23 KA the fault distance was 5.23 KM from Jubit me same time, 400 KV Deepalpur(IHK)-Kabulpur(INV) (HVPNL) CL S1-1, CL S2, 400 KV Bahadurgan(PG)-Kabulpur(INV) (PG) CL S1- and 400/220 KV CT-2 at Kabulpur(INV) (Pripping details awaited). Wijking the fault was not cleared at 400KV, it led to subsequent complete tripping of all transmission elements at 220KV and 132KV voltage level. This led to blackout of 400/220/132KV station. (Details of protection operation and sequence of forping not reserved wit from Harpana controlled area endowed. Wijking the TRN at Gargan(PG). AR phase to earth fault is observed with disperse of failorm not reserved vite from Harpana controlled area are observed.	0	167	480	Details analysis of the event and remedial action taken details.
3	GD-1	i) 400 KV Dhanoda-Daulatabad (HV) Ck-2	Haryana	HVPNL	2-May-25	05:22	JACONO Monancols has one and half breaker scheme in ADON' voltage level. Informing ancessent condition, 400 V designer/GFD busilabaled/I/M (PM Cl-1, Cl-2, 400 V) JALIAR(APCL)-DALIARABAD(HY) (PM Cl-1 and Cl-2 and 400KV Dhands-Daulatabad (HY) Cl-1, were already in tripped and Bion, 400KV Dhands-Daulatabad (HY) Cl-3, Cl-2 (Hyo III, Honging details are yet to be received from Haryans. IVAS per PMU at Gragan(FG). By based to auth half (HY) Cl-2, 19pcd. The tripping details are yet to be received from Haryans. IVAS PMU at Gragan(FG). By based to anth half (HY) Cl-2, 2 hop Cl-1, the tripping details are yet to be received from Haryans. IVAS PMU at Gragan(FG). By based to anth half (HY) Cl-2, 19pcd. The tripping details are yet to be received from Haryans. IVAS PMU at Gragan(FG). By based to anth half (HY) Cl-2, 2 have the only determine thick have at carting power to the 220KV side, loss of the alforementioned line caused tripping of 400KV Bus1 along 400/220 KV ICT 1,2,3 &4. VICAS of II transmission elements in 400KV system, resulted in Blackout of 400KV Dualatabab shot, station.	0	288	600	Details analysis of the event and remedial action taken details.
4	GD-1	(1220 KV Lalitpur –Babina (LP) CKT 11220 KV Lalitpur –Babina (LP) CKT 11220 KV Lalitpur –Italitpur (DP) 11220 KV Lalitpur Lalitpur (DP) 11220 KV Lalitpur Lalitpur (DP) 1120 KV Lagina Fathabad (DP)-Lalitpur (LPG) (LP) Ck-1 1100 KV Lagina Trichabad (DP)-Lalitpur (LPG) (LP) Ck-2 1126 KV Mu Lalitpur Uni-1 1126 KV Mu Lalitpur Uni-1 1126 KV Lalitpur Uni-1 1120	Uttar Pradesh	UPPTCL & LPGCL	3-May-25	15:32	(1765/2201V Laitpur Sub-station has one and half breaker scheme at 755W level and double main transfer bus scheme at 2201V level. During antecedent condition, 756/2201V 3150WA ICT-1, 2201V feeders to Jhansi, Laitpur2204 and 1200MA 57.12 were on 2200V bits 1 Laitpur[UP]. Remaining elements were on 2200V lau-2. Iliuspup) to most double web Bolfer Fed DWMU in Lait was fed from 1000MX 571-and BFD to UNIX-23. MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 221 million Cart (1000 kg) and experiation. At a time, only one unit is selected for house load operation on 255 operation. MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 221 million cell (1000 kg). MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 221 million cell (1000 kg). MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 221 million cell (1000 kg). MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 221 million cell (1000 kg). MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 221 million Cell (1000 kg). MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 221 million Cell (1000 kg). MIL 15:1950 hrs. 200V laitpure Balon Cart tripped on R4 hust, Rait was in 2200V laitpure Laitpur221 million Cell (1000 kg). MIL 15:1950 hrs. 200V laitpure Balon Rait Cart tripped on R4 hust Associated Rait Rait MIL 15:200 kg ) and Rait Rait MIL 15:200 kg ) and Rait Rait MIL 15:200 kg ) and Rait MIL 16:200 kg ) and Ra	1040	90	560	Details analysis of the event and remedial action taken details.
5	GI-2	(J220X) Jakofines HTPE Solar då Intel02/20 V S50 MVA (CT 24 ta Jakafiner(RS) Intel02/20 V S00 MVA (CT 44 ta Jakafiner(RS) IV220V Jakafiner Cente Infra det IV220V Jakafiner Cente Infra det IV220V Jakafiner Solasimer(RS) IV20V JAkafiner MVA (CT 14 ta Jakafiner(RS) IV20V RV Alar-Jakafiner (RS) Cd-1	Rajasthan	RVPNL, ACME & NTPC Solar	5-May-25	11:53	(HQ0/220XV Jaisalmer(RS) has one and half breaker bus scheme at 400XV level and double main and transfer bus scheme at 220XV level. (I)During antecedent condition, 400/220XV 500MVA (CT-3 & 4 and 220XV line to NTFC solar, AFMZ solar, Infra Green Solar and Akai-I were connected at 220X Bus-2. 400/220XV [CT-1,285 and 220XV lines to Akai-II, green Pavere solar, Revere Nover solar and Constraint at 220X Bus-2. 400/220XV [CT-1,285 and 220XV lines to Akai-II, green Paver solar and Constraint at 220X Bus-2. 400/220XV [CT-1,285 and 220XV lines to Akai-II, green Paver solar and Constraint at 220X Bus-2. 400/220XV [CT-1,285 and 220XV bus-2. 400/220XV [CT-1,285 and 420XV Akai-100 and particle at 220X bus-2. 400/220XV [CT-1,285 and 420XV Akai-100 and particle at 220XV bus-2. 400/220XV [CT-1,285 and 420XV Akai-100 and particle at 220XV bus-2. 400/220XV [CT-1,285 and 420XV Akai-100 and particle at 220XV bus-2. 400/220XV [CT-1,285 and 420XV Akai-100 and particle at 220XV bus-2. 400/220XV [CT-1,285 and 420XV Akai-100 and particle at 220XV bus-2. 400/2XV bus-2. 400/2XV akai-100 and particle at 220XV bus-2. 400/2XV	1050	0	800	Details analysis of the event and remedial action taken details.
6	GD-1	() () () () () () () () () ()	J&K	PGCIL & NHPC	18-May-25	21:35	(HOROV Uri 2 5/h have double main bus system. There are 4, 60MW Units at Uri-2 HP and power evacuates through 400 KV URI 2(NH)-WAGODRA (PG) (PG) CKT and 400 KV URI 2(NH)-URI 1(NH) (PG) CKT ili)During antecedent condition, 400 KV URI 2(NH)-WAGODRA (PG) (PG) CT and 400 KV URI 2(NH)-URI 1(NH) (PG) CT were carrying "158 MW and 7 NW respectively. All the 4 units were generating 650 WV exh. ili)Are ported, at 215 hrs, 400 KV URI 2(NH)-WAGODRA (PG) (PG) CT trigged from both ends on RH share to earth full. As ape FD R at Uri-2 end, R-N lauli, 21 protection operated, fault current was 3.24K. The full ditance was 26.40M from Uri_2 end AR was successful from Uri_2 end however, line trigged on S0TF on persisted fault. With the same time, and VV URI 2(NH)-UII_1(NH) (PG) CT tripped for to persisted for S0TF on persisted fault. With the same time, and VV URI 2(NH)-UII_1(NH) (PG) CT tripped for to persisted fault. With the same time, and the X 40 KW units suftri-2 HP ripped due to loss of evacuation path. This led to complete blackout of 400KV Uri-2 sub-station. With segment loss of 244MW starts units 2 HP ripped due to loss of evacuation path. This led to complete blackout of 400KV Uri-2 sub-station. With segment loss of 244MW starts units 2 HP ripped due to loss of evacuation path. This led to complete blackout of 400KV Uri-2 sub-station. With segment loss of 244MW starts units 2 HP ripped due to loss of evacuation path. This led to complete blackout of 400KV Uri-2 sub-station. With segment loss of 244MW starts units 2 HP ripped due to loss of evacuation path. This led to complete blackout of 400KV Uri-2 sub-station. With segment loss of 244MW starts 2 HP robust hold segment. Mick Control are observed.	244	0	400	Details analysis of the event and remedial action taken details.
7	GD-1	()400 KV Dadri(NT)-Loni Harsh Vihar(DV) (NT) Ck-1 ii)210 MV Uni-2 at Dadri 175 ii)210 MV Uni-3 at Dadri 175 iv)210 MV Uni-3 at Dadri 175 vil00 KV MandbalfK)- Dadri 175 vil00 KV MandbalfK)- Dadri 176 vil00 KV MandbalfK)- Dadri (PK) (DT) Ck-2 vil00 KV MCC Rinner- Dadri (PK) Ck-2 k)500 KV MCC Rinner- Dadri (PK) Ck-2	Uttar Pradesh	NTPC, DTL & PGCIL	21-May-25	20:00	(1400)22004 Ddsif Sage That one and half breaker scheme in 400V and Doubler main transfer system in 200V patrem. 400V Ddsif Sage That one and half breaker scheme. 514;210 Greenening units while Stage That of 2430 Mole in a transfer system in 200V patrem. 400V Ddsif Sage That one and half breaker scheme. 514;210 Mole in 10 T Ddsif Sage 24 was generating 2014 while that is 2430 Mole in 10 T Ddsif Sage 24 was generating 2014 while while Stage 21 has 24 was generating 2014 with set patre 2440 with end to 10 and stage 1440 Mole in 10 T Ddsif Sage 24 was generating 2014 while while Stage 21 has 24 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generating 2014 while while Stage 21 has 25 was generated 2014 while while Stage 21 has 25 was generated 2014 while while Stage 21 has 25 was gener	975	0	80	Details analysis of the event and remedial action taken details.
8	GD-1	1)765 KV Köteshwar-Meerut (PG) Ckt-1& 2           1)765 KV Bihwani- Meerut (PG) Ckt           1)765 KV Bihwani- Meerut (PG) Ckt           1)765 KV Bihwani- Meerut (PG) Ckt           1)765 KV Bihwani- Meerut (PG) (PG) Ckt-1, 2 a           1)765 KW Bihwani PG           1)765 KW Bihwani PG           1)765 KW Bihwani PG           1)100 MW Unit-1, 3 a 4 at Roteshwar (PG)           1)100 MW Unit-1, 3 a 4 at Roteshwar (PG)           1)100 MW Unit-1, 3 a 4 at Roteshwar (PG)           1)126 MW Unit-1, 3 a 4 at Roteshwar (PG)           1)126 MW Bia Reactor No 1 at 75 SK Koteshwar (PG)           1)126 MW Koteshwar (Ph) (PG) Ckt-1 a 2           1)126 MW Koteshwar (Ph) (PG) Ckt-1 a 2           1)120 MW Went-1, Barein (PG) Ckt-1 a 2           1)120 MW Went-1, Mandbal (PG) Ckt-1	Uttar Pradesh and Uttarakhand	PGCIL & THDC	21-May-25	19:55	NORW Tehr has double main, 400W Koteshwar (THIC) has double main and transfer, 785/400W Koteshwar(PG) has one & half breaker scheme in 765W and double main bus scheme in 400W and 765/400/2200W Meerut Blowing anticodent and half breaker scheme in 765W and 400W and 1.3 at a team of the scheme scheme in 765W and double main bus scheme in 400W and 765/400/2200W Meerut Blowing anticodent and half breaker scheme in 765W and 400W and 1.3 at a team of team of the scheme scheme in 765W and double main bus scheme in 400W and 765/400/2200W Meerut Blowing anticodent and half breaker scheme in 765W and 765/400 W and 1.3 at a team of the scheme sche	645	150	1640	Details analysis of the event and remedial action taken details.

S.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area Owner/ Agenc	00	tage	Event (As reported)	Loss of generat during the Gr	ion / loss of load id Disturbance	Fault Clearance time (in ms)	Points of discussion
	( GI-I to GD-V)			Date	Time		Generation Loss(MW)	Load Loss (MW)		
9	GD-1	Id00/220 kV 315 MVA ICT 3 at Barelly (UP)         Iiii00/220 kV 315 MVA ICT 3 at Barelly (UP)         Iiii00/220 kV 315 MVA ICT 3 at Barelly (UP)           Iii012 MV Tanksport HFS- UNIT 2         Viii120 MV Tanksport HFS- UNIT 2         Viii120 MV Tanksport HFS- UNIT 2           Vi200 Msarelly(UP) - Annit Nagar         Viii200 Msarelly(UP) - Annit Nagar         Viii200 Msarelly(UP)           Vi200 Msarelly(UP) - Dohno CL-2         Viii200 Msarelly(UP)         Viii200 Msarelly(UP)           Vi200 Msarelly (UP) - Dohno CL-2         Viii200 Msarelly (UP)         Viii200 Msarelly (UP)           Vi200 Msarelly (UP) - Dohno CL-2         Viii200 Msarelly (UP)         Viii200 Msarelly (UP)           Vi200 Msarelly (UP) - Dohno CL-1         Viii200 Msarelly (UP)         Viii200 Msarelly (UP)           Vi200 Msarelly (UP) - Cloana CL-1         Viiii200 Msarelly (UP)         Viiii200 Msarelly (UP)           Vi200 Msarelly (UP) - Cloana CL-1         Viiiii220 Vi Mareley (UP) (UP) CL-1         Viiiiiii00 (UP) Cloana CL-1           Viiii200 Vi Tankspur(HV)-Sicana (UP) (PG) CL+1         Viiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	Uttar Pradesh and Uttarakhand NHPC	23-May-25	20:24	(Hotal generated power of Tanakpur evacuates through 220 KV Tanakpur (NH): CBGanj(UP) (PG) Ck1: 1, 220 KV Tanakpur(NH): FG] Ck1: 1, and 312 KV Mahendra Nagur (PG): Tanakpur(NH); (PG) Ck1: 1, During the interpretation (SAM), SAM, MW Tanakpur van generating (LBW), evacuates through 220 KV Tanakpur (NH): CBGanj(UP) (PG) Ck1: 1, 220 KV Tanakpur(NH): FG Ck1: 1, and 312 KV Mahendra Nagur (PG): Tanakpur(NH); (PG) Ck1: 1, and 31, were loaded 311MW and 315 MW respectively. Will be roperation. Cast reason of the same time to the same time, 135MVA, 400/220KV (CT 1 and 31, were loaded 311MW and 315 MW respectively. Will be roperation. Cast reason of the same time, 315MVA, 400/220KV (CT 1, Atter *15 see of ICT charging. 220KV Bus-Bar Zone 2 (Pp) differential protection operated. As per FMUI, there was no fluit in system will be roperation. Cast reason of thus are protection, yet to be received. Will be separation. Cast reason of thus are protection operated and transpectively. Will be roperation. Cast reason of thus are protection operated and the same time, 315MVA, 400/220KV (CT 1 was hand tripped for equipment distributed and all are same time, 315MVA, 400/220KV (CT 1 was hand tripped due to 220KV Bus-Bar Zone 2 (Pp) differential protection operated on fluit occurred due to snapping of line side jumper (dar Vill be roperated. Cast 400/220K Will be Namely (VP). Inc loading of 220KV CE Gan; Starging) (ct reached up to the level of 220KV Barelily Fairibut The tripped. As a result, 531 MV Bad bars was observed in Tanakpur BA, 202 Abr, 313 MV M and same was readed and the same time, two units 1 Tanakpur HP (H): Hos loading of 220KV CE Gan; Starging) (ct reached up to the level of 220KV Has to 11, 314 and 11, 3	38	533	440	Details analysis of the event and remedial action taken details.

# Annexure-B.V

			Outage	•	Load Loss/	Brief Reason Ca	tegory as per CEA	# Fault Clearance Time	*FIR Furnished	DR/EL provided in	Other Protection Issues and Non	
S. No.	Name of Transmission Element Tripped	Owner/ Utility	Date	Time	Gen. Loss	(As reported)	Grid standards	(>100 ms for 400 kV and 160 ms for 220 kV)	(YES/NO)	24 hrs (YES/NO)	Compliance (inference from PMU, utility details)	Remarks
1	765 KV Orai-Satna (PG) Ckt-1	POWERGRID	04-May-25	10:14	Nil	Phase to earth fault Y-N	NA	80	Yes (After 24 hours)	Yes (After 24 hours)		As per PMU & DR, line tripped on Y-N fault in reclaim time. Fault was in Z-1 ) from Orai end and fault current was ~ 13.3kA
2	400 KV Gorakhpur(PG)-Motihari(BS) (PG) Ckt-2	POWERGRID	05-May-25	17:37	Nil	Phase to earth fault B-N	NA	80	Yes (After 24 hours)	Yes (After 24 hours)	A/R operation not observed.	As per PMU & DR, line tripped on B-N fault. Fault was in Z-1 (9.4km, 5%) from Gorakhpur end and fault current was ~ 15kA. No A/R operation observed.
3	765 KV Fatehpur-Sasaram (PG) Ckt-1	POWERGRID	17-May-25	02:24	Nil	Phase to earth fault Y-N	NA		Yes	Yes	A/R operation not observed.	As per PMU & DR, line tripped on Y-N fault. Fault was in Z-2 (302km, 85%) from Fatehpur end and fault current was ~ 2.5kA. No A/R operation observed.
4	800 KV HVDC Kurukshetra(PG) Pole-4	POWERGRID	21-May-25	22:50	Nil	Earth fault	GI-II		Yes (After 24 hours)	Yes (After 24 hours)		Pole-2 and Pole-4 blocked due to DC Line Fault in Negative HV Line Conductor. Fault location at
5	800 KV HVDC Kurukshetra(PG) Pole-2	POWERGRID	21-May-25	22:50	Nil	Transient fault	GI-II		Yes (After 24 hours)	Yes (After 24 hours)		438.1 km from Kurukshetra and 849.21 km from Champa and Tower No. 2278.
6	220 KV Auraiya(NT)-Malanpur(MP) (PG) Ckt-1	POWERGRID	21-May-25	23:03	Nil	Phase to earth fault R-N	NA		No	No	DR/EL not received and no A/R operation obsetrved as per PMU	As per PMU at Agra(PG), R-N phase to earth fault with no A/R oepration is observed.
7	765 KV Chittorgarh-Banaskantha (PG) Ckt-1	POWERGRID	25-May-25	19:57	Nil	Phase to earth fault R-N	NA		Yes (After 24 hours)	Yes (After 24 hours)		As per PMU & DR of Chittorgarh(PG) end, R-N fault in Z-2 followed by B-N fault during A/R time (dead time) in Z-2 is observed. Fault currents were Ir=3.1kA & Ib=3.09kA.
8	765 KV Chittorgarh-Banaskantha (PG) Ckt-1	POWERGRID	26-May-25	16:27	Nil	Phase to Phase Fault R-Y	NA		Yes	Yes		As per PMU & DR of Chittorgarh(PG) end, R-Y fault in Z-2 is osberved. Fault currents were Ir=6.6kA & Iy=5.6kA.
9	800 KV HVDC Kurukshetra(PG) Pole-4	POWERGRID	28-May-25	14:08	Nil	Pole-2 and Pole-4 got blocked due to persistent commutation failure in Pole-4 at Champa end	GI-II		Yes	Yes (After 24 hours)	Maloperation of	Pole-2 & 4 tripped due to maloperation of Pole 4 active lane i.e. Pole 4 lane 1 (unable to lane
10	800 KV HVDC Kurukshetra(PG) Pole-2	POWERGRID	28-May-25	14:08	Nil	Pole-2 and Pole-4 got blocked due to persistent commutation failure in Pole-4 at Champa end	GI-II		Yes	Yes (After 24 hours)	protection and control system	changeover) at Champa end. Tripping report not received.
11	800 KV HVDC Kurukshetra(PG) Pole-2	POWERGRID	28-May-25	19:16	Nil	Transient fault	GI-II		No	Yes (EL not received)	Tripping detail not received	Blocked from Champa end during fire incident at Champa end. As reported, 8 thyristor module has been damaged.
# Faul	It Clearance time has been computed using PMU Data from nearest	node available and/or	DR provided by re	espective uti	<b>lities (</b> Anne	xure- II)						
*Yes, i	if written Preliminary report furnished by constituent(s)	information is as por No	rthern Penior	less specific.	4							
n-1-B ^^ trip	prince sequencing (kea, renow, blue) is used in the list content.All in pping seems to be in order as per PMU data, reported information.	However, further detail	s may be awaited	less specified								
						Reporting of Violation of Regu	ulation for various is	sues for above	tripping			
1	Fault Clearance time(>100ms for 400kV and >160ms for 220kV)	1. CEA Grid Standard-3.	.e 2. CEA Transm	ission Planni	ng Criteria							
2	DR/EL Not provided in 24hrs	1. IEGC 37.2(c) 2. CEA	Grid Standard 15	.3								
3	Protection System Mal/Non Operation	1. CEA Technical Stand	ard of Electrical Pl	.∠ (Applicabl ants and Fle	e for SLDC, ctric Lines: 4	HEDC Only) 13.4.A 2. CEA (Technical Standards for conne	ctivity to the Grid) I	Regulation, 200	7: Schedule Part 1. (6.1	L. 6.2. 6.3)		
5	A/R non operation	1. CEA Technical Stand	ard of Electrical Pl	ants and Ele	ctric Lines: 4	I3.4.C 2. CEA Technical Planning Criteria				, . ,,		

