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

दिनांक:25.02.2026

सेवा में

As per attached list of Members and Other invitees

विषय: संरक्षण उप-समिति की 66 वीं बैठक की कार्यवृत्त |

Subject: Minutes for 66th Protection Sub-Committee Meeting-reg

संरक्षण उप-समिति की **66 वीं बैठक, दिनांक 28.01.2026 को 11:00 बजे** से **एनआरपीसी सचिवालय, कटवारिया सराय, नई दिल्ली** में आयोजित की गयी थी | उक्त बैठक की कार्यवृत्त संलग्न है I यह उत्तर क्षेत्रीय विद्युत् समिति की वेबसाइट (**https://nrpc.gov.in/meetings/prsub.html**) पर भी उपलब्ध है |

The **66th meeting** of Protection Sub-Committee was held on **28.01.2026** at **11:00 Hrs** at **NRPC Secretariat, Katwaria Sarai, New Delhi**. The minutes of the meeting is attached herewith. The same is also available on NRPC website **(https://nrpc.gov.in/meetings/prsub.html).**

DHARMENDER KUMAR MEENA
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Date: 2026.02.26 11:07:08 +05'30'

(डी.के. मीना)

(D.K. Meena)

निदेशक (संरक्षण)

66th Protection Sub-Committee Meeting (28th Jan, 2026)-MoM

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Minutes of
66th Meeting of Protection Sub-Committee (PSC) of
Northern Regional Power Committee

Date and time of meeting : ***28.01.2025 11.00 Hrs.***

Venue : ***Conference Hall, NRPC Secretariat, Katwaria Sarai, New Delhi***

MS, NRPC welcomed all the participants. She urged utilities to have proper protection system to avoid unwanted trippings. She emphasized to improve the system to reduce multiple elements trippings and frequent trippings. CGM, NRLDC also emphasized on winter preparedness activities. List of participants is attached as **Annexure-P.**

Part-A: NRPC

A.1. Confirmation of minutes of 65th meeting of Protection Sub-Committee (agenda by NRPC Secretariat)

A.1.1 AEE (P), NRPC apprised that 65th PSC meeting was held on 30.12.2025. Minutes of the meeting were issued vide letter dtd. 23.01.2026. No comment has been received till the date.

Decision of the Forum:

Forum approved the issued minutes of 65th PSC meeting.

A.2. Status of action taken on decisions of 65th Protection Sub-Committee meeting (agenda by NRPC Secretariat)

A.2.1 Status of action taken on the decisions of 65th PSC meeting were informed to the Forum.

A.2.2 Concerned utilities submitted the status of action taken. Updated status of action taken is attached as **Annexure-A.I**.

Decision of the Forum

Forum instructed utilities to take necessary action on pending issues.

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

A.3.1 AEE (P), NRPC apprised that 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

Further, as per clause 15 (7) of IEGC 2023;

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

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

A.3.3 Accordingly, the status of the indices reported for the month of **December 2025** was presented before Forum as attached as **Annexure-A.II.** Utilities from where, indices were pending, were asked to submit it timely in future.

A.3.4 Following issues were highlighted by AEE (P):

i. Some Utilities have not submitted data.
ii. Utilities have submitted date for some plants but not all.

iii. Some utilities have sent data after cut-off date of 7th.

A.3.5 **Forum observed that following utilities are non-compliant as indices (December 2025) have not been received in NRPC Secretariat:**