	Status	of Mock Test o	f SPS in NR during	2025-26		
Sr. No.	Scheme Name	Control Area	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	Feb-26		
2	SPS for contingency due to tripping of HVDC Mundra-Mahendergarh	ADANI		SPS Unhealthy		As reported by ADANI, Tentative timeline for revival of SPS by August 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. SPS Under review
4	SPS for 1500 MW HVDC Rihand-Dadri Bipole related contingency	POWERGRID	19-03-2025 and 20-03-2025	Jan-26		
5	System Protection Scheme (SPS) for HVDC Balia-Bhiwadi Bipole	POWERGRID		Schedule awaited		Not conducted in 2024-25 also
6	SPS for contingency due to tripping of multiple lines at Dadri(NTPC)	NTPC		SPS to be disabled		
7	SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wanetoo HEP	SJVN/HPPTCL/JSW	19-12-2024	Dec-25		
8	SPS for Reliable Evacuation of Ropar Generation	Punjab		Schedule awaited		Not conducted in 2024-25 also. SPS Under review. SLDC-PS may share the status
9	SPS for Reliable Evacuation of Rosa Generation	Uttar Pradesh	20-04-2024	conducted	12-04-2025	
10	SPS for contingency due to tripping of evacuating lines from Narora Atomic Power Station	NAPS		Schedule awaited		Not conducted in 2024-25 also. SPS Under review. Needs review due to changes in network conenctivity. SLDC-UP to share the netwrok details and base case
11	SPS for evacuation of Kawai TPS, Kalisindh TPS generation complex	Rajasthan	14-03-2025 (Partial)	conducted	26-04-2025	
12	SPS for evacuation of Anpara Generation Complex	Uttar Pradesh	08-10-2024 (unit-7) and 19- 10-2024 (unit-6)	Schedule awaited		
13	SPS for evacuation of Lalitpur TPS Generation	Uttar Pradesh	21-05-2024	conducted	09-04-2025	
14	SPS for Reliable Evacuation of Bara TPS Generation	Uttar Pradesh	20-11-2024	Schedule awaited		Not conducted in 2024-25 also.
15	SPS for Lahal Generation	Himachal Pradesh	08-07-2020	Schedule awaited		POWERGRID and HP may share their inputs
16	SPS for Transformers at Ballabhgarh (PG) substation	POWERGRID		Schedule awaited		Not conducted in 2024-25 also. SPS. SPS may be kept with revised logic (logic based on the loading)
17	SPS for Transformers at Maharanibagh (PG) substation	POWERGRID		Mock test report pending		Revised SPS implemented, mock test report is pending
18	SPS for Transformers at Mandola (PG) substation	POWERGRID		Mock test report pending		Revised SPS implemented, mock test report is pending
19	SPS for Transformers at Bamnauli (DTL) Substation	Delhi		Schedule awaited		Not conducted in 2024-25 also. SPS. SPS may be kept with revised logic (logic based on the loading)
20	SPS for Transformers at Moradabad (UPPTCL) Substation	Uttar Pradesh	20-04-2024	conducted	02-04-2025	
21	SPS for Transformers at Muzaffarnagar (UPPTCL) Substation SPS for Transformers at Muzaffarnagar(UPPTCL) Substation	Uttar Pradesh Uttar Pradesh	27-03-2025	Schedule awaited		
23	SPS for Transformers at Greater Noida(UPPTCL) Substation	Uttar Pradesh		SPS Unhealthy		SPS Unhealthy; SPS may be kept with revised logic (logic based on the loading)
24	SPS for Transformers at Agra (UPPTCL) Substation	Uttar Pradesh	21-03-2025	Schedule awaited		
25	SPS for Transformers at 400kV Sarojininagar (UPPTCL) Substation	Uttar Pradesh	15-05-2024	Schedule awaited		
20		Utter Predech	10.05.2023	CDC Unbeethy		SPS Unhealthy; SPS need to be
27	SPS for Transformers at 400kV Unnao (UPPTCL) Substation	Uttar Pradesh	19-05-2023	SPS Unnealthy		made healthy; SPS Unhealthy; SPS may be kept
29	SPS for Transformers at 400kV Sultanpur (UPPTCL) Substation	Uttar Pradesh		SPS Unhealthy		with revised logic (logic based on the loading)
30	SPS for Transformers at 400kV Bareilly (UPPTCL) Substation	Uttar Pradesh		SPS disabled without approval		SPS. SPS need to be enabled at the earliest.
31	SPS for Transformers at 400kV Azamgarh (UPPTCL) Substation SPS for Transformers at 400kV Mau (UPPTCL) Substation	Uttar Pradesh Uttar Pradesh	06-05-2024 27-04-2024	Schedule awaited Schedule awaited		
33	SPS for Transformers at 400kV Gorakhpur (UPPTCL) Substation	Uttar Pradesh	27-04-2024	Schedule awaited		
34	SPS for Transformers at 400kV Sarnath (UPPTCL) Substation	Uttar Pradesh	23-05-2024	Schedule awaited		
35	SPS for Transformer at 400kV Rajpura (PSTCL) Substation	Punjab	31-01-2025	Schedule awaited		
37	SPS for Transformers at 400kV Deepalpur (JKTPL) Substation	Haryana	03-02-2023	conducted	08-05-2025	
38	SPS for Transformers at 400kV Ajmer (RVPN) Substation	Rajasthan	10-09-2024	10-09-2025		
39	SPS 10/ Transformers at 400kV Merta (RVPN) Substation	Kajasthan	12-09-2024	12-09-2025		
40	SPS for Transformers at 400kV Chittorgarh (RVPN) Substation	Rajasthan	31-08-2024 and 05-09-2024	05-09-2025		
41	SPS for Transformers at 400kV Jodhpur (RVPN) Substation SPS for Transformers at 400kV Bhadla (RVPN) Substation	Rajasthan	24-09-2024	24-09-2025		
43	SPS for Transformers at 400kV Ratangarh (RVPN) Substation	Rajasthan	20-09-2024	20-09-2025		
44	SPS for Transformers at 400kV Nehtaur(WUPPTCL) Substation	Uttar Pradesh	11-01-2025	Schedule awaited		
45	SPS for Transformers at 400KV Kashipur (PTCUL) substation	Uttar Pradesh Uttarakhand	20-05-2024 Septemeber 2024	Schedule awaited		
47	SPS for Transformers at 400KV Fatehgarh Solar Park (AREPRL)	ADANI	Septemeber 2024	conducted	19-04-2025	
48	SPS to relive transmission congestion in RE complex (Bhadla2)	POWERGRID	26.05.222	Schedule awaited		Not conducted in 2024-25 also
49 50	SYS for Transformers at 400kV Bikaner (RVPN) Substation SPS for Transformers at 400kV Bawana (DTL) Substation	Rajasthan Delhi	26-09-2024 04-01-2025	26-09-2025 Schedule awaited		
51	SPS for Transformers at 400kV Bhilwara (RVPN) Substation	Rajasthan	09-07-2024 and 10-07-2024	10-07-2025		
52	SPS for Transformers at 400kV Hinduan (RVPN) Substation	Rajasthan	26-09-2024	26-09-2025		
53	SPS for Transformers at 400kV Suratgarh (RVPN) Substation	Rajasthan	20-10-2024	20-10-2025		
55	SPS for Transformers at 400kV Allahabad(PG) Substation	Uttar Pradesh	20-10-2024	Schedule awaited		Not conducted in 2024-25 also
56	SPS for Transformers at 400kV Jaunpur(UP) Substation	Uttar Pradesh				Yet to be implemented

# Re: NRLDC letter to J&K regarding strengthening of protection system and reporting of grid events in J&K control area

### NRLDC SO 2

Wed 28-May-25 14:47

Inbox

- To:sojpdd@gmail.com <sojpdd@gmail.com>; jksldc1@gmail.com <jksldc1@gmail.com>; jksldc4@gmail.com <jksldc4@gmail.com>; dosokashmir@rediffmail.com>; mdjkptcl1@gmail.com <mdjkptcl1@gmail.com>; sheikh0078@gmail.com>; cejkptclkmr@gmail.com <cejkptclkmr@gmail.com>; sysopdivkmr@gmail.com>; sysopdivkmr@gmail.com>; cejkptclkmr@gmail.com>; dmtdivisionjammu@gmail.com>;
- cc:NARESH BHANDARI <ms-nrpc@nic.in>; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल) <mkagarwal@grid-india.in>; S Usha (एस उषा) <susha@grid-india.in>; 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>; pandeyr.cea@gov.in cpandeyr.cea@gov.in>; omkishor.sahu@gov.in <omkishor.sahu@gov.in>; lokesh.cea@gov.in <lokesh.cea@gov.in>; Sudipto Sarkar (सुदिप्तो सरकार) <ssarkar@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; Deepak Kumar <deepak.kr@grid-india.in>;

#### ◎ 1 attachments (11 KB)

Protection system details of Jammu & Kashmir substations .xlsx;

Sir,

In reference of the trailing mail, it is requested to share the details of action taken /planned to be taken to strengthen the protection system and grid event reporting of J&K control area.

Further, as discussed during 60th PSC meeting held on 26.05.2025, it is requested to share the station wise details of protection system in format attached herewith the mail. These details will be helpful in the analysis of future grid events in J&K control area.

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



वर्श्येव कुनुम्बकम् DHE EARTH + ONE FAMILY + ONE FUTURE 6/13/25, 12:07 PM

From: NRLDC SO 2

Sent: Thursday, May 1, 2025 2:53:44 PM

**To:** sojpdd@gmail.com; jksldc1@gmail.com; jksldc4@gmail.com; dosokashmir@rediffmail.com; mdjkptcl1@gmail.com; sheikh0078@gmail.com; cejkptclkmr@gmail.com

**Cc:** NARESH BHANDARI; Manoj Kumar Agarwal (मनोज कुमार अग्रवाल); S Usha (एस उषा); seo-nrpc; Somara Lakra (सोमारा लाकरा); Mahavir Prasad Singh (महावीर प्रसाद सिंह); pandeyr.cea@gov.in; omkishor.sahu@gov.in; lokesh.cea@gov.in; Sudipto Sarkar (सुदिप्तो सरकार); Sugata Bhattacharya (सुगाता भट्टाचार्या); Deepak Kumar

Subject: NRLDC letter to J&K regarding strengthening of protection system and reporting of grid events in J&K control area

Sir,

Please find attached NRLDC letter to J&K regarding strengthening of protection system and reporting of grid events in J&K control area.

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



वश्चेंगेव कुनुम्लकम् DNE EARTH + ONE FAMILY + ONE FUTURE

Follow Grid-India on:

			Prote	ection syste	m details of Jammi	u & Kashmir subst	ations		
					ISTS connected subs	stations			
S. No	Name of the	SAS based (Yes /	Line Protection (num electromec	nerical / static / nanical)	DR(.dat/.cfg) extraction facility (Yes	Autorecloser in lines	Last Protection Audit /	Contact details (Protection, O&M and	Remarks
	Station	No)	Main-I relay	Main-II relay	/ No)	enabled (Yes / No)	review Date	station engineer)	
1	400kV Baglihar								
2	220kV Gladini								
3	220kV Chowdi								
4	220kV Barn								
5	220kV Udhampur								
6	220kV Ramban								
7	220kV Mirbazar								
8	220kV Pampore								
9	220kV Delina								
10	220kV Alusteng								
11	220kV Ziankote								
					Intrastate substa	tions			
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									

\*Protection setting files of 220kV lines may also be colelcted from site and attached in the mail

# Re: Revised Protection System Details of All Grid S/Stations Of JK UT

Fri 6/13/2025 3:35 PM

To:JKSLDC Market Operations <jksldc4@gmail.com>;

Cc:NRLDC SO 2 <nrldcso2@grid-india.in>; MD JKPTCL <mdjkptcl1@gmail.com>; CE J JKPTCL SO <sojpdd@gmail.com>; CE K JKPTCL SO <cejkptclkmr@gmail.com>; TLMD-II J TLMD GLADNI <xentlmd02@gmail.com>; TLMD-I K TLMD Bemina <tlmd1tech@gmail.com>; TLMD-VII K TLCD Bemina Budgam Bandipora <tlmd7.jkptcl@gmail.com>; TLMD-III K TLMD Amargarh <tlmd3rdamargarh@gmail.com>; TLMD-IV K TLMD Pampore Zainakot <xentlmd4@gmail.com>; tlmd8.jkptcl@gmail.com <tlmd8.jkptcl@gmail.com>; TLMD-IV K TLMD Pampore@gmail.com>; Executive Engineer TLMD-IV <xentlmd04@gmail.com>; xentlmd4pampore@gmail.com>;

● 1 attachments (18 KB)

Revised Protection system details of Jammu & Kashmir substations (1) (1).xlsx;

#### \*\*\*\*Warning\*\*\*\*

#### This email has not originated from Grid-India. Do not click on attachment or links unless sender is reliable. Malware/ Viruses can be easily transmitted via email.

R/Sir/Mam,

In continuation to the trailing mail, the revised data of all grid stations of JKUT is attached herewith..Some of the grid S/Stations of JK UT have still not submitted the data till date, the details are as follows:

KASHMIR PROVINCE: 1.TLMD-III 2.TLMD-VII TLMD-VIII JKSLDC Market Operations jksldc4@gmail.com +919419212631 +919419212632

#### declaimer:

\* This e-mail is an official email of JKSLDC, is confidential and intended to use by the addressee only. If the message is received by anyone other than the addressee, please return the message to the sender by replying to it and then delete the message from your computer. Internet e-mails are not necessarily secure. The JKSLDC does not accept responsibility for changes made to this message after it was sent. Whilst all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the JKSLDC in this regard and the recipient should carry out such virus and other checks as it considers appropriate.\*

On Thu, Jun 12, 2025 at 2:45 PM JKSLDC Market Operations <jksldc4@gmail.com> wrote:

R/Sir,

In reference to your office letter regarding strengthening of Protection System and reporting of Grid Events in J&K Control area, the details of all Grid S/Stations whosoever has submitted the details regarding the subject matter is hereby attached .Some of the grid S/Stations of JK UT have not submitted the data till date are as follows:

JAMMU PROVINCE: 1.TLMD-II Gladni 2.BB-II Grid S/Station Of TLMD-V KASHMIR PROVINCE: 1.Bemina,Habbak,Badampora of TLMD-1 2.TLMD-III 3.TLMD-IV 4.TLMD-VII 5.TLMD-VII JKSLDC Market Operations jksldc4@gmail.com

#### 6/13/25, 4:07 PM

+919419212631 +919419212632

#### declaimer:

\* This e-mail is an official email of JKSLDC, is confidential and intended to use by the addressee only. If the message is received by anyone other than the addressee, please return the message to the sender by replying to it and then delete the message from your computer. Internet e-mails are not necessarily secure. The JKSLDC does not accept responsibility for changes made to this message after it was sent. Whilst all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the JKSLDC in this regard and the recipient should carry out such virus and other checks as it considers appropriate.\*

				Protectio	n system de	etails of Jammu &	Kashmir substatio	ons		
	JAMM									
		UTROVINGE		Line Protection (num	erical / static /	554 4 4 4 4				
S No	Name of	Name of the SubStation	SAS based (Yes /	electromech	anical)	DR(.dat/.ctg)	Autorecloser in lines	Last Protection Audit /	Contact details (Protection, O&M and	Remarks
0.110	Division	Nume of the Substation	No)	Main-I relay	Main-II relay	/ No)	enabled (Yes / No)	review Date	station engineer)	nemarka
1	TLMD-1	132KV Janipur	No	Numerical	Numerical	No	No	-	7889867931	
2		132KVCanal	No	Numerical	Numerical	No	No	-	7889867931	
4		132KV Pounicnak 132KV Ibajjarkotlj	NO	Numerical	Numerical	NO	NO	-	7889867931 7889478986	
5		132KV Akhnoor	No	Numerical	Numerical	No	No	-	9419289749	
6	TLMD-II	220/132/33Kv Gladni	Yes	Numerical	Numerical	Yes	Yes(220KV)	-	9469210553(AEE)/7006683872(AE)	
									9469210553(AEE)/9419819697(AE)	
7		220/33KV Chowadhi	Yes	Numerical	Numerical	Yes	Yes(220KV)	-	/7006026187(JE)	
8		132KVMiransahib	No	Numerical	Numerical	No	No (132KV)	-	7006724949(AEE), 7006683545(AE) 9419303434(JE)	
		100/0/ 00 4	N	Numerical	Mountaileat	N -	No (100)00		7006724949(AEE),	
9		132KV BB-1	NU	Numericat	Numericat	NU	N0 (132KV)	-	9419384054(AE),9596833958(JE)	
10		132KV Kathua	No	Numerical	Numerical	No	No (132KV)	-	7889696770(AEE), 9419150216(AE), 7889446564(JE)	
11	TLMD-III	220/132/33KVUdhampur	No	Numerical	Numerical	No	Yes	Nil	Rakesh Kumar (9906342590)	
1		220/132/33KV Ramban	No	Numerical	Numerical	No	Yes	Nil	Mohit Gupta (9419880298)	
2		132Kv Kishtwar	No	Numerical	Numerical	No	Yes	Nil	Pankaj sharma 9797530201	
3		132Kv Batote	No	Numerical/electromec hanical	Numerical/elec tromechanical	No	Yes	Nil	Varinder Sharma (9906158533)	1Line Panel- Numerical Relay. 1Line Panel: Electromechanica I Relay
4		132KV Khellani	No	Numerical	Numerical	No	Yes	Nil	Rohit kumar (9018078832)	
6	ILMD-IV	220/132/33KV Barn 132/33KVBattalManwal	NO NO	Numaric Numaric	Numeric Numeric	No Yes	No No	N/A N/A	8492082772	
7		132/33KV Katra	NO	Numaric	Numeric	No	No	N/A	0402002772	
8		220/33 IGC Samba	Yes	Numaric	Numeric	Yes	yes	N/A		
				Micom P445	D60 multilin				Sh. Bakesh Katoch 9906034683	
9	TLMD-V	220/132/33KVHiranagar	No	Numerical	N.A.	No	No	N.A.	Sh. Bharat Bhushan 7006032849, 9419107483	
10		220/66KV Ghatti	Yes	Numerical	Numerical	Yes	Yes	N.A.	Sh. Ashish Sharma 9622629090 Sh. Manmit Singh 0010122227	
		100// 0	N-	Numerical		N -	N-		Er. Anil Khajuria 9622279691 ,Er. Mini	
11		132Kv Gangyal	NO	Numerical	NA	NO	NO	NA	Gupta 9906389871	
12		132KV Samba	No	Numerical	NA	No	No	NA	Er. Anil Khajuria 9622279691 Er. Anind Khajuria 7006133972	
14		132KV Mahanpur	No	Numerical	Numerical	No	No	na	Daljeet Kotwal Je 7006771537,	
15		132KV Reasi	No	Numerical	Numerical	No	No		Satya Pal JE 7006162266	
16		132KV Sidhra	No	Numerical	Numerical	No	No		vishal Chib 9419157273 Sehrish Je 8803256045 Bifat JE 7889920306	
17		132KV BB-2							0003200045 111111527003320500	
18	TLMD-VIII	220/132/33KV Bishnah	Not Functional	Numerical	Numerical	Yes	No	nit	Kamal Bhagat,9622031100	
19		132KV Rajouri	No	Numerical Distance Protection relay	Numerical OverCurrent Earth Fault relay	Yes	No	Nil	Sajjad Ahmed. 7006220540	
20		132KV Draba	No	Numerical Distance Protection relay	Numerical OverCurrent Earth Fault relay	Yes	No	Nit	Mohd Shafiq. 7006061439	
21		132KV Chandak	No	Numerical Distance Protection relay.	Numerical O/C, E/F relay.	Yes	No	Nil	Pawan Kumar Sharma 7889894253	
22		132KV Chatha	yes	Numerical	Numerical	Yes	yes	nil	Vipul sharma,9419787577	
		132 kv Jourian	NO	Numerical	Numerical	Yes	No	nil	Vipul sharma,9419787577	
23		132KV Kalakote	No	Numerical Distance Protection relay	Numerical OverCurrent Earth Fault relay	Yes	No	Nil	Ishtiaq Ahmed 9797540042	
	KASHM	IR PROVINCE								
1	TLMD-1	132KV Bemina	NO	NUMERCIAL	NUMERCIAL	YES	NO	N/A	Er Farhan Manzoor ( 7006809537 ) - AE Er Irfana Pandit ( 9622220301 ) - AE Er Ubaid Koul ( 9596130726 ) - JE Er. Rihana ( 9149562477 ) - JE Er. Mehatlat ( 6005147871 ) - JE	
2		132KV Habbak								
3		132KV Badampora								
4		132KV Cheshmashahi	NO	Numerical	Numerical	Yes	No	NA	Er.Nissar Ahmad Kawa AEE (7006687540) Er Aljaz Bashir AE (9596486046) Er Nissar Ahmad Dar JE (7006506942) Er Muhammad Latif Maghloo JE (9682536390)	
5		132KV Khunmoh	NO	Numerical	Numerical	Yes	No	NA	Er.Nissar Ahmad Kawa AEE (7006687540) Er Aijaz Bashir AE (9596486046) Er Umar Imran Mir JE (9906587087)	
6	TLMD-II	132KV Rawalpora	NO	Numerical	NA	NO	NO	NIL	+91 95965 05489	
7		132KV Pampore 132KV Awantinora	NO NO	Numerical Numerical	NA NA	NO NO	NO NO	NIL	9797856595 7006541657	
9		132KV Lissar	No	Numerical	NA	No	No	Nil	9541585331	
10		220/33KV Lassipora	No	Numerical	Numerical	No	No	Nil	7006609004	
11		132/33KV Lassipora	Yes	Numerical Numerical	Numerical	Yes	Yes	Nil	7889300660	
13		132KV Tethar	No	Numerical	Numerical	No	No	Nil	8825080944	
13	TLMD-III	132/33KV Pattan								
14		132/33KV Magam								
L 15		132/33KV Vilgam				1		1	1	

16		132/33KV Amargarh								
17		132/33KV Kupwara								
18		132/33KV Sheeri								
19		132/33KV LJHP								
20	TLMD-IV	220/132KV Pampore	No	Numerical	Numerical	No	No	Third Party Audit done Engineer from PGCIL on 04.04.2025	9622079597	
21		220/132/33KV Zainkote	NO	NUMERICAL	NUMERICAL	YES	NO	hird Party Audit done Engineer from PGCIL on05.04.2025	9622307050	
22		132/33KV Nowbugh Chadoora	NO	NUMERICAL	NA	No	NO	Nil	7006809121	
23	TLMD-VI	220/132/33KV Delina	No	Numerical	No	No	In progress		7889432001	
24		132/33KV GIS Tengpora	Yes	Numerical	Yes	No	nil		7889432001	
25		132/33KV Mattan	No	Numerical	NA	Yes	No		9797127986	
		132/33KV Kulgam	no	numerical	NA	Yes	no		7006041216	
26	TLMD-VII	220/132/33KV Alusteng								
27		220/132/33KV Budgam								
28		132/33KV Shopian								
29		132/33KV Bandipora								
30	TLMD-VIII	220/132KVMirbazar								
31		132/33KV Waganpora								
32		132/33KV Khanyar								
33		132/33KV Kangan								

\*Protection setting files of 220kV lines may also be colelcted from site and attached in the mail

# 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;

sesIdcop@hvpn.org; se-sIdcop; setncmrt@upptcl.org; sIdcdata@gmail.com; sIdcharyanacr@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

#### \*\*\*\*Warning\*\*\*\*

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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 | <u>sumeet.sharma@adani.com</u> | <u>www.adani.com</u> KP Epitome 10th Floor South Wing | SG Highway |Ahmedabad-382421 | Gujarat

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

S. No	Site name	Region	Site visit
1	laltokalan		03.02.2025
2	Gobidngarh	Punjab	04.02.2025
3	Malerkotla		05.02.2025
4	Mandula	UP	06.02.2025
5	Bamnauli	DTL	07.02.2025
6	Ratangarh		06.02.2025
7	Bhilwara	Pajasthan	07.02.2025
8	Merta	Rajastilali	07.02.2025
9	Alwar		08.02.2025
10	PG Bhiwani		10.02.2025
11	BBMB bhiwani		10.02.2025
12	Hissar	Hanvana	11.02.2025
13	Dadri	naryana	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;

#### \*\*\*Warning\*\*\*\*

This email has not originated from Grid-India. Do not click on attachment or links unless sender is reliable. Malware/ Viruses can be easily transmitted via email.

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@gridindia.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

\*CAUTION: This mail has originated from outside Adani. Please exercise caution with links and attachments.\*

उत्तर प्रदेश राज्य भार प्रेषण केन्द्र लि० यू०धो०एस०एल०डी०सी०परिसर, विभूति खण्ड ।।,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

Dated: - 07 08 2024

No: - 2661 /SE(R&A)/EE-II/SPS 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

(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.
- 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) 06/08/2024, 13:10

001.bmp

SSIDE CORPERS कार्यालय OFFICE OF THE अधीवण अभियन्ता SUPERINTENDING ENGINEER **Electricity Transmission Circle** विद्युत पारेषण मण्डल उ०प्र०पावर द्रांसमिशन कारपोरेशन लि० U.P. Power Transmission Corporation Ltd. 132 के०वी० भोपारोड उपकेन्द्र 132 KV Bhopa Road Sub-station Muzaffarnagar-251001 मुजफ्फरनगर-251001 Ph. (0131-2608038 दूरमाष (0131-2608038 E-mail : seetcmzn@upptcl.org, seetcmzn@gmail.com संख्या / No. Rend / DATED & S. / 08/24 /E.T.C./MZN/400 KV S/S Shamli 1062

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
	1	otal	251	164

 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.15 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			132 KV Jasala	58	1	1	1	1
2	Uttar Pradesh		132 KV Kairana-I	20.5		1		1
3	Case-1 =50 MW Case-2 =100 MW Case-3 =200 MW Case-4 = 300 MW	220 KV	132 KV Kairana-II	20.5	-	1		1
4		Subsatatio	132 KV Lalukheri	72	-	-	1	I.
5		ise-3 -200 MW B, Shama	132 KV Jinjhana	80	-	1. 10	1	1
	Cube + 500 MIN		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	-	132 KV Jasala	38	1		-1	1
2			132 KV Kairana-I	13.5	1		1	1
3		220 KV	132 KV Kairana-II	13.5 .	-		1	1
4		Subsatatio	132 KV Lalukheri	47	10.04 (65)	1		1
5		-3 -200 MW B, Shamii	132 KV Jinjhana	52	-	1	1	1
	Case-4 . JOU /VI W		Total Relief	164	51.5	99	164	164

1/1

06/08/2024, 13:10

002.bmp

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

	Name of fundar	Connected	Maximum Load (MW)	Average Load (MW) 53	
No.	Name of feeder	Load (MVA)	63		
1	132 KV Budhana	63+40	0	51 .	
	122 KV Kharad	63+40	78	17 th	
4	132 KV Kimina		41	27	
3	132 KV Jalalpur	40740	74	48	
4	132 KV Thanabhawan	63+63+40	14	23	
5 132 KV Kaniyan		40+40	33		
2	Total		310	202	

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

a 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 Den dach		132 KV Budhana	82	-			1
1			132 KV Kharad	78	-	-		
2	Case-1 50 MW	400 K.V	132 KV Jalalpur	41	1	-	1	
3	3 Case-2 100 MW 4 Case-3 200 MW 5 Case-4 300 MW	e-2 100 MW Subsatatio c-3 -200 MW n, Shamli e-4 -300 MW	132 KV Thanabhawan	74		1	-	-
4			132 KV Kaniyan	35	1	1		-
5			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
			132 KV Budhana	53		1		-
	time Developh		132 KV Kharad	51	1	1		
2	Case-1=50 MW	400 KV	132 KV Jalalpur	27		-	1.1.1	1 - 1
3	Case-2 =100 MW Case-3 =200 MW Case-4 =300 MW	Subsatatio	132 KV Thanabhawan	48	48 -	-	1	
4		n, Shamli	132 KV Kaniyan	23				-
			Case-4 -300 MW	Total Relief	202	51	104	202

Submitted for information and necessary action

www. (Nikhil Kumar) Superintending Engineer

#### संख्या / No.

#### /E.T.C./MZN/

दिनाके / 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



Superintending Engineer (R&A) 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				
Thana Bhawan -2	25	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.				
Jasala-1	25	Only one line exists				
Jasala-2	25	Only one line exists.				
Kharad-1	50	Only one line exists which is normally kept				
Kharad-2	50	open at Kharad and load of Kharad is normally fed from 400kV Shamli S/s.				
Baraut-1 150 (case-4)		No such line axist at 220kV Shamli S/s				
Baraut-2	150 (case-4)	No such the exist at 220kV Shamin 5/s.				

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. 22. / ETCC-MT/

#### Superintending Engi Dated/- 30/05 124

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/NewEngl.etter01

#### **Rajasthan Details**

S.No.	Name of Sub- Station	Feeder name as per existing detail	Revised name of Existing Feeder /Line/Equipment	Average Load relief (MW )	Remark
		132 kV GSS Mundawar	132 kV GSS Pinan	25	
		132 kv GSS Bansoor	132 kV GSS Telco	45	
1	220 kV GSS Alwar	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
	220 kV GSSV Bhilwara	132 kV GSS Gangapur	132 kv GSS Karoi	15	
2		132 kV GSS Danta	132 kV GSS Danta	30	
		132 kV GSS Devgarh	122 kV GSS Bankali	10	
		132 kV GSS Kareda		10	
4	400 kV GSS Merta	132 kV GSS Kuchera	132 kV GSS Dhawa	25	
		132 kV GSS Lamba	122 kV GSS Lamba iatan		
		132 kV GSS Gotan			

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

Email

Email

# 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>, "XEN MP Hisar" <xenmpcchsr@hvpn.org.in>, "XEN MP CC" <xenmpccggn@hvpn.org.in>

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

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# 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 <sesIdcop@hvpn.org.in>;

#### 2 attachments (209 KB)

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

### \*\*\*\*Warning\*\*\*\*

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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>

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

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.

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

<sup>&</sup>lt;sse220kvlulaahir@hvpn.org.in>

Sent: Thursday, August 29, 2024 1:20:08 PM

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

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 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

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--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 - <u>xentsbhw@hvpn.org.in</u> Phone No: 01664-242797(O)

То

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 2 <sup>nd</sup> 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 2 <sup>nd</sup> 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 2 <sup>nd</sup> 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

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

# 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>;

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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 CKTI	120
2	220 KV BAMNAULI-PAPANKALAN-I CKTII	120
3	220 KV MANDAULA- GOPALPUR CKTI	212
4	220 KV MANDAULA- GOPALPUR CKTII	214

Regards,

SLDC Delhi

On Tue, Aug 27, 2024 at 10:07 AM NRLDC SO 2 <<u>nrldcso2@grid-india.in</u>> 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.)
	220/66kV Gobiodgarb	66kV Talwara-19(ADANI SPS)	375	430
		66kV Talwara-2(ADANI SPS)	375	430
Buniah		66kV Gill road-1(DADRI SPS)	543	610
Control Area	220/66kV Lalton kalan	66kV Gill Road-2(DADRI SPS)	518	692
		66kV Dugri(DADRI SPS)	325	450
		66kV Malerkotla(ADANI SPS)	213	403
	220/66kV Malerkotla	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
	220/1221// Alwar	Sh. Vijaypal Yadav XEN (Prot.)	9413361407	xen.prot.alwar@rvpn.co.in
	220/132KV Alwai	Ms. Pooja Verma AEN (Comm)	9413375366	aen.comm.alwar@rvpn.co.in
	220/12214/ Dataproch	Sh. Mukesh Somra AEN (MPT&S) , Sh.	9414061442	aen.mpt&s.rtg@rvpn.co.in
	220/132kV Rataligarii	Dharmender Singh ( Comm.)	9413383246	aen.comm.ratangarh@rvpn.co.in
Rajasthan	220/132kV Bhilwara	Sh. Madhusudan Sharma, AEN (SLDC-comm	9413383176	aen.subsldc.bhl@rvpn.co.in
		Sh. Suresh Garg, XEN (MPT&S)	9414061424	xen.mpts.bhl@rvpn.co.in
	000/40013/14-14	Mukesh Kumar (AEN Prot.) Mahip	7734806466	aen.prot.mertacity@RVPN.CO.IN
	220/132kV Merta	Singh (Aen)Comm)	9413362995	aen.comm.merta@RVPN.CO.IN
BBMB	400/220kV Bhiwani(BBMB)			
	400/220kV Hissar(PG)			
DOWERCRID	Bhiwani(PG)			
POWERGRID	400/220kV Bahadurgarh(PG)			
	400/220kV Dhanonda	Gautam / SSE, 400kV Dhanonda	9313472669	dhanonda400kv@gmail.com
Horizono	220kV Lulahir	Er. Subhash Chander	9416373135	sse220kvlulaahir@hvpn.org.in
naryana	220kV Rewari	Er. Kavinder Yadav	9315315649	sse220kvrwr@hvpn.org.in
	132kV Charkhi Dadri	Vivek Sangwan	9034459489	sse132kvdadri@hvpn.org.in
	220/66kV Gobindgarh	Er. Harwinder Singh	96461-18184	ae-220kvg1-mgg@pstcl.org
Punjab	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
IIP	Shamli	Er. Krishna Nand	9412756631	eeetdshamli@upptcl.org,
JP	400kV Muradnagar	Er. D.S. Sengar	9412748666	ee400mrd2@upptcl.org
Delhi	400/220kV Bamnauli			
Deun	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>;

CcDeepak 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;

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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

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### 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		



### 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 Adani Transmission (India)ltd.

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## Proposed overvoltage protection setting for 400kV & 765kV lines in NR (approved in 58th PSC meeting held on 26.03.2025)

The philosophy to decide the overvoltage protection setting was finalised by the committee formed by NRPC to review the over voltage protection settings. The philosophy is as follows:

- i. Pick up voltage & time delay setting of Antitheft lines to be kept low with sufficient time gap from other lines at S/s. In case of 400kV lines, it may be kept as 105%-107% pick up with 3-4 secs time delay and in case of 765kV lines, it may be kept as 104%-106% pick up with 3-4 secs time delay. Further, it may be decided on case-to-case basis.
- ii. Parallel lines grading to be done such that one line should trip early by setting at low voltage and other line should trip last by keeping setting at high voltage. Stage-1 of over voltage protection setting in all the 400kV lines to be kept as 110 % with 5 sec delay and stage-2 setting to be kept as 140-150 % with 100msec delay.
- iii. In case of parallel lines, both voltage and time grading need to be done (in line with the NRPC protection philosophy of lines). Voltage grading (110% & 112% with 5 & 6 sec time delay for double circuits and 110%, 111% & 112% with 5,6 & 7 sec time delay for triple circuits).
- iv. Highly loaded lines should be given last priority in tripping.
- v. Net MVAr relief (based on the line charging MVAr & MVAr compensation in line) based on the simulation to be considered for arriving at the priority of line tripping. Lines providing high net MVAr relief to be tripped early.
- vi. Grading to be done in such a manner that one major incoming and outgoing line shall remain connected after tripping of lines at any node.
- vii. Protection setting of remote end station of a line need to be coordinated so as to avoid tripping of line from the other end.
- viii. Drop-off to pick-up ratio of relays implemented for overvoltage protection shall be more than 99%. In case of old relays in which there is no option for changing this setting, utilities may take up this issue with OEM for increasing this setting to 99% or higher.