1. **NTPC (Unchahar)**
2. **APCPL**
3. **Meja Urja Nigam Ltd**
4. **IndiGrid**
5. **Barsingsar Plant (NLC)**
6. **Rajwest Plant (JSW)**
7. **ACME Chittorgarh Solar Energy Pvt Ltd (Ayana)**
8. **AMP Energy Green Four Pvt. Ltd.**
9. **AMP Energy Green Five Pvt. Ltd.**
10. **AMP Energy Green Six Pvt. Ltd.**
11. **Ayana Renewable Power Three Private Limited**
12. **Ayaana Renewable Power One Pvt. Ltd.**
13. **Azure Power Forty One Pvt limited**
14. **Azure Power Forty Three Pvt. Ltd._RSS**
15. **Azure Maple Pvt. Ltd.**
16. **AZURE POWER INDIA Pvt. Ltd., Bhadla**
17. **Azure Power Thirty Four Pvt. Ltd.**
18. **Eden Renewable Cite Private Limited**
19. **Mahindra Renewable Private Limited**
20. **Mega Surya Urja Pvt. Ltd. (MSUPL)**
21. **AURAIYA Solar**
22. **DADRI SOLAR**
23. **SINGRAULI SOLAR**
24. **Anta Solar**
25. **Unchahar Solar**
26. **NTPC Devikot Solar plant-1**
27. **NTPC Devikot Solar plant-2**
28. **SKB NTPC -1 (250MW)**
29. **SKB NTPC-2 (300MW)**

30. **NTPC Nokhra_300MW**
31. **NTPC Fatehgarh 296MW**
32. **ReNew Solar Urja Private Limited**
33. **Renew Surya Ayaan Pvt. Ltd.**
34. **Rising Sun Energy-K Pvt. Ltd.**
35. **Thar Surya Pvt. Ltd.**
36. **TRANSITION ENERGY SERVICES PRIVATE LIMITED**
37. **Transition Green Energy Private Limited**
38. **Transition Sustainable Energy Services Private Limited**

A.3.6 Incidents, where indices were found less than one, were discussed (**Annexure-A.III**). It was found that utilities have already taken corrective action except few. Utilities were directed to take corrective action wherever it was pending.

A.3.7 NHPC representative informed that voltage input for relay 220kV Salal -Kishenpur line-5 was earlier from Bus PT. Recently, the same has been switched from Bus Scheme to line CVT protection. However, bus isolator status was not removed which caused unwanted tripping due to sudden loss of isolator feedback contact. Now, isolator feedback status has been removed.

A.3.8 NTPC representative informed that Singrauli-Allahabad ckt-1 was tripped due to maloperation of Buchholz contact. However, reactor was not in service due to Y phase bushing oil seepage. During checking moisture is observed in Buchholz terminal box MB. Further, Moisture was cleared and Sealing was done to avoid moisture ingress.

A.3.9 UPSLDC representative submitted that issue of carrier signal on 400KV Parichha-Orai Circuit 1 is to be resolved by UPPTCL Microwave division.

A.3.10 Regarding tripping of 220kV Rewa Road -Cantt line, UPPTCL representative apprised that fault was cleared from 220kV Rewa road -Isolux line on earth fault protection, which was operated earlier than zone -3 delay. Therefore, earth fault protection settings at Isolux needs to be coordinated with zone-3 time settings. Isolux have sent the same to its headquarter for necessary action

A.3.11 Further, it was also highlighted that IEGC 2023 has given responsibility to RPCs for receiving indices from all utilities; however, not all utilities are members of NRPC. SLDCs have been requested in earlier PSC meetings to follow up with concerned

utilities of states, which are not NRPC members and to send compiled indices to NRPC.

A.3.12 AEE (P), NRPC highlighted that, 38 entities out of 134 are non-compliant. Utilities need to take action at their organizational level for timely submission of data.

A.3.13 MS, NRPC stated to take the agenda in RE Sub-Committee meeting for further discussion with concerned RE Plants.

Decision of the Forum:

Utilities were asked to submit the Protection performance indices timely by 7th day of month, element wise along with corrective action taken for indices less than unity. Non-compliant utilities were asked to take necessary action for reporting data. Utilities were also requested to nominate one nodal officer for reporting of indices.

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

A.4.1 AEE (P), NRPC apprised that 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 He added that the agenda has been discussed in previous PSC meeting and following was decided:

- 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.