			End I				Fnd II			
<u>S.</u> No	<u>Name of the Line</u>	<u>Circ</u> <u>uit</u> ID	stage I pick up(%)	tim e (s)	stage II pick up(% )	tim e (s)	stage I pick up(% )	tim e (s)	stag e II pick up(% )	time (s)
1. 76	5kV Transmission Lin	е								
A. PC	OWERGRID	1	1	1	1	1		1	1	1
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		V	VR	
5	Agra-Gwalior IR	2	109	9	150	0.1		V	VR	
6	Agra-Jhatikara	1	106	5	140	0.1	106	5	140	0.1
	Ajmer(PG)-									
7	Bhadla_2(PG)	1	109	8	140	0.1	109	8	140	0.1
	Ajmer(PG)-									
8	Bhadla_2(PG)	2	110	15	140	0.1	110	15	140	0.1
	Ajmer(PG)-									
9	Chittorgarh(PG)	1	110	9	140	0.1	110	9	140	0.1
	Ajmer(PG)-									
10	Chittorgarh(PG)	2	110	15	140	0.1	110	15	140	0.1
	Ajmer(PG)-									
11	Phagi(RS)	1	108	7	140	0.1	108	7	140	0
4.2	Ajmer(PG)-		110					10	1.10	
12	Phagi(RS)	2	110	12	140	0.1	110	12	140	0
10	Aligarh(PG) -	1	100		150	0.1	100	-	140	0.1
13	SIKar_Z(PSTL)	1	108	5	150	0.1	108	5	140	0.1
14	Aligar (PG) -	2	100	0	150	0.1	100	0	140	0.1
14	Aligarh Cr Naida	2	100	9	150	0.1	100	9	140	0.1
15	Aligarn-Gr.Nolda	1	109	/	150	0.1	109	/ 	140	0.1
10	Balla-Gaya IK		108	/	120	0.1		E	ĸ	
17	Ddlld-	1	100	0	150	0.1	109	0	150	01
1/	Bhadla II(PG)	1	108	9	120	0.1	108	9	120	0.1
12	Sikar 2(PG)	1	100	6	150	01	109	6	150	01
10	Bhadla II(PG)-		109	0	10	0.1	109	0	1.0	0.1
19	Sikar 2(PG)	2	110	15	150	0.1	110	15	150	0.1
20	Bhiwani-Ihatikara	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
21	Bhiwani-Dhagi	1	109	, 5	140	0.1	109	, 5	140	0.1
22	Bhiwani-Fildgi	2 2	109	7	1/0	0.1	109	7	1/0	0
23	Bikanor(PG) -	2	109	/	140	0.1	109	/	140	U
21	Bhadla(PG)	1	100	Q	1/0	01	100	Q	1/0	01
27	Bikaner(PG) -	<u> </u>	105	0	140	0.1	105	0	140	0.1

			I							
20	Bikaner(PG)-	1	100	-	140	0.1	100	_	140	0.1
26	Bhadla_2(PG)	1	108	/	140	0.1	108	/	140	0.1
27	Bikaner(PG)-	n	110	15	140	0.1	110	15	140	0.1
27	Bikaper(PG)-Moga	 1	102	5	140	0.1	102	5	140	0.1
20	Bikanor(BC) Moga	ב ר	110	12	140	0.1	110	12	140	0.1
29	Chittorgarb(DC)	Z	110	15	140	0.1	110	15	140	0.1
20	Banaskantha IP	1	110	٥	140	0.1		V	VP	
- 30	Chittorgarh(PG)-		110	9	140	0.1		v	VIX	
31	Banaskantha IR	2	110	15	140	01		V	VR	
	Fatehpur- Sasaram			10	110	0.1				
32	IR	1	108	5	150	0.1		E	ER	
_	Fatehgarh 2(PG)-					_				
33	Bhadla_2(PG)	1	109	9	140	0.1	109	9	140	0.1
	Fatehgarh_2(PG)-									
34	Bhadla_2(PG)	2	110	15	140	0.1	110	15	140	0.1
	Fatehgarh_2(PG)-									
35	Bhadla_2(PG)	3	107	5	140	0.1	107	5	140	0.1
	Fatehgarh_2(PG)-									
36	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
	Jhatikara(PG)-									
38	Khetri(PKTSL)	1	108	5	140	0.1	108	5	140	0.1
	Jhatikara(PG)-									
39	Khetri(PKTSL)	2	109	6	140	0.1	109	6	140	0.1
10	Kanpur(GIS)-	1	100	_	150	0.1	100	•	150	0.1
40	Aligarn		109	9	150	0.1	109	9	150	0.1
11	Baroilly 2(PG)-	1	100	5	150	0.1	100	5	150	0.1
41	Moorut G Noida	1	109	7	140	0.1	109	7	140	0.1
42	Meerut-	1	109	/	140	0.1	109	/	140	0.1
43	Koteshwar(PG)	1	107	7	140	0.1	107	7	140	0.1
	Meerut-	-					,			<b>.</b>
44	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		V	VR	
50	Orai-Jabalpur IR	2	109	5	150	0.1		V	VR	
51	Orai-Satna IR	1	108	5	150	0.1		V	VR	
52	Orai-Gwalior IR	1	108	6	150	0.1		V	VR	
53	Phagi-Gwalior IR	1	110	5	140	0.1		V	VR	
54	Phagi-Gwalior IR	2	110	7	140	0.1	WR			
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-Gava IR	1	108	5	150	0.1			ER	
				L	· · · · ·		l			

58	Varanasi-Gaya IR	2	109	9	150	0.1			ER		
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		WR			
01	Varanasi-	Т	100	5	150	0.1		v	VIX		
62	Vindhyachal	2	109	9	150	0.1		V	VR		
B. Ac	ani Transmission Indi	a Ltd. (	ATIL) (B	KTL. FB	STL)						
5.710	Bikaner(PG)-										
1	Khetri(PKTSL)	1	109	9	140	0.1	109	9	140	0.1	
	Bikaner(PG)-	_								0.1	
2	Khetri(PKTSL)	2	110	15	140	0.1	110	15	140	0.1	
	Fatehgarh_II(PG)-										
3	Bhadla(PG)	1	108	6	140	0.1	108	6	140	0.1	
	Fatehgarh_II(PG)-										
4	Bhadla(PG)	2	110	12	140	0.1	110	12	140	0.1	
C. UF	PPTCL		-								
	Agra Fatehabad-										
1	Ghatampur	1	108	7	140	0.1	108	7	140	0.1	
	Agra Fatehabad-										
2	Gr. Noida	1	109	5	140	0.1	109	5	140	0.1	
3	Anpara C-Anpara D	1	108	5	140	0.1	108	5	140	0.1	
4	Anpara C-Unnao	1	109	5	140	0.1	110	7	140	0.1	
5	Anpara D-Obra_C	1	110	7	140	0.1	110	7	140	0.1	
6	Bara-Mainpuri	2	108	7	140	0.1	108	7	140	0.1	
7	Ghatampur- Rampur_PRSTL Hapur(UP)-	1	109	5	140	0.1	109	5	140	0.1	
8	Meerut_PMSTL	1	110	7	140	0.1	110	7	140	0.1	
	Hapur(UP)-										
9	Rampur_PRSTL	1	108	5	140	0.1	108	5	140	0.1	
10	Hapur-Mainpuri	1	109	7	140	0.1	109	7	140	0.1	
11	Jawaharpur- Gr.NOIDA	1	110	5	140	0.1	110	5	140	0.1	
10	Lalitpur - Agra	4	100	-	140	0.1	100	-	150	0.1	
12		1	108	5	140	0.1	TUR	5	150	0.1	
10	Lanupur - Agra	r	110	0	140	01	110	0	1/0	01	
12	ι αισπαυάυ	2	110	3	140	0.1	110	3	140	0.1	
14	G.Noida	1	110	5	140	0.1	110	5	140	0.1	
	Mainpuri(UP)-										
15	Jawaharpur	1	110	9	140	0.1	110	9	140	0	
16	Obra_C-Unnao	1	110	5	140	0.1	110	5	140	0.1	
D. Rajasthan											
1	Anta-Phagi	1	110	5	140	0.1	110	5	140	0.1	

2	Anta-Phagi	2	110	7	140	0.1	112	6	140	0.1
2. 76	5kV Transmission Lin	e charg	ed at 40	0kV						
A. P0	OWERGRID	1	1							
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
	Tehri(TH)-									
3	Koteshwar(PG)	1	110	5	140	0.1	110	5	150	0.1
	Tehri(TH)-									
4	Koteshwar(PG)	2	112	6	140	0.1	111	6	150	0.1
B. A	dani Transmission Ind	ia Ltd.	(ATIL) ( F	BTL)		1	1	1	1	
	Fatehgarh Pooling-									
1	Fatehgarh_II	1	110	5	150	0.1	110	5	150	0.1
-	Fatehgarh Pooling-							_		
2	Fatehgarh_II	2	112	6	150	0.1	111	5	150	0.1
3.40	00kV HVAC Transmissi	on Line	9							
A. P(	OWERGRID		1	1	1	1	1	1	1	[
	Abdullapur(PG)-				150				450	~ ^
2	Deepalpur(JHKT)	1	112	6	150	0.1	112	6	150	0.1
4	Abdullapur(PG)-	1	110	-	150	0.1	110	-	150	0.1
T	Bawaha(DV)		110	5	150	0.1	110	5	150	0.1
С	Abdullapur- Kala	1	110	5	150	0.1	110	5	150	0 1
3	Allib Abdullapur-Kala		110	5	150	0.1	110	5	150	0.1
Δ	Abuullapul - Kala	2	112	6	150	01	112	6	150	0 1
-	Abdullapur-	2	112		150	0.1	112		150	0.1
5	Kurukshetra	1	110	5	150	0.1	110	5	150	0.1
0	Abdullapur-	_				0.1				
6	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
<b>T</b> T	Agra PG-	~	112	0	130	0.1			130	0.1
	Fatehabad (765kV									
12	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	117	6	150	0.1	117	6	150	0.1
10	Aimer(RS)-	<u> </u>	112		130	0.1			10	0.1
17	Aimer(PG)	1	110	5	150	0.1	110	5	150	0.1
	Aimer(RS)-	-								0.1
18	Ajmer(PG)	2	112	6	150	0.1	112	6	150	0.1
	Allahabad-				_				-	
19	Fatehpur	3	110	5	150	0.1	110	5	150	0.1

	Allahahad-									
20	Fatehnur	1	111	6	150	01	111	6	150	0.1
20	Allahahad-	-		0	150	0.1	***	0	150	0.1
21	Fatehpur	2	112	7	150	0.1	112	7	150	0.1
22	Allahabad-Kannur	1	110	5	150	0.1	110	5	150	0.1
	Allahabad-	-	110	5	130	0.1	110		130	0.1
	Kanpur GIS(765/4									
23	00kV)	1	112	6	150	0.1	111	6	150	0.1
	Allahabad-					_				
	Kanpur GIS(765/4									
24	00kV)	2	110	5	150	0.1	111	7	150	0.1
	Allahabad(PG)-									
25	Meja(NT)	1	110	5	150	0.1	110	5	140	0.1
	Allahabad(PG)-									
26	Meja(NT)	2	112	6	150	0.1	110	5	140	0.1
	Allahabad-Sasaram									
27	IR	1	110	5	150	0.1			ER	
	Allahabad-									
28	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
	Amritsar-Parbati									
31	Pool Banala	1	110	5	150	0.1	110	5	150	0.1
	Auraiya(NT)-			_				_	450	
32	Agra(PG)	1	110	5	140	0.1	110	5	150	0.1
22	Auraiya(NT)-	2	112	_	1.10	0.1	112	~	150	0.1
33	Agra(PG)	2	112	5	140	0.1	112	6	150	0.1
34	Baghpat-Kaithai	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
20	Baghpat-	1	110	~	150	0.1	110	-	150	0.1
30	Sanaranpur	T	110	0	150	0.1	110	5	150	0.1
27	banauurgam(PG)- Kabulour(H\/)	1	110	6	150	01	110	5	150	01
5/	Rabadurgarh	T	110	U	1.20	0.1	110	J	1.20	0.1
38	Sonepat	1	110	5	150	01	110	5	150	01
	Bahadurgarh-	-		5						5.1
39	Sonepat	2	112	6	150	0.1	112	6	150	0.1
	Balia-Biharshariff			-				-		
40	IR	1	110	5	150	0.1		E	R	
	Balia-Biharshariff									
41	IR	1	112	6	150	0.1		E	R	
42	Balia(PG)-Mau(UP)	1	110	5	150	0.1	110	5	150	0.1
								E	R	
43	Balia-Naubatpur IR	1	111	6	150	0.1				
44	Balia-Patna IR	1	110	5	150	0.1		E	R	
45	Balia-Patna IR	2	112	6	150	0.1		E	R	

46	Balia-Patna IR	3	110	6	150	0.1	ER			
17	Balia-Rasra	1	112	6	150	0.1	110	5	1/10	0.1
47	Balia Sobawal	1	110	5	150	0.1	110	5	150	0.1
40	Dalla-Sullawal	2	110	5	150	0.1	110	5	150	0.1
49	Balla-Sonawai	2	112	6	150	0.1	112	6	150	0.1
50	Ballabgarn-	1	110	-	150	0.1	110	-	150	0.1
50	Gurgaon	1	110	5	150	0.1	110	5	150	0.1
-1	Ballabgarn(PG)-	4	110	~	150	0.1	110			
51		1	110	6	150	0.1	110	6		
50	Bamnoll(DV)-	1	110	F	150	0.1	110	F	150	0.1
52	Dwarka(PG)	T	110	5	150	0.1	110	5	150	0.1
E2	Barelliy PG-	1	111	c	150	0.1	110	F	150	0.1
53		T	111	0	150	0.1	110	5	150	0.1
<b>Г</b> 4	Barelliy(PG)-	1	110	-	150	0.1	110	-	150	0.1
54	Neerul	T	110	5	150	0.1	110	5	150	0.1
	Barelliy(PG)-	n	112	6	150	0.1	112	6	150	0.1
55	Recoilly (DC)	Z	112	σ	120	0.1	112	O	120	0.1
FC	Barelliy(PG)-	1	110	F	150	0.1	110	F	150	0.1
50		1	110	5	150	0.1	110	5	150	0.1
57	Barelliy(PG)-	1	111	c	150	0.1	111	c	150	0.1
57		1	111	0	150	0.1	111	0	150	0.1
ГО	Barelly(UP)-	1	110	F	150	0.1	110	F	150	0.1
58	Barelliy(PG)	1	110	5	150	0.1	110	5	150	0.1
50	Barelliy(UP)-	2	112	c	150	0.1	112		150	0.1
- 29	Barelly(PG)	Z	112	0	150	0.1	112	0	150	0.1
6	Barelliy_2(765/400	1	110	-	150	0.1	110	-	150	0.1
60	)(PG)-Barelliy(PG)	1	110	5	150	0.1	110	5	150	0.1
C1	Barelliy_2(765/400	2	112	~	150	0.1	112		150	0.1
61	)(PG)-Barelliy(PG)	2	112	6	150	0.1	112	6	150	0.1
62	Bareilly_2(765/400	4	110	_	450	0.1	110	-	150	0.1
62	)(PG)-Jauljivi(PG)	1	110	5	150	0.1	110	5	150	0.1
	Bareilly_2(765/400			_	450				450	
63	)(PG)-Jauljivi(PG)	2	112	6	150	0.1	112	6	150	0.1
	Bareilly_2(765/400			_				_		•
64	)(PG)-Kashipur(UK)	1	110	5	150	0.1	110	5	150	0.1
	Bareilly_2(765/400	-		_						•
65	)(PG)-Kashipur(UK)	2	112	6	150	0.1	112	6	150	0.1
	Baspa-Karcham			_				_		
66	Wangtoo	1	110	5	140	0.1	110	5	140	0.1
	Baspa-Karcham	~								
67	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
	Bassi(PG)-	_		_				_		
69	Heerapura(RS)	1	110	5	150	0.1	110	5	150	0.1
	Bassi(PG)-	_		_				_		
70	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
	Bassi(PG)-									
72	Phagi(RS)	1	110	5	150	0.1	110	5	140	0.1
									7	Page