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

A.4.3 UPSLDC, HPSLDC & Rajasthan SLDC have shared the protection performance indices for the SPS. **Delhi SLDC, Punjab SLDC, Uttarakhand SLDC & Haryana SLDC** have not shared the same for the SPSs coming in their control area. However, it was decided that SLDCs after verifying SPS operation from all points, should report performance indices to the NRPC Secretariat on monthly basis by 7th date of each month.

A.4.4 Further, Indices for SPS have been submitted by DTL, PTCUL, PSTCL (Rajpura), RVUN (Suratgarh), AGEL & POWERGRID directly to NRPC Secretariat for the month of December 2025.

A.4.5 Based on submission by utilities & SLDCs', the status of protection performance indices of SPS for the months of December, 2025 is attached as Annexure-A.IV (a).

A.4.6 AEE (P), NRPC highlighted that HPSLDC has shared the indices for SPS at 400kV Gumma & 220kV karian. However, the same are not in the list of SPS details available at Annexure-A.IV (a). HPPTCL representative conveyed that SPS of 400kV Gumma & 220kV karian are the part of SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wangtoo HEP.

A.4.7 Similarly, it was highlighted that PTCUL has shared indices for SPS at 220kV Pantnagar while the same is not in the list of SPS details. Further, it was observed that indices were not submitted for some SPS operational in the UP.

A.4.8 Accordingly, Forum emphasized that SLDCs and NRLDC may share the protection performance indices for the SPSs in their control area after verifying operation.

A.4.9 Utilities were requested to report indices even if its operation is NIL so that actual operation logic can be checked whether it is correct or not.

Decision of the Forum:

Forum directed utilities/SLDCs/NRLDC for compliance of following:

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

II. SLDCs/NRLDC may submit protection performance indices for SPS on monthly basis by 7th date of each month. All utilities shall report their indices to concerned NRLDC/SLDCs, then after verifying SPS operation from all points, SLDCs/NRLDC shall report performance indices to NRPC Secretariat.

III. Prescribed format (*Annexure-A.IV*) shall be used for submission of protection performance indices of SPSs by SLDCs/NRDLC after verifying SPS operation from all points in their control area.

A.5. Annual protection audit plan for FY 2026-27 (agenda by NRPC Secretariat)

A.5.1 AEE (P), NRPC apprised that as per clause 15 of IEGC 2023;

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

A.5.2 In view of above, all utilities were requested to submit the annual protection audit plan for FY-2026-27 latest by 31st October 2025 in 63rd, 64th, 65th PSC & in the 56th TCC & 81st NRPC meeting (held on 29-30 October, 2025).

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

A.5.4 It was observed that following utilities have not submitted their audit plans and thus are non-compliant:

1. **POWERGRID NR-3**
2. **NTPC**
3. **NPCIL**

4. **RRVUNL**
5. **PSPCL (except GHSTPS)**
6. **HPSEBL**
7. **Talwandi Sabo Power Ltd.**
8. **Nabha Power Limited**
9. **MEJA Urja Nigam Ltd.**
10. **Adani Power Rajasthan Limited**
11. **JSW Energy Ltd. (KWHEP)**
12. **CPDL**
13. **INDIGRID**
14. **ADHPL**
15. **STSL (AESL)**
16. **ABC Renewable Pvt. Ltd**
17. **ACME Chittorgarh Solar Energy Pvt Ltd**
18. **Altra Xergi Pvt. Ltd.**
19. **AMP Energy Green Four Pvt. Ltd.**
20. **AMP Energy Green Five Pvt. Ltd.**
21. **AMP Energy Green Six Pvt. Ltd.**
22. **Ayana Renewable Power Three Private Limited**
23. **Ayaana Renewable Power One Pvt. Ltd.**
24. **Azure Power Forty One Pvt limited**
25. **Azure Power Forty Three Pvt. Ltd._RSS**
26. **Azure Maple Pvt. Ltd.**
27. **AZURE POWER INDIA Pvt. Ltd., Bhadla**
28. **Azure Power Thirty Four Pvt. Ltd.**
29. **Eden Renewable Cite Private Limited**
30. **Mahindra Renewable Private Limited**
31. **Mega Surya Urja Pvt. Ltd. (MSUPL)**
32. **AURAIYA Solar**
33. **DADRI SOLAR**
34. **SINGRAULI SOLAR**
35. **Anta Solar**
36. **Unchahar Solar**