basis(PG)-         pass(PG)-         2         112         6         150         0.1         112         6         150         0.1         112         6         150         0.1           74         Bassi-Sikar         2         112         6         150         0.1         110         5         150         0.1         110         5         150         0.1           75         Bassi-Sikar         2         112         6         150         0.1         110         5         150         0.1           76         Lucknow(PG)         2         112         6         150         0.1         110         5         150         0.1           70         Bawang(CGTB)(D         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>											
73         Priagn(X)         2         112         6         130         0.1         112         6         140         0.1           74         Bassi-Sikar         2         112         6         150         0.1         110         5         150         0.1           75         Bassi (UP)-         2         112         6         150         0.1         110         5         150         0.1           Basti (UP)-         2         112         6         150         0.1         112         6         150         0.1           Bawana(CCGTB)(D         1         110         5         150         0.1         112         6         150         0.1           Bawana(CCGTB)(D         1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1           Bhadla(PG)-         1         110         5         150         0.1         110         5         150         0.1           Bhensra         2         110         5         150         0.1         110         5         150         0.1           Bhensra         1	72	Bassi(PG)-	2	112	c	150	0.1	112	c	140	0.1
74         Bassi-Sikar         1         110         5         150         0.1         110         5         150         0.1           75         Bassi (UP)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	75	Plidgi(KS)	2 1	112	о г	150	0.1	112	о г	140	0.1
75         Bassi-Sikar         2         112         6         150         0.1         112         6         150         0.1           Basti (UP)-         1         110         5         150         0.1         110         5         150         0.1           Basti (UP)-         2         112         6         150         0.1         110         5         150         0.1           Basti (UP)-         2         112         6         150         0.1         110         5         150         0.1         100         5         150         0.1           Basta (QCGTB)(D         1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150	74	Bassi-Sikar	1	110	5	150	0.1	110	5	150	0.1
Basti (UP)-         Into	/5	Bassi-Sikar	2	112	6	150	0.1	112	6	150	0.1
76         Lucknow(PG)         1         110         5         150         0.1         110         5         150         0.1           Basti (UP)-         2         112         6         150         0.1         112         6         150         0.1         112         6         150         0.1           Bawana(CCGTB)(D         1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         150         0.1         150         0.1         150         0.1         150         160         110	70	Basti (UP)-	1	110	-	150	0.1	110	-	150	0.1
Basti (UP)-         2         112         6         150         0.1         112         6         150         0.1           Bawana(CCGTB)(D         TL)-         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T         T<	/6		L	110	5	150	0.1	110	5	150	0.1
11         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         112         111         110         111         110         111         110         111         110         111         110         111         110         111         110         111         110         111         110         111         110         111         110         111         110         111         110         111         110         110         110         111         110         110         111         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110		Basti (UP)-	2	112	~	150	0.1	112	c	150	0.1
Bawana (CCG B) (D)         I         110         5         150         0.1         110         5         150         0.1           Bawana (CCG B) (D)         I         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         112         6         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110	11		2	112	0	150	0.1	112	0	150	0.1
The second sec											
Bankadigen(PG)       1       110       10       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110       110	78	Rabadurgarh(PG)	1	110	5	150	0.1	110	5	150	0.1
Bawalla (CG) (D)         112         6         150         0.1         112         6         150         0.1           Bhadla(PG)         1         110         5         150         0.1         110         5         150         0.1           Bhadla(PG)         1         110         5         150         0.1         110         5         150         0.1           Bhadla(PG)         2         112         6         150         0.1         110         5         150         0.1           Bhensra         1         100         5         150         0.1         110         5         150         0.1           Bhensra         1         110         5         150         0.1         110         5         150         0.1           Bhensra         1         110         5         150         0.1         110         5         150         0.1           Bhensra         1         110         6         150         0.1         110         5         150         0.1           Bhensra         1         110         5         150         0.1         110         5         150         0.1	70			110	5	150	0.1	110	5	150	0.1
TypeInivarity       T       Type       Type <td>70</td> <td>TL) Phiwopi(PC)</td> <td>1</td> <td>112</td> <td>6</td> <td>150</td> <td>0.1</td> <td>112</td> <td>6</td> <td>150</td> <td>0.1</td>	70	TL) Phiwopi(PC)	1	112	6	150	0.1	112	6	150	0.1
Bindla(R5)         1         10         5         150         0.1         110         5         150         0.1           Bhadla(R5)         2         112         6         150         0.1         112         6         150         0.1           Bhensra (Jaisalmer2)(R5)-         1         110         5         150         0.1         110         5         150         0.1           Bhensra (Jaisalmer2)(R5)-         1         110         5         150         0.1         110         5         150         0.1           8         Fatehgarh_III(PG)         2         112         6         150         0.1         110         5         150         0.1           8         Bhensra (Jaisalmer2)(R5)-         1         110         6         150         0.1         110         5         150         0.1         110         5         150         0.1           8         Bhiwadi-Hissar         1         110         5         150         0.1         111         6         150         0.1         111         6         150         0.1         110         5         150         0.1           8         Bhiwadi-Hissar         2 <td>79</td> <td>Phadla(PG)</td> <td>1</td> <td>112</td> <td>0</td> <td>130</td> <td>0.1</td> <td>112</td> <td>0</td> <td>130</td> <td>0.1</td>	79	Phadla(PG)	1	112	0	130	0.1	112	0	130	0.1
Bindar(10)         1         10         5         100         0.1         110         5         100         0.1           Bhadla(PG)- Bhensra (Jaisalmer2)(RS)- (Jaisalmer2)(RS)-         2         112         6         150         0.1         110         5         150         0.1         110         5         150         0.1           Bhensra (Jaisalmer2)(RS)-         1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.	20	Bhadla(RS)	1	110	5	150	01	110	5	150	0 1
Bindal(RS)         2         112         6         150         0.1         112         6         150         0.1           Bhensra (Jaisalmer2)(RS)- (Jaisalmer2)(RS)- (Jaisalmer2)(RS)- (Jaisalmer2)(RS)-         110         5         150         0.1         110         5         150         0.1           Bhensra (Jaisalmer2)(RS)-         110         5         150         0.1         110         5         150         0.1           Bhensra (Jaisalmer2)(RS)-         110         6         150         0.1         110         5         150         0.1           Bhiwadi-Gurgaon         1         110         6         150         0.1         110         5         150         0.1           Bhiwadi-Hissar         1         110         5         150         0.1         111         6         150         0.1           Bhiwadi-Hissar         2         111         6         150         0.1         1110         5         150         0.1           Bhiwadi- Bhiwadi- Bhiwadi- Bhiwani(PG)         1         110         5         150         0.1         110         5         150         0.1           Bhiwani(PG)- 91         1         110         5         150 <td>00</td> <td>Bhadla(PG)-</td> <td></td> <td>110</td> <td>5</td> <td>130</td> <td>0.1</td> <td>110</td> <td>5</td> <td>130</td> <td>0.1</td>	00	Bhadla(PG)-		110	5	130	0.1	110	5	130	0.1
Distriction         L         112         0         150         0.1         112         0         150         0.1           Bhensra (Jaisalmer2)(RS)- (Jaisalmer2)(RS)-         1         110         5         150         0.1         110         5         150         0.1           Bhensra (Jaisalmer2)(RS)-         1         110         5         150         0.1         110         5         150         0.1           83         Fatehgarh_III(PG)         2         112         6         150         0.1         110         5         150         0.1           86         Bhiwadi-Gurgaon         1         110         5         150         0.1         110         5         150         0.1           87         Bhiwadi-Hissar         2         111         6         150         0.1         111         6         150         0.1           88         Bhiwadi-Hissar         3         112         7         150         0.1         110         5         150         0.1           90         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91	R1	Bhadla(RS)	2	117	6	150	01	117	6	150	0.1
Distribution         Distribution<	01	Bhensra	2	112	0	150	0.1	112	0	150	0.1
Bate Horsen         1         10         5         150         0.1         110         5         150         0.1           Bhensra (Jaisalmer2)(RS)- (Jaisalmer2)(RS)- (Jaisalmer2)(RS)- Bilwadi-Gurgaon         1         110         6         150         0.1         112         6         150         0.1           83         Fatehgarh_III(PG)         2         112         6         150         0.1         110         5         150         0.1           84         Bhiwadi-Gurgaon         1         110         5         150         0.1         110         5         150         0.1           87         Bhiwadi-Hissar         1         110         5         150         0.1         111         6         150         0.1           88         Bhiwadi-Hissar         2         111         6         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110		(laisalmer2)(RS)-									
Bernsra (Jaisalmer2)(RS)- 83         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         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         7         150         0.1         110         5         150         0.1 <td>82</td> <td>Fatehgarh III(PG)</td> <td>1</td> <td>110</td> <td>5</td> <td>150</td> <td>0.1</td> <td>110</td> <td>5</td> <td>150</td> <td>0.1</td>	82	Fatehgarh III(PG)	1	110	5	150	0.1	110	5	150	0.1
Briwadi-Gurgaon         1         10         6         150         0.1         112         6         150         0.1           88         Fatehgarh_III(PG)         2         112         6         150         0.1         110         5         150         0.1           86         Bhiwadi-Gurgaon         1         110         5         150         0.1         110         5         150         0.1           87         Bhiwadi-Hissar         1         110         5         150         0.1         111         6         150         0.1         111         6         150         0.1           88         Bhiwadi-Hissar         3         112         7         150         0.1         112         7         150         0.1           89         Bhiwadi-Hissar         3         112         7         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         15		Bhensra				100	0.1			100	0.1
83         Fatehgar_lII(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         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         110         5         150         0.1		(Jaisalmer2)(RS)-									
Bit Maging Production	83	Fatehgarh III(PG)	2	112	6	150	0.1	112	6	150	0.1
Britandi 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         111         6         150         0.1           80         Neemrana(PG)         1         110         5         150         0.1         112         7         150         0.1           90         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         110         5         150         0.1           8hiwai(BB)         1         110         5         150         0.1         110         5         150         0.1           93         Hissar(PG)         1         112         7         150         0.1         110         5         150         0.1           94         Bhiwani(PG)-	86	Bhiwadi-Gurgaon	1	110	6	150	0.1	110	5	150	0.1
Briwadi-Hissar         2         110         6         150         011         110         6         150         011           88         Bhiwadi-Hissar         3         112         7         150         0.1         111         6         150         0.1           89         Bhiwadi-Hissar         3         112         7         150         0.1         112         7         150         0.1           90         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           92         Bhiwani(BB)         1         110         5         150         0.1         112         7         150         0.1           93         Hissar(PG)         1         112         7         150         0.1         112         7         150         0.1           94         Bhiw	87	Bhiwadi-Hissar	1	110	5	150	0.1	110	5	150	0.1
Binwadi-Hissar         3         112         7         150         0.1         112         7         150         0.1           Bhiwadi-Hissar         3         112         7         150         0.1         112         7         150         0.1           90         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           92         Bhiwani(PG)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	88	Bhiwadi-Hissar	2	111	6	150	0.1	111	6	150	0.1
OS         Drived Hissai         S         112         7         150         0.1         112         7         150         0.1           Bhiwadi-         1         110         5         150         0.1         110         5         150         0.1           90         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           92         Bhiwani(PG)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	89	Bhiwadi-Hissar	2	112	7	150	0.1	112	7	150	0.1
90         Neemrana(PG)         1         110         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           91         Neemrana(PG)         2         110         5         150         0.1         112         6         150         0.1           92         Bhiwani(PG)-         1         110         5         150         0.1         110         5         150         0.1           93         Hissar(PG)         1         112         7         150         0.1         110         5         150         0.1         110         5         0.1           94         Bhiwani(PG)-Jind         2         112         7         150         0.1         111         6         150 </td <td>05</td> <td>Bhiwadi-</td> <td>5</td> <td>112</td> <td>/</td> <td>150</td> <td>0.1</td> <td>112</td> <td>,</td> <td>150</td> <td>0.1</td>	05	Bhiwadi-	5	112	/	150	0.1	112	,	150	0.1
So         Recentrating (S)         1         10         5         150         0.1         110         5         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           92         Bhiwani(PG)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - <t< td=""><td>90</td><td>Neemrana(PG)</td><td>1</td><td>110</td><td>5</td><td>150</td><td>01</td><td>110</td><td>5</td><td>150</td><td>0.1</td></t<>	90	Neemrana(PG)	1	110	5	150	01	110	5	150	0.1
91         Neemrana(PG)         2         112         6         150         0.1         112         6         150         0.1           Bhiwani(PG)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	50	Bhiwadi-	-	110	5	150	0.1	110	5	150	0.1
Mathematic(10)       12       112       100       112       112       100       112       100       112       100       112       100       112       100       112       100       112       112       100       112       110       51       150       0.1       110       55       150       0.1       110       55       150       0.1       110       55       150       0.1         92       Bhiwani(BB)-       1       110       5       150       0.1       110       5       150       0.1         93       Hissar(PG)       1       112       7       150       0.1       112       7       150       0.1         94       Bhiwani(PG)-Jind       1       110       5       150       0.1       112       7       150       0.1         95       Bhiwani(PG)-Jind       2       112       7       150       0.1       111       6       150       0.1         96       Kabulpur(HV)       1       111       6       150       0.1       111       6       150       0.1         97       Hissar-Moga(PG)       1       110       5       150       0.1	91	Neemrana(PG)	2	112	6	150	0.1	112	6	150	0.1
92         Bhiwani(BB)         1         110         5         150         0.1         110         5         150         0.1           93         Hissar(PG)         1         112         7         150         0.1         112         7         150         0.1         112         7         150         0.1           94         Bhiwani(PG)-Jind         1         110         5         150         0.1         112         7         150         0.1           95         Bhiwani(PG)-Jind         2         112         7         150         0.1         112         7         150         0.1           95         Bhiwani(PG)-Jind         2         112         7         150         0.1         112         7         150         0.1           96         Kabulpur(HV)         1         111         6         150         0.1         111         6         150         0.1         110         5         150         0.1         111         6         150         0.1         110         5         150         0.1           97         Hissar-Moga(PG)         1         110         5         150         0.1         110 <td< td=""><td></td><td>Bhiwani(PG)-</td><td>-</td><td></td><td>-</td><td></td><td></td><td></td><td>v</td><td></td><td>J.1</td></td<>		Bhiwani(PG)-	-		-				v		J.1
Bhiwani(BB)-         1         112         7         150         0.1         112         7         150         0.1           93         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           95         Bhiwani(PG)-Jind         2         112         7         150         0.1         112         7         150         0.1           96         Kabulpur(HV)         1         111         6         150         0.1         111         6         150         0.1           96         Kabulpur(HV)         1         1110         5         150         0.1         110         5         150         0.1           97         Hissar-Moga(PG)         1         110         5         150         0.1         110         5         150         0.1           98	92	Bhiwani(BB)	1	110	5	150	0.1	110	5	150	0.1
93Hissar(PG)111271500.111271500.194Bhiwani(PG)-Jind111051500.111051500.195Bhiwani(PG)-Jind211271500.111271500.195Bhiwani(PG)-Jind211271500.111271500.196Bhiwani(PG)-111161500.111161500.196Kabulpur(HV)111161500.111161500.197Hissar-Moga(PG)111051500.111051500.197Hissar-Moga(PG)111051500.111051500.198Bikaner_299Bikaner(PG)211261500.111261500.199Bikaner_2(PG)100Khetri(PG)111051500.111051500.1		Bhiwani(BB)-									
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           95         Bhiwani(PG)-Jind         2         112         7         150         0.1         112         7         150         0.1           96         Kabulpur(HV)         1         111         6         150         0.1         111         6         150         0.1           96         Kabulpur(HV)         1         111         6         150         0.1         111         6         150         0.1           97         Hissar-Moga(PG)         1         110         5         150         0.1         110         5         150         0.1           97         Hissar-Moga(PG)         1         110         5         150         0.1         110         5         150         0.1           98         Bikaner_2-         -         -         -         -         -         -         -         -         -         -         - </td <td>93</td> <td>Hissar(PG)</td> <td>1</td> <td>112</td> <td>7</td> <td>150</td> <td>0.1</td> <td>112</td> <td>7</td> <td>150</td> <td>0.1</td>	93	Hissar(PG)	1	112	7	150	0.1	112	7	150	0.1
95       Bhiwani(PG)-Jind       2       112       7       150       0.1       112       7       150       0.1         96       Kabulpur(HV)       1       111       6       150       0.1       111       6       150       0.1         96       Kabulpur(HV)       1       111       6       150       0.1       111       6       150       0.1         97       Hissar-Moga(PG)       1       110       5       150       0.1       110       5       150       0.1         97       Hissar-Moga(PG)       1       110       5       150       0.1       110       5       150       0.1         98       Bikaner_2-       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	94	Bhiwani(PG)-Jind	1	110	5	150	0.1	110	5	150	0.1
Bhiwani(PG)-       111       6       150       0.1       111       6       150       0.1         96       Kabulpur(HV)       1       111       6       150       0.1       111       6       150       0.1         97       Hissar-Moga(PG)       1       110       5       150       0.1       110       5       150       0.1         98       Bikaner_2-       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - <td>95</td> <td>Bhiwani(PG)-lind</td> <td>2</td> <td>112</td> <td>7</td> <td>150</td> <td>0.1</td> <td>112</td> <td>7</td> <td>150</td> <td>0.1</td>	95	Bhiwani(PG)-lind	2	112	7	150	0.1	112	7	150	0.1
96       Kabulpur(HV)       1       111       6       150       0.1       111       6       150       0.1         Bhiwani(PG)-       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -		Bhiwani(PG)-			,	1.50	<u>, ,, ,</u>	<u> </u>	,	100	0.1
Bhiwani(PG)-       110       5       150       0.1       111       5       150       0.1         97       Hissar-Moga(PG)       1       110       5       150       0.1       110       5       150       0.1         98       Bikaner_2-       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	96	Kabulpur(HV)	1	111	6	150	0.1	111	6	150	0.1
97       Hissar-Moga(PG)       1       110       5       150       0.1       110       5       150       0.1         Bikaner_2-       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - <td></td> <td>Bhiwani(PG)-</td> <td>-</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>v</td> <td></td> <td></td>		Bhiwani(PG)-	-		-				v		
Bikaner_2-       Image: Section of the se	97	Hissar-Moga(PG)	1	110	5	150	0.1	110	5	150	0.1
98       Bikaner(PG)       1       110       5       150       0.1       110       5       150       0.1         Bikaner_2-       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -		Bikaner 2-		-				_			
Bikaner_2-       112       6       150       0.1       112       6       150       0.1         99       Bikaner(PG)       2       112       6       150       0.1       112       6       150       0.1         Bikaner_2(PG)-       1       110       5       150       0.1       110       5       150       0.1	98	 Bikaner(PG)	1	110	5	150	0.1	110	5	150	0.1
99         Bikaner(PG)         2         112         6         150         0.1         112         6         150         0.1           Bikaner_2(PG)-         Image: Second Seco		Bikaner_2-									
Bikaner_2(PG)-         1         110         5         150         0.1         110         5         150         0.1	99	 Bikaner(PG)	2	112	6	150	0.1	112	6	150	0.1
100 Khetri(PG) 1 110 5 150 0.1 110 5 150 0.1		Bikaner_2(PG)-									
	100	Khetri(PG)	1	110	5	150	0.1	110	5	150	0.1

	Dillement 2(DC)									
4.04	Bikaner_2(PG)-	-			450			~	150	0.1
101	Khetri(PG)	2	111	6	150	0.1	111	6	150	0.1
	Bikaner_2(PG)-	-						-		
102	Khetri(PG)	3	112	6	150	0.1	112	6	150	0.1
	Bikaner_2(PG)-	_		_				_		
103	Khetri(PG)	4	112	7	150	0.1	112	7	150	0.1
	Chamera-II -									-
104	Chamba(GIS)	1	110	5	150	0.1	110	5	150	0.1
	Chamera-II-									
105	Chamera-I	1	111	6	150	0.1	111	6	150	0.1
	Chamera-II-									
106	Kishenpur	1	112	7	150	0.1	112	7	150	0.1
	Chamera-l-									
107	Jalandhar	1	110	5	150	0.1	110	5	150	0.1
	Chamera-l-									
108	Jalandhar	2	112	6	150	0.1	112	6	150	0.1
	Chittorgarh(RS)-									
109	Kankroli	2	110	6	150	0.1	110	6	150	0.1
	Chittorgarh(PG)-									
110	Chittorgarh(RS)	1	110	5	150	0.1	110	5	150	0.1
	Chittorgarh(PG)-									
111	Chittorgarh(RS)	2	112	6	150	0.1	112	6	150	0.1
	Dadri NCTPP-G.									
112	Noida	1	110	5	140	0.1	110	5	150	0.1
	Dadri(NT)-									
	Maharanibagh(PG)									
113	-Ballabhgahr(PG)	1	111	6	140	0.1	111	6	150	0.1
	Dadri(NT)-									
114	Mandola	1	110	5	140	0.1	110	5	150	0.1
	Dadri(NT)-									
115	Mandola	2	112	6	140	0.1	112	6	150	0.1
	Dadri(NT)-									
116	Muradnagar_2(UP)	1	110	5	140	0.1	110	5	140	0.1
	Dadri(NT)-									
117	Panipat(BB)	1	110	5	140	0.1	110	5	150	0.1
	Dadri(NT)-									
118	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
	Deepalpur(JHKT)-									
120	Bawana(DV)	1	112	6	150	0.1	112	6	150	0.1
	Dehradun(PG)-									
121	Abdullapur	1	110	5	150	0.1	110	5	150	0.1
	Dehradun(PG)-									
122	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
_	Dehradun(PG)-		_		_		_		_	
124	Roorkee(PG)	1	110	6	150	0.1	110	5	150	0.1
125	Dulhasti-Kishennur	1	110	5	150	0.1	110	5	150	0.1
120	Bamasa Kishenpul	Ŧ	110	5	10	0.1	110	5	100	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
	Fatehabad-Hissar-									
128	Bhiwani	1	110	5	150	0.1	110	5	150	0.1
	Fatehgarh_II(PG)-									
129	Fatehgarh III(PG)	1	110	5	150	0.1	110	5	150	0.1
	Fatehgarh II(PG)-									
130	Fatehgarh III(PG)	2	112	6	150	0.1	112	6	150	0.1
	Fatehpur-Kanpur-					0.1		•		0.1
131	Panki	1	112	6	150	0.1	112	6	150	0.1
	Fatehnur-Kannur-					0.1			100	0.1
132	Panki	2	110	5	150	0.1	110	5	150	0.1
152	Eatobour Mainpuri	2	110	5	150	0.1	110	5	150	0.1
122		1	110	F	150	0.1	110	F	150	0.1
155	(PG) Fatabaur Mainauri	1	110	5	150	0.1	110	5	150	0.1
124		2	112	C	150	0.1	112	c	150	0.1
134	(PG)	Z	112	6	150	0.1	112	0	150	0.1
4.95	Fatenpur -		110	-	450		110	-	1.10	0.1
135	Unchahar	1	110	5	150	0.1	110	5	140	0.1
	Fatehpur -	_								
136	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
	Gorakhpur(PG)-									
138	Gorakhpur(UP)	1	110	5	150	0.1	110	5	150	0.1
	Gorakhpur(PG)-									
139	Gorakhpur(UP)	2	112	6	150	0.1	112	6	150	0.1
	Gorakhpur PG-									
140	Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1
	Gorakhpur PG-									
141	Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1
	Gorakhpur PG-									
142	LUCKNOW7 PG	1	110	5	150	0.1	110	5	150	0.1
	Gorakhpur PG-									
143	LUCKNOW7 PG	2	112	6	150	0.1	112	6	150	0.1
	Gorakhpur-			-		_		-		_
144	Motihari IR	1	110	5	150	0.1			ER	
<u> </u>	Gorakhpur-			-						
145	Motihari IR	2	112	6	150	01			FR	
	Gorakhnur-			5	100	0.1				
1/6	Muzaffarnur IR	1	110	5	150	01		1	-R	
140	Gorakhnur-		110	5	130	0.1			-1/	
1/7	Muzaffarnur IP	2	112	6	150	01		г	= D	
14/		2	112	0	120	0.1		1		
140		1	110	-	150	0.1	110	F	150	0.1
148	Basti(UP)		110	5	150	0.1	110	5	150	0.1
	Gorakhpur(PG)-	_						_		
149	Basti(UP)	2	112	6	150	0.1	112	6	150	0.1
	Gumma(HP)-			_	. – -	-		_		
150	Panchkula(PG)	1	110	5	150	0.1	110	5	150	0.1

	Cumma/HD)									
151	Banchkula(PG)	2	112	6	150	0.1	112	6	150	0.1
151	Gurgaon-Sohna	2	112	0	150	0.1	112	0	150	0.1
152	Road	1	110	5	150	01	110	5	140	0.1
152	Gurgaon-Sohna	-	110	5	150	0.1	110	5	140	0.1
153	Road	2	112	6	150	0.1	112	6	140	0.1
	Hamirpur-Parbati	_			100	0.1			110	0.1
154	Pool Banala	1	112	6	150	0.1	112	6	150	0.1
	Hamirpur-			-				-		
155	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
	Jaipur South(PG)-	_				0.1			100	0.1
158	RAPP D(NP)	1	110	5	150	0.1	110	5	150	0.1
	Jalandhar-		_			-				_
159	Chamba(GIS)	1	110	5	150	0.1	110	5	150	0.1
	Jalandhar-									
160	Chamba(GIS)	2	112	6	150	0.1	112	6	150	0.1
	Jalandhar-									
161	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		<u></u>	NR NR	
166	Kankroli-Zerda IR	2	112	6	150	0.1		Ŵ	/R	
100	Kannur - Kannur	-		•	130	0.1				
167	GIS(765/400)	1	110	5	150	0.1	110	5	150	0.1
	Kanpur - Kanpur					0.1				0.1
168	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
	Kanpur-							-		
170	Auraiya(NT)	1	110	5	150	0.1	110	5	140	0.1
-	Kanpur-		_				_		_	
171	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
<u> </u>	Karcham	-		-				-		
	Wangtoo-Nathpa									
175	Jhaki	1	110	5	140	0.1	110	5	150	0.1
	Karcham									
	Wangtoo-Nathpa									
176	Jhaki	2	112	6	140	0.1	112	6	150	0.1
	Karcham									
	Wangtoo-									
177	Wangtoo(HP)	1	110	5	140	0.1	110	5	140	0.1

	Kanakana									1
	Karcham									
170	Wangtoo-	2	112	· ~	150	0.1	112	· ~	140	0.1
178	Wangloo(HP)	2	112	5	150	0.1	112	5	140	0.1
1/9	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
101	Kishenpur-New	4	110	-	450	0.1	110	-	150	0.1
181	Wanpon Kiahawa Nawa	1	110	5	150	0.1	110	5	150	0.1
107	Kisnenpur-New	n	110	F	150	0.1	110	F	150	0.1
197	Kichoppur Now	3	110	5	150	0.1	110	5	150	0.1
183	Wannoh	Л	111	6	150	0.1	111	6	150	0.1
101	Kichoppur Samba	1	110	5	150	0.1	110	5	150	0.1
104	Kishannur Samba	1 2	110	5	150	0.1	110	5	150	0.1
100	Kishenpur-Samba	2 1	111	0	150	0.1	111	0	150	0.1
186	Koldam-Nallagarn	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
100	Koteshwar(PG)-	4	110	-	450	0.1	110	-	140	0.1
189	Koteswar(TH)	1	110	5	150	0.1	110	5	140	0.1
100	Koteshwar(PG)-	n	112	c	150	0.1	112	c	140	0.1
190	Koteswar(TH)	2 1	112	5	150	0.1	112	5	140	0.1
191	Kotputil-Bhiwadi	1	110	5	150	0.1	110	5	150	0.1
102	Kuruksnetra-	1	110	F	150	0.1	110	F	140	0.1
192	Dildildiisu(PS)	1	110	5	150	0.1	110	5 F	140	0.1
193	Kurukshetra-Jind	2	110	5	150	0.1	110	5	150	0.1
194	Kurukshetra-Jind	2	112	6	150	0.1	112	6	150	0.1
105	Kuruksnetra-	1	110	c	150	0.1	110	c	140	0.1
192	Nakouar (PS)	T	110	0	150	0.1	110	0	140	0.1
106	Soninat	1	110	5	150	0.1	110	5	150	0.1
190	Sumpar Kurukshotra-	1	110	5	130	0.1	110	5	150	0.1
197	Soninat	2	112	6	150	01	112	6	150	0.1
157	Lucknow(PG)-	2	112	0	150	0.1	112	0	150	0.1
198	Lucknow UP	1	111	6	150	0.1	111	6	150	0.1
199	Lucknow(PG)-lehta	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
200	lehta-Unnao	<u>-</u> 1	110	5	140	0.1	110	5	150	0.1
201	Jehta-Ulnnao	<u>ר</u>	112	6	140	0.1	112	6	150	0.1
202	Jenta-Unidu	2		0	140	0.1	112	0	120	0.1
	0)(PG) -									
203	Lucknow(PG)	1	110	5	150	01	110	5	150	01
205	Lucknow 2(765/40	-			130	<u><u></u>,</u>	0		1.50	0.1
	0)(PG) -									
204	Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1
	Lucknow 2(765/40			-				-		
	0) - Kanpur									
205	GIS(765/400)	1	110	5	150	0.1	110	5	150	0.1

	Lucknow 2(765/40									
	0) - Kanpur									
206	GIS(765/400)	2	112	6	150	0.1	112	6	150	0.1
	Ludhiana-									
207	Jalandhar	1	110	5	150	0.1	110	5	150	0.1
	Ludhiana-									
208	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
244	Mahendergarh-	2		_	150	0.1		-	150	0.1
211	Bhiwani(PG)-Hissar	3	111	5	150	0.1	111	5	150	0.1
212	Nanendergarn-	л	112	6	150	0.1	112	6	150	0.1
212	Mainnuri-	4	112	0	150	0.1	112	0	150	0.1
213	Ballabgarh	1	110	5	150	0.1	110	5	150	0.1
	Mainpuri-									
214	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
	Manesar-Sohna									
217	Road	1	110	5	150	0.1	110	5	140	0.1
	Manesar-Sohna									
218	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
	Meerut(PG)-									
225	Nuzzararnagar(UP	1	110	5	150	01	110	5	150	0.1
225	) Moga-Eatebabad	1	110	5	150	0.1	110	5	150	0.1
220	Moga-Hissar	2	110	5	150	0.1	110	5	150	0.1
227	Moga-Hissar	2	112	6	150	0.1	112	6	150	0.1
220	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
	Moradabad(UP)-	£							100	0.1
231	Hapur(UP)	1	110	5	150	0.1	110	5	140	0.1
	Muradnagar(UP)-									
232	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
	Nathpa Jhakri(SJ)-									
235	Rampur(SJ)	1	110	5	150	0.1	110	5	140	0.1
225	Nathpa Jhakri(SJ)-	2		~	450		440	~		<b>~ 1</b>
236	катриr(SJ)	2	112	6	150	0.1	112	6	140	0.1

	Nother line limit(CI)								I	[ ]
227	Nathpa Jhakri(SJ)-	1	110	-	140	0.1	110	-	140	0.1
237	Gumma(HP)	1	110	5	140	0.1	110	5	140	0.1
220	Nathpa Jhakri(SJ)-	2	112	~	140	0.1	112	c	140	0.1
238	Gumma(HP)	2	112	6	140	0.1	112	6	140	0.1
220	Neemrana(PG)-		110	-	450	0.1	110	-	150	0.1
239	Manesar	1	110	5	150	0.1	110	5	150	0.1
	Neemrana(PG)-	-		_				-		
240	Manesar	2	112	6	150	0.1	112	6	150	0.1
	Neemrana(PG)-									
1	Dhanonda(HV)-									
	Mohindergarh(APL			_	450			_	450	
241	)	1	110	5	150	0.1	110	5	150	0.1
	Neemrana(PG)-									
	Dhanonda(HV)-									
	Mohindergarh(APL	-		_				-		
242	)	2	112	6	150	0.1	112	6	150	0.1
	Neemrana(PG)-	-						c		
243	Sikar	2	111	6	150	0.1	111	6	150	0.1
	New Wanpoh-									
244	Wagoora	1	110	5	150	0.1	110	5	150	0.1
	New Wanpoh-									
245	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
	Panchkula -									
248	Abdullapur	1	110	5	150	0.1	110	5	150	0.1
	Panchkula -									
249	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
255	Datran Kaithal	1	110	5	150	0.1	110	с С	150	0.1
254		1	110	2	150	0.1	112	5	150	0.1
255		2	112	Ь	150	0.1	112	Ь	150	0.1
250	Kampur(SJ)-	4	110	-	150	0.1	110	-	150	0.1
256	Ivallagarn(PG)	1	110	5	150	0.1	110	5	150	0.1
257	Kampur(SJ)-	2	112		150	0.1	112	~	150	0.1
257	Nallagarn(PG)	2	112	6	150	0.1	112	6	150	0.1
	Rampur_PRSTL-	_		_				_		
258	Moradabad(UP)	1	111	6	150	0.1	111	6	150	0.1
	RAPP-D(NP)-									
259	Kota(PG)	1	110	5	150	0.1	110	5	150	0.1
	RAPS-C(NP)-									
260	Chittorgarh(RS)	2	110	5	150	0.1	110	5	150	0.1
	RAPS-C(NP)-									
261	Kankroli(PG)	1	111	6	150	0.1	111	6	150	0.1
	RAPS-C(NP)-									

	· · · · ·		1		1	1				1
	Rihand(NT)-									
263	Allahabad(PG)	1	110	5	140	0.1	110	5	150	0.1
	Rihand(NT)-	_								
264	Allahabad(PG)	2	112	6	140	0.1	112	6	150	0.1
	Rihand3-									
265	Vindhyachal IR	1	110	5	150	0.1		١	NR	
	Rihand3-	_		_				-	10	
266	Vindhyachal IR	2	112	6	150	0.1		V	VR	
	Roorkee(PG)-			_				_		
267	Kashipur(UK)	1	110	5	150	0.1	110	5	150	0.1
	Roorkee(PG)-	~						_	455	
268	Kashipur(UK)	2	112	6	150	0.1	112	6	150	0.1
200	Koorkee-	4	111		450	0.1			150	0.1
269	Sanaranpur	1		6	150	0.1	111	6	150	0.1
270	Samphai(UP)-	4	140		150	0.1	110	-	140	0.1
270	Kampur(PKSTL)	1	110	5	150	0.1	110	5	140	0.1
271		n	117	c	150	0.1	117	7	140	0.1
2/1	Rampul(PKSTL)	Z	112	ס	150	0.1	112	/	140	0.1
272	Saman(UP)-	1	110	<b>_</b>	150	0 1	110	E	150	0 1
212	Valallasi(PO)	T	110	5	130	0.1	110	5	130	0.1
272	Varanasi(DG)	С	117	6	150	01	117	6	150	0.1
2/3	Shahiahannur/DC)	۷			130	0.1	112	0	130	0.1
274	Bareilly(PG)	1	110	5	150	01	110	5	150	01
2/7	Shahiahannur(PG)-	1	110		130	0.1	110		150	0.1
275	Bareilly(PG)	2	112	6	150	0.1	112	6	150	0.1
	Shahiahanpur(PG)-									
276	Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1
	Shahjahanpur(PG)-									
277	Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1
	Shahjahanpur PG-									
278	Rosa	1	110	5	150	0.1	110	5	140	0.1
	Shahjahanpur PG-									
279	Rosa	2	112	6	150	0.1	112	6	140	0.1
	Shree									
	Cement(SCL)-									
280	Kota(PG)	1	110	5	150	0.1	110	5	150	0.1
	Shree Cement-									
281	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
	Sikar(PG)-									
284	Ratangarh(RS)	1	110	5	150	0.1	110	5	150	0.1
	Sikar(PG)-									
285	Ratangarh(RS)	2	112	6	150	0.1	112	6	150	0.1
	Sikar_2(PSTL)-									
286	Neemrana(PG)	1	110	5	150	0.1	110	5	150	0.1

		1	1		1	1						
	Sikar_2(PSTL)-											
287	Neemrana(PG)	2	112	6	150	0.1	112	6	150	0.1		
	Singrauli(NT)-											
288	Allahabad(PG)	1	110	5	140	0.1	110	5	150	0.1		
	Singrauli(NT)-											
289	Allahabad(PG)	2	111	6	140	0.1	111	6	150	0.1		
	Singrauli(NT)-											
290	Allahabad(PG)	3	112	7	150	0.1	112	7	150	0.1		
	Singrauli(NT)-											
291	Anpara(UP)	1	110	6	140	0.1	110	6	140	0.1		
	Singrauli(NT)-											
292	Fatehpur(PG)	1	110	5	140	0.1	110	5	150	0.1		
	Singrauli(NT)-											
293	Lucknow(UP)	1	111	6	140	0.1	111	6	150	0.1		
	Singrauli(NT)-			-						0.1		
294	Rihand(NT)	1	110	5	140	01	110	5	140	0.1		
234	Singrauli(NT)-	-		5	1 10	0.1	110		1.10	0.1		
205	Riband(NT)	2	112	6	140	0.1	112	6	140	0.1		
255	Singrauli(NT)-	2	112	0	140	0.1	112	0	140	0.1		
206	Vindbyachal(PC)	1	110	5	140	0.1	110	E	150	0.1		
290			110	5	140	0.1	110	5	5 150 0			
207	Singrauli(INT)-	2	112	c	140	0.1	112	c	150	0.1		
297		2	112	b	140	0.1	112	0	6 150			
	Sonawal-			_	450			_	450			
298	Lucknow(PG)	1	110	5	150	0.1	110	5	150	0.1		
	Sohawal-			_								
299	Lucknow(PG)	2	112	6	150	0.1	112	6	150	0.1		
	Sorang(Greenko)-											
300	Kala Amb	1	112	6	150	0.1	112	6	150	0.1		
	Tehri(THDC)-											
301	Koteshwar(PG)	3	112	7	150	0.1	112	7	150	0.1		
	Uri-II(NH) - Uri-											
302	I(NH)	1	111	6	140	0.1	111	6	140	0.1		
	Uri-II(NH) -											
303	Wagoora(PG)	1	110	5	150	0.1	110	5	150	0.1		
	Uri-I(NH) -											
	Amargarh(INDIGRI											
304	D)	1	110	5	150	0.1	110	5	150	0.1		
	Uri-I(NH) -											
	Amargarh(INDIGRI											
305	D)	2	111	6	150	0.1	111	6	150	0.1		
	, Varanasi(PG)-							-				
306	Sahupuri(UP)	1	110	5	150	0.1	110	5	140	0.1		
	Varanasi(PG)-			-				-				
307	Sahupuri(UP)	2	112	6	150	0.1	112	6	150	0.1		
	varanasi-Sasaram					<u> </u>			100	J.1		
208	IR	1	111	6	150	01		ı	ĒR			
500	varanasi-			0	130	0.1						
200	Ribarchariff ID	1	110	E	150	01	I FR					
309		L	110	С	120	0.1	ER					

	1		1			1				
	varanasi-									
310	Biharshariff IR	2	112	6	150	0.1		E	ER	
	Wagoora-									
311	Amargarh	1	110	5	150	0.1	110	5	150	0.1
	Wagoora-									
312	Amargarh	2	111	6	150	0.1	111	6	150	0.1
	Wangtoo(HP)-Kala									
313	Amb	1	110	5	150	0.1	110	5	150	0.1
	Wangtoo(HP)-									
314	Sorang(Greenko)	1	112	6	150	0.1	112	6	150	0.1
B. Ac	ani Transmission Indi	ia Ltd. (	ATIL) (FI	BTL)						
	Alwar(ATIL)-									
1	Hindaun(RS)	1	110	5	150	0.1	110	5	150	0.1
	Bhiwani(PG) -					-				-
	Mohindergarh(APL									
2	)	1	110	5	150	0.1	110	5	150	0.1
	, Bhiwani(PG) -							-		
	Mohindergarh(APL									
3	)	2	112	6	150	0.1	112	6	150	0.1
	, Bhadla(PG)-	_						-		
4	Bhadla II	1	110	5	150	0.1	110	5	150	0.1
	Bhadla(PG)-					0.1			100	0.1
5	Bhadla II	2	112	6	150	0.1	112	6	150	0.1
	PTCI (Ilttar Pradesh)			•		0.1		•		0.1
0.01	Agra LIP-									
	Fatebabad (765k)									
1		1	110	5	140	01	110	5	140	0.1
	Agra UP		110	5	140	0.1	110	5	140	0.1
	Agia UF- Estobabad (765k)/									
2		2	112	6	150	01	112	6	150	0.1
2	Agra OF	Z	112	0	150	0.1	112	0	150	0.1
	Agia Estabobod(UD)									
2	Fatenabau(OF)-	1	110	6	150	0.1	110	6	140	0 1
<u>з</u>		1	110	- 0 Е	140	0.1	110	С Б	140	0.1
4	Agid UP-Ullidu	1	110	5	140	0.1	110	5	140	0.1
-	AldKillidiud-	1	110	-	140	0.1	110	-	140	0.1
5	Visnnuprayag	I	110	5	140	0.1	110	5	140	0.1
C	Allgarn-	1	110		150	0.1	110	F	140	0.1
ט	Alizarh	1	110	5	150	0.1	110	5	140	0.1
-	Aligarn-	n	112		150	0.1	112	· ~	140	0.1
/	Niampuri765 (UP)	2	112	b	150	0.1	112	Ø	140	0.1
_	Allgarn-	4	110		150	0.1	110	· ~	150	0.1
ð	iviuradnagar	L	110	b	150	0.1	110	6	150	0.1
9	Aligarn-Panki	1	110	6	140	0.1	110	6	140	0.1
	Aligarh(UP)-			_	455			_		
10	Shamli(UP)	1	110	5	150	0.1	110	5	140	0.1
	Aligarh(UP)-	~		-	455			-		
11	Shamli(UP)	2	112	6	150	0.1	112	6	140	0.1

			1			1				
10	Aligarh-					0.1		~	1.10	0.1
12	Sikandrabad	1		6	140	0.1	111	6	140	0.1
12	Allgarn-	1	111	· ~	150	0.1	111	· ~	150	0.1
13	Harduaganj	1		6	150	0.1		6	150	0.1
14	AnparaB-AnparaC	1	Only a	Extens	ION OF BL	is ther	efore ov	ervolt	age prot	ection
15	AnparaB-AnparaC	2		_		is not	enable	_		
16	AnparaB-AnparaD	1	110	5	140	0.1	110	5	140	0.1
17	AnparaB-AnparaD	2	112	6	140	0.1	112	6	140	0.1
18	AnparaB-Mau	1	110	6	140	0.1	110	6	140	0.1
19	AnparaB-Obra	1	111	6	140	0.1	111	6	140	0.1
20	AnparaB-Sarnath	1	110	5	140	0.1	110	5	140	0.1
21	AnparaB-Sarnath	2	112	6	140	0.1	112	6	140	0.1
22	Ataur-Indirapuram	1	112	6	140	0.1	112	6	140	0.1
	Ataur-Noida									
23	sec123	1	110	5	140	0.1	110	5	140	0.1
24	Azamgarh-Mau	1	110	5	150	0.1	110	5	140	0.1
	Azamgarh-Tanda									
25	Stage-II	1	112	6	140	0.1	112	6	140	0.1
26	Badaun-Sambhal	1	110	6	140	0.1	110	5	150	0.1
27	Badaun-Sambhal	2	112	6	140	0.1	112	6	150	0.1
28	Banda-Orai	1	110	5	150	0.1	110	5	150	0.1
29	Banda-Orai	2	112	6	150	0.1	112	6	150	0.1
30	Banda-Rewa Road	1	110	5	140	0.1	110	5	140	0.1
31	Banda-Rewa Road	2	112	6	140	0.1	112	6	140	0.1
32	Bareilly(UP)-Unnao	1	112	6	145	0.1	112	6	140	0.1
33	Bareilly(UP)-Unnao	2	110	5	145	0.1	110	5	140	0.1
	Fatehabad(UP)-									
34	Agra(South)-I	1	110	5	140	0.1	110	5	140	0.1
	Fatehabad(UP)-									
35	Mathura	1	110	5	150	0.1	110	5	150	0.1
	Fatehabad(UP)-									
36	Mathura	2	112	6	150	0.1	112	6	150	0.1
	Firozabad-									
37	Agra(South)	1	111	6	140	0.1	112	6	150	0.1
	Firozabad-									
38	Jawaharpur	1	110	5	150	0.1	110	5	150	0.1
	Firozabad-									
39	Jawaharpur	2	112	6	150	0.1	112	6	150	0.1
	Gorakhpur UP-									
40	Azamgarh	1	111	6	140	0.1	111	6	140	0.1
	Gr.Noida4-									
41	Gr.Noida7	1	110	5	150	0.1	110	5	140	0.1
	Gr.Noida4-									
42	Gr.Noida7	2	112	6	150	0.1	112	6	140	0.1
	Gr.Noida7-									
43	Sikandrabad	1	110	5	140	0.1	110	5	140	0.1

	Cr Noido7									
11	Gr.Nolda/-	n	112	c	140	0.1	112	G	140	0.1
44		Z	112	D	140	0.1	112	0	140	0.1
15	Gr.Nolua(705KV)-	1	110	E	140	0.1	110	F	140	0.1
45	Cr Noida(765k)()	T	110	5	140	0.1	110	5	140	0.1
16	Noida Soc 149	r	112	6	140	0.1	112	6	140	0.1
40	Hapur Ataur	2 1	112	5	140	0.1	112	<u>с</u>	140	0.1
47	Hapur Ataur	1 2	110	5	140	0.1	110	5	140	0.1
48		2 1	112		140	0.1	112	<u>о</u> г	140	0.1
49	Hapur-Dasha	1	110	5	140	0.1	110	5	140	0.1
50	Hapur-Dasha	Z	112	6	140	0.1	112	6	140	0.1
<b>F</b> 1	Harduaganj-	1	110	-	150	0.1	110	-	150	0.1
51		1	110	5	140	0.1	110	5	150	0.1
52	Jaunpur- Obra C	1	110	5	140	0.1	110	5	140	0.1
E2	Chatampur 765-	1	110	F	150	0.1	110	F	150	0.1
55	Gilatampur Konnur765	1	110	5	150	0.1	110	5	150	0.1
ЕЛ	Chatampur 765-	n	112	c	150	0.1	112	c	150	0.1
54	Griatampur	Z	112	D	150	0.1	112	0	150	0.1
	Lucknow(PG)- Mohanlalgani/RGV									
55		1	110	5	150	0.1	110	5	150	0.1
55	Lucknow(LIP)-	1	110	5	150	0.1	110	<u> </u>	150	0.1
	Mohanlalgani/PGV									
56		1	110	5	150	01	112	6	150	01
50	Mainpuri(LIP)-	-	110		150	0.1	112	0	150	0.1
57	Mainpuri(PG)	1	110	5	140	0.1	110	5	150	0.1
	Mainpuri(UP)-	_		-				•		0.1
58	Mainpuri(PG)	2	112	6	140	0.1	112	6	150	0.1
	Mainpuri(UP)-Orai-			-				-		
59		1	110	5	140	0.1	110	5	140	0.1
	Mainpuri(UP)-Orai-									
60	2	2	112	6	140	0.1	112	6	140	0.1
61	Meja(NTPC)-Bara	1	110	5	140	0.1	110	5	140	0.1
62	Meja(NTPC)-Bara	2	112	6	140	0.1	112	6	140	0.1
63	Meja-Masauli	1	110	5	140	0.1	110	5	140	0.1
	Meja(NTPC)-Rewa									
64	Road	1	111	6	140	0.1	111	6	140	0.1
65	Muradnagar-Ataur	1	110	5	150	0.1	110	5	140	0.1
	Muradnagar New-									
66	Mathura	1	110	5	150	0.1	110	5	140	0.1
	Muzaffarnagar-									
67	Ataur	1	111	6	150	0.1	111	6	140	0.1
	Muzaffarnagar-									
68	Vishnuprayag	1	110	5	150	0.1	110	5	140	0.1
	Muzaffarnagar-									
69	Alakhnanda	1	112	6	150	0.1	112	6	140	0.1
	Noida sec123-									
70	Indirapuram	1	110	5	140	0.1	110	5	140	0.1

	Noida Soc 149									
71	Noida Sec 148-	1	110	5	140	0.1	110	5	140	0 1
/1	Noida Sec 125	T	110	5	140	0.1	110	5	140	0.1
72	Noida Sec 123	2	112	6	140	0.1	112	6	140	01
72	Obra B Sultannur	2	112	E E	140	0.1	112	E E	140	0.1
75		1	110	5	140	0.1	110	5	140	0.1
74	Obra-B - Jaunpur	1	112	6	140	0.1	112	6	140	0.1
75	Orai-Paricha	1	110	5	140	0.1	110	5	140	0.1
76	Orai-Paricha	2	112	6	140	0.1	112	6	140	0.1
77	Panki- Panki TPS	1	110	5	140	0.1	110	5	140	0.1
78	Panki- Panki TPS	2	112	6	140	0.1	112	6	140	0.1
79	Rasra-Mau	1	112	6	150	0.1	112	6	150	0.1
	Rewa Road-									
80	Masauli	1	110	5	140	0.1	110	5	140	0.1
81	Rewa road-Obra	1	110	6	140	0.1	110	6	140	0.1
82	Rewa road-Panki	1	111	6	140	0.1	111	6	140	0.1
	Roorkee-									
83	Muzaffarnagar	1	111	6	150	0.1	111	6	150	0.1
84	Rosa-Badaun	1	110	5	140	0.1	110	5	140	0.1
85	Rosa-Badaun	2	112	6	140	0.1	112	6	140	0.1
86	Sarnath-Azamgarh	1	110	5	140	0.1	110	5	140	0.1
	Simbholi-									
87	Muradnagar II	1	110	5	150	0.1	110	5	150	0.1
	Simbholi-									
88	Muradnagar II	2	112	6	150	0.1	112	6	150	0.1
89	Simbholi-Meerut	1	110	5	150	0.1	110	5	150	0.1
90	Simbholi-Meerut	2	112	6	150	0.1	112	6	150	0.1
	Sultanpur(UP)-									
	Mohanlalganj(PGY									
91	TL)	1	110	5	140	0.1	110	5	150	0.1
	Sultanpur-Tanda									
92	Stage II	1	111	6	150	0.1	111	6	150	0.1
93	Tanda-Basti	1	110	5	140	0.1	110	5	150	0.1
94	Tanda-Basti	2	112	6	140	0.1	112	6	150	0.1
	Unnao(UP)-									
	Mohanlalganj(PGY									
95	TL)	1	110	5	140	0.1	110	5	150	0.1
96	Unnao-Panki	1	111	6	140	0.1	111	6	140	0.1
T	Varanasi(PG)-									
97	Jaunpur	1	110	5	140	0.1	110	5	140	0.1
	Varanasi(PG)-								141.	
98	Jaunpur	2	112	6	140	0.1	112	6	8	0.1
D. TH	IDCIL		1		I	1			1	
	Aligarh(PG)-Khurja									
1	STPP(TH)	1	110	5	150	0.1	110	5	140	0.1
	Aligarh(PG)-Khurja									
2	STPP(TH)	2	112	6	150	0.1	112	6	140	0.1

		1	1		1		1		1	1
1	Ajmer-Bhilwara-I	1	110	5	140	0.1	110	5	140	0.1
2	Ajmer-Bhilwara-II	2	112	6	140	0.1	112	6	140	0.1
3	Ajmer-Deedwana	1	110	5	140	0.1	110	5	150	0.1
4	Akal-Barmer	1	110	5	150	0.1	110	5	150	0.1
	Akal-Bhensra									
5	(Jaisalmer2)	1	111	6	150	0.1	111	6	150	0.1
6	Akal-Jodhpur	1	111	6	150	0.1	110	6	150	0.1
	Akal-Kankani									
7	(Jodhpur New)	1	112	6	150	0.1	112	6	150	0.1
8	Akal-Ramgarh	1	110	5	148	0.1	110	5	148	0.1
9	Akal-Ramgarh	2	112	6	150	0.1	112	6	150	0.1
	Anta-Chhabra									
10	SCTPS	1	110	5	140	0.1	110	5	140	0.1
	Anta-Chhabra									
11	SCTPS	2	112	6	140	0.1	112	6	140	0.1
12	Anta-Kalisindh	1	110	5	140	0.1	110	5	140	0.1
13	Anta-Kalisindh	2	112	6	140	0.1	112	6	140	0.1
14	Anta-Kawai SCTPS	1	110	5	140	0.1	110	5	140	0.1
15	Anta-Kawai SCTPS	2	112	6	140	0.1	112	6	140	0.1
16	Babai - Suratgarh SCTPS	1	106	3	150	0.1	Bot Bab CHAI ON	h lines ai-SCT RGED L ANTI-T	i.e. 400 PS CKT-I JP-TO 7 HEFT B	) KV   &   7 KM ASIS
17	Babai - Suratgarh SCTPS	2	106	4	150	0.1	FRON	4 400 K END ,S 06.01	KV GSS E INCE DT 1.2024.	3ABAI
	Barmer-Bhinmal									
18	(PG)	1	110	5	150	0.1	110	5	150	0.1
	Barmer-Bhinmal									
19	(PG)	2	112	6	150	0.1	112	6	150	0.1
20	Barmer-Rajwest	1	111	6	150	0.1	111	6	150	0.1
	Barmer-Bhensra									
21	(Jaisalmer2)	1	110	5	150	0.1	110	5	150	0.1
	Barmer-Bhensra									
22	(Jaisalmer2)	2	112	6	150	0.1	112	6	150	0.1
	Bhadla(RS)-									
23	Jodhpur	1	110	5	140	0.1	110	5	140	0.1
	Bikaner(RS)-									
25	Bhadla(RS)	1	110	5	150	0.1	110	5	140	0.1
	Bikaner(RS)-									
26	Bhadla(RS)	2	112	6	150	0.1	112	6	140	0.1
	Bikaner(RS)-									
27	Sikar(PG)	1	110	5	150	0.1	110	5	150	0.1
	Bikaner(RS)-									
24	Deedwana	1	111	6	150	0.1	111	6	140	0.1
20	Bikaner(RS)-	2	112	6	150	0.1	140	<b>_</b>	150	0.1
28	Sikar(PG)	2	112	6	150	0.1	112	6	150	0.1

			1	1	1				1	
	Bikaner(RS)-									
29	Suratgarh SCTPP	1	110	5	150	0.1	110	5	150	0.1
	Bikaner(RS)-									
30	Suratgarh SCTPP	2	112	6	150	0.1	112	6	150	0.1
31	Bhilwara-Chhabra	1	111	6	150	0.1	111	6	150	0.1
	Bhilwara-									
32	Chittorgarh(RS)	1	110	5	150	0.1	110	5	150	0.1
	Bhilwara-									
33	Chittorgarh(RS)	2	112	6	150	0.1	112	6	150	0.1
	Chhabra-Chhabra			1			•		•	
34	SCTPS	1								
	Chhabra-Chhabra		Or	nly an E	Extensio	n of Bu	is theref	ore ov	ervoltag	ge
35	SCTPS	2			prote	ction is	not ena	abled		
36	Chhabra-Kawai	1	110	5	140	0.1	110	5	140	0.1
	Chhabra-Anta (RS)									
37	-Kota (PG)	1	112	6	140	0.1	112	6	150	0.1
	Heerapura-									
38	Hindaun	1	110	5	150	0.1	110	5	150	0.1
	Hindaun-Chabra									
39	TPS	1	112	7	150	0.1	112	7	150	0.1
	Jaisalmer(RS)-									
	Renew hans Uria									
40	Pvt Ltd	1	110	5	150	0.1	110	5	150	0.1
	Jaisalmer(RS)-									
	Corneight Parks									
41	Pvt. Ltd	1	111	6	150	0.1	111	6	150	0.1
	Kankani (Jodhpur									
	New)- Bhensra									
42	(Jaisalmer2)	1	111	5	148	0.1	111	5	148	0.1
	Kankani (Jodhpur									
43	New)-Merta	1	110	5	150	0.1	110	5	150	0.1
	Kankani (Jodhpur									
44	New)-Jodhpur	1	110	5	140	0.1	110	5	140	0.1
	Kankani (Jodhpur									
45	New)-Jodhpur	2	112	6	140	0.1	110	5	140	0.1
	Kankani (Jodhpur									
46	New)-Pachpadra	1	111	6	150	0.1	111	6	150	0.1
47	Raiwest-Pachpadra	1	111	5	150	0.1	110	5	150	0.1
48	Merta-Bikaner(RS)	1	110	5	150	0.1	110	5	150	0.1
49	Merta-Heeranura	-	111	6	150	0.1	111	6	150	0.1
50	Merta-Rhadla(RS)	1	117	5	150	0.1	117	6	150	0.1
51	Merta-Ratangarh	1	117	6	150	0.1	117	6	150	0.1
52	Phagi_Aimor/PC	1	110	5	1/0	0.1	110	5	1/0	0.1
52	Phagi-Aimor(PC)	ב ר	110	ر د	140	0.1	110	ر د	140	0.1
55	Phagi Haaraawa	۲ ۱	110	<u>с</u>	140	0.1	110	<u>с</u>	150	0.1
54		1 2	110	5	140	0.1	110	5	150	0.1
55	Phagi-Heerapura	2	112	6	140	0.1	112	6	150	0.1
56	Rajwest-Jodhpur	1	110	5	150	0.1	110	5	140	0.1

	Ramgarh-									
57	Bhadla(RS)	1	110	5	150	01	110	5	150	01
57	Bamgarh-	-	110		130	0.1	110	5	150	0.1
58	Rhadla(RS)	2	112	6	150	01	112	6	150	01
50	Suratgarb	2	112	0	150	0.1	112	0	150	0.1
50	Bikapor(PS)	1	111	6	150	0.1	111	6	150	01
23	Suratgarh		111	0	130	0.1	111	0	130	0.1
60	Suralgarn-	1	110	-	150	0.1	110	F	150	0.1
60	Ratangarn	1	110	5	150	0.1	110	5	150	0.1
61	Suralgarn-	2	112	c	150	0.1	112	c	150	0.1
01	Ratangarn	2	112	0	150	0.1	112	D	150	0.1
62	Suratgarn-	1								
62	Suratgarn SSCIPP	1			<b>-</b>					
62	Suratgarn-	2	0	niy an	Extensio	n of Bl	is therei	ore ov	ervolta	ge
63	Suratgarn SSCIPP	Z			protec	ction is	not ena	bled		
F. H\	/PNL (Haryana)	1	1		1	1			1	[
	CLP Jhajjar									
	(MGSTPS) -							_		
1	Dhanonda	1	110	5	150	0.1	110	5	140	0.1
	CLP Jhajjar									
	(MGSTPS) -						-			
2	Dhanonda	2	112	6	150	0.1	112	6	140	0.1
	CLP									
	Jhajjar(MGSTPS)-									
3	Kabulpur	1	110	5	150	0.1	110	5	150	0.1
	CLP									
	Jhajjar (MGSTPS)-									
4	Kabulpur	2	112	6	150	0.1	112	6	150	0.1
	Deepalpur-									
5	Kabulpur	1	110	5	150	0.1	110	5	150	0.1
	Deepalpur-									
6	Kabulpur	2	112	6	150	0.1	112	6	150	0.1
	Dhanonda-									
7	Daulatabad	1	110	5	140	0.1	110	5	150	0.1
	Dhanonda-									
8	Daulatabad	2	112	6	140	0.1	112	6	150	0.1
	Gurgaon-									
9	Daulatabad	1	110	5	150	0.1	110	5	150	0.1
	Gurgaon-									
10	Daulatabad	2	112	6	150	0.1	112	6	150	0.1
	Jhajjar(IGSTPS)-									
11	Daulatabad	1	110	5	150	0.1	110	5	150	0.1
	Jhajjar(IGSTPS)-									
12	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
<u>т</u>	Khedar-	<u> </u>				0.1	***		100	0.1
15	Fathehahad	1	111	6	150	01	111	6	150	01
	i i utilcilavau	1 -	<u> </u>	0	1 10	U.I		0	1 10	0.1

Inclusi module         Inclusi	17	Khedar-Kirori	2	112	6	150	0.1	112	6	150	0.1		
Indextanting         Interface         Interface <thinterface< th=""> <thinterface< th="">         &lt;</thinterface<></thinterface<>	10	Khedar-Nubiyawali	1	112	6	150	0.1	111	6	150	0.1		
Industry         Fathehabad         1         10         5         150         0.1         110         5         150         0.1           Jhajjar (IGSTPS)-         1         110         5         140         0.1         110         5         150         0.1           Jhajjar (IGSTPS)-         2         Mundka         1         110         5         140         0.1         110         5         150         0.1           H. DTL (Delhi)         U         1         110         5         150         0.1         110         5         150         0.1           Ballabgarh (PG)-         2         112         6         150         0.1         110         5         150         0.1           Ballabgarh (PG)-         2         111         6         150         0.1         111         6         150         0.1           Bamnauli (PG)-         2         111         6         150         0.1         110         5         150         0.1         110         5         150         0.1           Bamnauli (PG)-         2         111         6         150         0.1         110         5         150         0.1 <td>10</td> <td>Nubiawali-</td> <td>1</td> <td>111</td> <td>0</td> <td>150</td> <td>0.1</td> <td><u> </u></td> <td>0</td> <td>150</td> <td>0.1</td>	10	Nubiawali-	1	111	0	150	0.1	<u> </u>	0	150	0.1		
Ioometric         Ioometric <thioometric< th=""> <thioometric< th=""> <thi< td=""><td>15</td><td>Fathehabad</td><td>1</td><td>110</td><td>5</td><td>150</td><td>01</td><td>110</td><td>5</td><td>150</td><td>0 1</td></thi<></thioometric<></thioometric<>	15	Fathehabad	1	110	5	150	01	110	5	150	0 1		
Jhajjar (IGSTPS)-         1         110         5         140         0.1         110         5         150         0.1           Jhajjar (IGSTPS)-         2         112         6         140         0.1         112         6         150         0.1           Hundka         2         112         6         140         0.1         112         6         150         0.1           Hundka         2         112         6         140         0.1         112         6         150         0.1           Hundka         2         112         6         150         0.1         111         6         150         0.1           Ballabgarh(PG)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -<	G.AP	G.APCPL											
1         Mundka         1         110         5         140         0.1         110         5         150         0.1           Jhajjar (IGSTPS)- 2         Mundka         2         112         6         140         0.1         112         6         150         0.1           H. DTL (Delh)         Eallabgarh(PG)-         I         Inopolation         Inopolation <thinopolation<< td=""><td></td><td colspan="12">Jhajjar (IGSTPS)-</td></thinopolation<<>		Jhajjar (IGSTPS)-											
Jhajjar (IGSTPS)- 2         Nundka         2         112         6         140         0.1         112         6         150         0.1           H. DTL (Delhi)         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - <td< td=""><td>1</td><td>Mundka</td><td>1</td><td>110</td><td>5</td><td>140</td><td>0.1</td><td>110</td><td>5</td><td>150</td><td>0.1</td></td<>	1	Mundka	1	110	5	140	0.1	110	5	150	0.1		
2         Mundka         2         112         6         140         0.1         112         6         150         0.1           H. DTL (Delhi)         U         U         U         U         U         U         U           1         Tughlakaba(PG)         1         110         5         150         0.1         110         5         150         0.1           1         Ballabgarh(PG)-         2         112         6         150         0.1         111         6         150         0.1           3         Bamnoli-Jhatikra         2         111         6         150         0.1         110         5         150         0.1           4         Tughlakaba(PG)         1         110         5         150         0.1         110         5         150         0.1           Barmauli(PG)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		Jhajjar (IGSTPS)-											
H. DTL (Delhi)         Seliabgarh(PG)-         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I <thi< th="">         I&lt;</thi<>	2	Mundka	2	112	6	140	0.1	112	6	150	0.1		
Ballabgarh(PG)-         I         100         5         150         0.1         1100         5         150         0.1           Ballabgarh(PG)-         I         110         5         150         0.1         1100         5         150         0.11           Ballabgarh(PG)-         I         112         6         150         0.1         112         6         150         0.1           Bamnoli-Jhatikra         2         111         6         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5	H. DT	۲L (Delhi)											
1       Tughlakabad(PG)       1       110       5       150       0.1       110       5       150       0.1         Ballabgar(PG)-       2       112       6       150       0.1       112       6       150       0.1         3       Bamnoli-Jhatikra       2       111       6       150       0.1       111       6       150       0.1         4       Tughlakabad(PG)       1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1         Bamnauli(PG)-       1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5       150       0.1       110       5 </td <td></td> <td>Ballabgarh(PG)-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		Ballabgarh(PG)-											
Ballabgarh(PG)-         Interpretain of the second sec	1	Tughlakabad(PG)	1	110	5	150	0.1	110	5	150	0.1		
2         Tughlakabad(PG)         2         112         6         150         0.1         111         6         150         0.1           3         Bamnoli-hatikra         2         111         6         150         0.1         111         6         150         0.1           4         Tughlakabad(PG)         1         100         5         150         0.1         110         5         150         0.1           Bamnauli(PG)-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		Ballabgarh(PG)-											
3         Barmoli-Jhatikra         2         111         6         150         0.1         111         6         150         0.1           Barmauli(PG)-         1         110         5         150         0.1         110         5         150         0.1           Barmauli(PG)-         1         110         5         150         0.1         112         6         150         0.1         110         5         150         0.1           Barnauli(PG)-         1         100         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5	2	Tughlakabad(PG)	2	112	6	150	0.1	112	6	150	0.1		
Bamnauli(PG)-         Image: Point of the sector of th	3	Bamnoli-Jhatikra	2	111	6	150	0.1	111	6	150	0.1		
4         Tugniakabad(PG)         1         110         5         150         0.1         110         5         150         0.1           Bammauli(PG)-         2         112         6         150         0.1         112         6         150         0.1           Bawana(DV)-         2         110         5         150         0.1         110         5         150         0.1           Bawana(DV)-         2         112         6         150         0.1         110         5         150         0.1           Bawana(DV)-         2         112         6         150         0.1         110         5         150         0.1           Maharanibagh(PG)         2         112         6         150         0.1         110         5         150         0.1           Jhatikra(PG)-         3         4         110         5         150         0.1         110         5         150         0.1           Mandola(PG)-         3         1         110         5         150         0.1         1110         5         150         0.1         112         6         150         0.1         112         6		Bamnauli(PG)-	4		-	450		440	-	450	<b>.</b>		
Barmanulue/G)-         Tughlakabad(PG)         2         112         6         150         0.1         112         6         150         0.1           Bawana(DV)-         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I <t< td=""><td>4</td><td>Tughlakabad(PG)</td><td>1</td><td>110</td><td>5</td><td>150</td><td>0.1</td><td>110</td><td>5</td><td>150</td><td>0.1</td></t<>	4	Tughlakabad(PG)	1	110	5	150	0.1	110	5	150	0.1		
S         Tugnakada(PG)         2         112         6         150         0.1         112         6         150         0.1           Bawana(DV)-         1         110         5         150         0.1         110         5         150         0.1           Bawana(DV)-         1         110         5         150         0.1         110         5         150         0.1           Maharanibagh(PG)         2         112         6         150         0.1         112         6         150         0.1           Maharanibagh(PG)         1         110         5         150         0.1         110         5         150         0.1         110         5         0.1           Mandka(DV)         1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1         110         5         150         0.1		Bamnauli(PG)-	n	112	c	150	0.1	112	c	150	0.1		
Bawana(DV)-         Initial         Subscription	5		Z	112	0	150	0.1	112	0	150	0.1		
Image: Second	6	Bawalla(DV)- Maharanihagh(BG)	1	110	5	150	0.1	110	5	150	0.1		
Adataranibagh(PG)         2         112         6         150         0.1         112         6         150         0.1           Jhatikra(PG)-         Jhatikra(PG)-         Image: Constraint of the stress of the stres	0	Bawana(DV)-	1	110	5	150	0.1	110	5	150	0.1		
International point       Internation point       Internation point       Internation point       Internation point         Jhatikra(PG)-       1       110       5       150       0.1       110       5       150       0.1         Jhatikra(PG)-       1       110       5       150       0.1       110       5       150       0.1         Mundka(DV)       2       112       6       150       0.1       112       6       150       0.1         Mandola(PG)-       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	7	Maharanibagh(PG)	2	112	6	150	0.1	112	6	150	0.1		
8         Mundka(DV)         1         110         5         150         0.1         110         5         150         0.1           9         Mundka(DV)         2         112         6         150         0.1         112         6         150         0.1           9         Mundka(DV)         2         112         6         150         0.1         112         6         150         0.1           10         Mandola(PG)-         .         .         .         .         .         .         .         .           11         Maharanibagh(PG)         2         112         6         150         0.1         110         5         150         0.1         112         6         150         0.1           12         Bawana-Mundka         1         110         5         150         0.1         110         5         150         0.1           13         Bawana-Mundka         2         112         6         150         0.1         110         5         150         0.1           14         Baglihar-Kishenpur         1         110         5         150         0.1         111         6         150		Jhatikra(PG)-	_			- 100	0.1			100	0.11		
Jhatikra(PG)-         Jhatinatikra(PG)-         Jhatikra(PG)-         Jhat	8	Mundka(DV)	1	110	5	150	0.1	110	5	150	0.1		
9         Mundka(DV)         2         112         6         150         0.1         112         6         150         0.1           10         Mandola(PG)-         1         100         5         150         0.1         110         5         150         0.1         110         5         150         0.1           10         Maharanibagh(PG)         1         110         5         150         0.1         110         5         150         0.1           11         Maharanibagh(PG)         2         112         6         150         0.1         110         5         150         0.1           12         Bawana-Mundka         1         110         5         150         0.1         110         5         150         0.1           13         Bawana-Mundka         2         112         6         150         0.1         112         6         150         0.1           13         Bawana-Mundka         2         112         6         150         0.1         110         5         150         0.1           14         Baglihar-Kishenpur         1         110         5         150         0.1         111		Jhatikra(PG)-											
Mandola(PG)-         Image: Mandola(PG)-	9	Mundka(DV)	2	112	6	150	0.1	112	6	150	0.1		
10       Maharanibagh(PG)       1       110       5       150       0.1       110       5       150       0.1         11       Mandola(PG)-       2       112       6       150       0.1       112       6       150       0.1         12       Bawana-Mundka       1       110       5       150       0.1       110       5       150       0.1         13       Bawana-Mundka       2       112       6       150       0.1       112       6       150       0.1         13       Bawana-Mundka       2       112       6       150       0.1       112       6       150       0.1         14       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       Baglihar(JK)       1       111       6       150       0.1       111       <		Mandola(PG)-											
Mandola(PG)-         Image: Mandola(PG)-	10	Maharanibagh(PG)	1	110	5	150	0.1	110	5	150	0.1		
11       Maharanibagh(PG)       2       112       6       150       0.1       112       6       150       0.1         12       Bawana-Mundka       1       110       5       150       0.1       110       5       150       0.1         13       Bawana-Mundka       2       112       6       150       0.1       112       6       150       0.1         13       Bawana-Mundka       2       112       6       150       0.1       112       6       150       0.1         13       Bawana-Mundka       2       112       6       150       0.1       112       6       150       0.1         1       Baglihar-Kishenpur       1       110       5       150       0.1       111       6       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       111       6       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       <		Mandola(PG)-											
12       Bawana-Mundka       1       110       5       150       0.1       110       5       150       0.1         13       Bawana-Mundka       2       112       6       150       0.1       112       6       150       0.1         1.PDD (J&K)       Image: Stress of the stress	11	Maharanibagh(PG)	2	112	6	150	0.1	112	6	150	0.1		
13       Bawana-Mundka       2       112       6       150       0.1       112       6       150       0.1         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       1112       7       150       0.1         3       Baglihar-Kishenpur       3       112       7       150       0.1       112       7       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         J. PSTCL (Punjab)       1       1110       5       150       0.1       110       5       150       0.1         1       Singh-HMEL       1       110       5       150       0.1       110       5       150       0.1         2       Singh-HMEL       2       112       6       150       0.1	12	Bawana-Mundka	1	110	5	150	0.1	110	5	150	0.1		
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         3       Baglihar-Kishenpur       3       112       7       150       0.1       112       7       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         J. PSTCL (Punjab)       1       110       5       150       0.1       110       5       150       0.1         1       Singh-HMEL       1       110       5       150       0.1       110       5       150       0.1         2       Singh-HMEL       2       112       6       150       0.1	13	Bawana-Mundka	2	112	6	150	0.1	112	6	150	0.1		
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       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         5       Behman Jassa       1       110       5       150       0.1       110       5       150       0.1         8ehman Jassa       1       110       5       150       0.1       110       5       150       0.1         2       Singh-HMEL       1       110       5       150       0.1       112       6       150       0.1         2       Singh-HMEL       2       112       6       150       0.1       112       6       150	I. PD	D (J&K)											
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       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         5       Behman Jassa       1       110       5       150       0.1       110       5       150       0.1         1       Singh-HMEL       1       110       5       150       0.1       110       5       150       0.1         2       Singh-HMEL       2       112       6       150       0.1       112       6       150       0.1         2       Singh-HMEL       2       112       6       150       0.1       112       6       150       0.1         3       Behman Jassa       -       -       -       -       -       -       -       -	1	Baglihar-Kishenpur	1	110	5	150	0.1	110	5	150	0.1		
3       Baglihar-Kishenpur       3       112       7       150       0.1       112       7       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         4       Baglihar(JK)       1       111       6       150       0.1       111       6       150       0.1         J. PSTCL (Punjab)       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       <	2	Baglihar-Kishenpur	2	111	6	150	0.1	111	6	150	0.1		
New Wanpoh-         Image: New Wan	3	Baglihar-Kishenpur	3	112	7	150	0.1	112	7	150	0.1		
4       Baglinar(JK)       1       111       6       150       0.1       111       6       150       0.1         J. PSTCL (Punjab)       Behman Jassa       Image: Singh-HMEL       1       110       5       150       0.1       110       5       150       0.1         1       Singh-HMEL       1       110       5       150       0.1       110       5       150       0.1         2       Singh-HMEL       2       112       6       150       0.1       112       6       150       0.1         Behman Jassa       Image: Singh-HMEL       2       112       6       150       0.1       112       6       150       0.1		New Wanpoh-				4.5.5			_				
J. PSTCL (Punjab)         Behman Jassa       Image: second secon	4	Baglihar(JK)	1	111	6	150	0.1	111	6	150	0.1		
Benman Jassa       Image: Constraint of the second se	J. PST	FCL (Punjab)											
I     Singli-Finite     I     IIO     S     ISO     0.1     IIO     S     ISO     0.1       Behman Jassa     2     Singh-HMEL     2     112     6     150     0.1     112     6     150     0.1       Behman Jassa     2     112     6     150     0.1     112     6     150     0.1	1	Benman Jassa	1	110	F	150	0.1	110	г	150	0.1		
2         Singh-HMEL         2         112         6         150         0.1         112         6         150         0.1           Behman Jassa         Image: Second s		Sillgli-HIVIEL	1	110	5	120	0.1	110	5	120	0.1		
Z         Single model         Z         112         0         130         0.1         112         0         130         0.1           Behman Jassa         Image: Single model         Ima	2	Singh-HMFI	2	112	6	150	01	112	6	150	0 1		
	<u> </u>	Behman Jassa	2	112	0	1.0	0.1	112	0	10	0.1		
3 Singh-Moga 1 112 6 150 0.1 112 6 150 0.1	3	Singh-Moga	1	112	6	150	0.1	112	6	150	0.1		
4 Makhu-Amritsar 1 110 5 150 0.1 110 5 150 0.1	4	Makhu-Amritsar	1	110	5	150	0.1	110	5	150	0.1		

-		2	442	6	450	0.4	112	6	150	0.4
5	Makhu-Amritsar	2	112	6	150	0.1	112	6	150	0.1
6	Makhu-Mukatsar	1	110	5	150	0.1	110	5	150	0.1
7	Makhu-Mukatsar	2	112	6	150	0.1	112	6	150	0.1
8	Nakodar-Makhu	1	110	5	150	0.1	110	5	150	0.1
9	Nakodar-Makhu	2	112	6	150	0.1	112	6	150	0.1
10	Nakodar-Moga	1	110	5	150	0.1	110	5	150	0.1
	Rajpura-Rajpura									
11	TPS	1	110	5	150	0.1	110	5	150	0.1
12	Rajpura-Dhuri	1	110	5	150	0.1	110	5	150	0.1
	Rajpura-Rajpura									
13	TPS	2	112	6	150	0.1	112	6	150	0.1
14	Rajpura-Dhuri	2	112	6	150	0.1	112	6	150	0.1
	Rajpura TPS-									
15	Nakodar	1	110	5	140	0.1	110	5	150	0.1
	Rajpura TPS-	_		_				_		
16	Nakodar	2	112	6	140	0.1	112	6	150	0.1
	Talwandi Sabo-			_				_	450	
1/	Dhuri Talaa di Calaa	1	110	5	140	0.1	110	5	150	0.1
10	Talwandi Sabo-	2	112	· ~	140	0.1	112		150	0.1
18	Dnuri Takwardi Caka	2	112	6	140	0.1	112	6	150	0.1
10	Talwandi Sabo-	1	111	c	140	0.1	111	c	150	0.1
19	Deninan-Jassa	1		0	140	0.1	111	0	150	0.1
21	Nakodar	1	112	6	140	0.1	112	6	150	0 1
21	Talwandi Saho-	1	112	0	140	0.1	112	0	130	0.1
22	Mukatsar	1	110	5	140	01	110	5	150	01
	Talwandi Saho-	-	110		110	0.1	110		100	0.1
23	Mukatsar	2	112	6	140	0.1	112	6	150	0.1
К. РТ	CUL (Uttrakhand)									
	Muradabad-									
1	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
	Roorkee-									
4	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
-	Srinagar-			-						
6	Alakhnanda (GVK)	1	110	5	150	0.1	110	5	150	0.1
	Srinagar-		_				_			
7	Alakhnanda (GVK)	2	112	6	150	0.1	112	6	150	0.1
L. HP	PTCL									
	Chamba(PG)-									
1	Lahal(HP)	1	110	5	150	0.1	110	5	150	0.1
	Chamba(PG)-									
2	Lahal(HP)	2	112	6	150	0.1	112	6	150	0.1
M. B	ВМВ									

1	Dhiwani Dainwa	1	111	C	150	0.1	111	C	150	0.1		
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. IN	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		
	Koldam-Parbati											
5	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		
	Parbati Pool											
8	Banala-Nallagarh	1	110	5	150	0.1	110	5	150	0.1		
	Parbati-II- Parbati											
9	Pooling Banala	2	112	5	150	0.1	112	6	150	0.1		
	Parbati-III- Parbati											
10	Pooling Banala	2	112	6	150	0.1	112	6	150	0.1		
	Prithala(GPTL)-											
11	Kadarpur	1	110	5	150	0.1	110	5	140	0.1		
	Prithala(GPTL)-	_		_				_				
12	Kadarpur	2	112	6	150	0.1	112	6	140	0.1		
12	Prithala(GPTL)-	4	110	-	450	0.1	110	-	150	0.1		
13	Aligarn(PG)	T	110	5	150	0.1	110	5	150	0.1		
11	Aligorh(DC)	n	112	c	150	0.1	112	G	150	0 1		
14		Z	112	0	130	0.1	112	0	130	0.1		
15	IR	1	110	5	150	01	110	5	140	01		
15	RAPPC-Shuialour	-	110	5	150	0.1	110	5	140	0.1		
16	IR	2	112	6	150	0.1	112	6	140	0.1		
	Ropar(PS)-											
17	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		
	Saini(HP)-Parbati			-				-				
19		1	110	5	140	0.1	110	5	140	0.1		
	Sohna Road(GPTL)-											
20	Kadarpur	1	110	5	150	0.1	110	5	140	0.1		
	Sohna Road(GPTL)-											
21	Kadarpur	2	112	6	150	0.1	112	6	140	0.1		
0. N	ТРС											
	Dadri(NT)-Loni											
1	Road/ Harsh Vihar	1	110	5	140	0.1	110	5	140	0.1		
	Dadri(NT)-Loni											
2	Road/ Harsh Vihar	2	112	6	140	0.1	112	6	140	0.1		

		1	1			1	1	1		
	Babai(RS)-			_				_		<b>.</b> .
1	Bhiwani(PG)	1	110	5	150	0.1	110	5	150	0.1
	Babai(RS)-									
2	Bhiwani(PG)	2	112	6	150	0.1	112	6	150	0.1
	Babai(RS)-									
3	Neemrana(PG)	1	110	5	150	0.1	110	5	150	0.1
	Babai(RS)-									
4	Sikar(PG)	1	112	6	150	0.1	112	6	150	0.1
Q. N	RSSXXXI(B) (Sekura Er	nergy)								
	Amritsar-									
1	Malerkotla	1	110	5	150	0.1	110	5	150	0.1
	Amritsar-									
2	Malerkotla	2	112	6	150	0.1	112	6	150	0.1
	Kurukshetra-									
3	Malerkotla	1	110	5	150	0.1	110	5	150	0.1
	Kurukshetra-									
4	Malerkotla	2	112	6	150	0.1	112	6	150	0.1
R. RE	NEW Power Limited		1	1			1		1	
	Bikaner(PG) -									
1	Bikaner (ReNew)	1	110	5	150	0.1	110	5	150	0.1
	Renew SurvaRavi							-		
	SL BKN PG-									
	Bikaner RENEW									
1	Solar	1	110	5	150	0.1	110	5	150	0.1
ς Δ7	lire	-		•		0.1				•
5. AL	Bikaner(PG)-									
1		1	110	5	150	01	110	5	150	01
-	Λ201043155	-	110	5	150	0.1	110	5	150	0.1
2	Azuro/3 RSS	1	110	5	150	0.1	110	5	150	0 1
- T / C		_ <b>_</b>	110	5	150	0.1	110	5	150	0.1
1. AL	Pikener(DC) Avede	1	110		150	0.1	110		150	0.1
1	Bikaner(PG)-Avada	1	110	5	150	0.1	110	5	150	0.1
U. A	YANA		-				-		_	
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. A[	DANI GREEN									
	AGE25L-									
1	Bhadla2(PG)	1	110	5	150	0.1	110	5	150	0.1
	AREPRL-Fatehgarh									
2	Pooling	1	110	5	150	0.1	110	5	150	0.1
	AREPRL-Fatehgarh									
3	Pooling	2	112	6	150	0.1	112	6	150	0.1
W. N	TPC GREEN					•				
	Bhadla 2 (PG)-									
	Kolayat Solar									
1	NTPC 1	1	110	5	150	0.1	110	5	150	0.1
-	Kolavat Solar			-				-		
	NTPC 1 Kolavat									
2	Solar NTPC 2	1	110	5	150	0.1	110	5	150	0.1
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X. ACME										
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	Fatehgarh									
	Pooling(FBTL)-									
1	ACME Deoghar	1	110	5	150	0.1	110	5	150	0.1