37. **NTPC Devikot Solar plant_240MW**
38. **NTPC Kolayat_400kV**
39. **Nedan Solar NTPC**
40. **NTPC Nokhra_300MW**
41. **ReNew Solar Urja Private Limited (IndiGrid)**
42. **Renew Surya Ayaan Pvt. Ltd. (IndiGrid)**
43. **Renew Surya Vihan Pvt. Ltd.**
44. **Renew Solar Photovoltaic Pvt Ltd**
45. **Renew Hans Urja Pvt Ltd**
46. **ReNew Dinkar Urja Pvt. Ltd.**
47. **Rising Sun Energy-K Pvt. Ltd.**
48. **Thar Surya Pvt. Ltd.**
49. **TRANSITION ENERGY SERVICES PRIVATE LIMITED**
50. **Transition Green Energy Private Limited**
51. **Transition Sustainable Energy Services Private Limited**
52. **Gorbea Solar Pvt Ltd (GSPL)**
53. **Prerak Greentech Private Limited (PGPL)**
54. **Megasolis Renewables Pvt Ltd (MSRPL)**

A.5.5 AEE (P) stressed upon the fact that 31st October deadline has already passed but audit plan is pending from above 54 entities.

A.5.6 Non-compliant utilities were requested to submit the sub-station wise audit plan at the earliest.

Decision of the Forum:

Non-compliant utilities were asked to submit annual audit plan for sub-station wise with audit date without any further delay.

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

A.6.1 AEE (P), NRPC apprised that as per clause 15 of IEGC 2023:

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

A.6.2 In view of above, third-party protection audit plans received from utilities were apprised to forum and the same is enclosed as **Annexure-A.VI**.

A.6.3 It was also apprised that two different states may do mutual third party audit as decided in the 58th PSC meeting.

A.6.4 Further, as per received information, third party protection audit has been planned as below by utilities-

Organization where audit is to be done	**Organizations finalized for performing audit**								
	DTL	RVPN	HVPN	UPPTCL	PSTCL	HPPTCL	PTCUL	POWERGRID	External Vendor
DTL	-	-	✓	-	-	-	-	-	-
RVPN	-	-	✓	-	-	-	-	-	-
HVPN	-	✓	-	-	-	-	-	-	-
UPPTCL	-	-	-	-	-	-	-	-	ERDA
PSTCL	-	-	-	-	-	-	-	-	✓
HPPTCL	-	-	-	-	-	-	-	✓	-
PTCUL	-	-	-	-	-	-	-	-	CBIP
UT of J&K	-	-	-	-	-	-	-	✓	-
UT of Ladakh	-	-	-	-	-	-	-	✓	-
UT of Chandigarh	-	-	-	-	-	-	-	-	-
POWERGRID	-	-	-	-	-	✓	-	-	✓

A.6.5 Utilities were asked for update if there is any change from above arrangement.

A.6.6 EE, NRPC asked DTL regarding 3rd Party protection auditor finalization. DTL representative confirmed that DTL is going to have 3rd party protection audit by HVPN.

A.6.7 MS, NRPC highlighted that states may go for phase wise 3rd party protection audit.

Substations having more nos. of trippings may be audited preferably earlier.

A.6.8 It was observed that audit plan has not been received from following, and thus are non-compliant:

1. **POWERGRID NR-3**
2. **DTL**
3. **PSTCL**
4. **UJVNL (Tiloth, Vyasi)**
5. **HPPCL (Sainj)**
6. **Talwandi Sabo Power Ltd**
7. **UT of J&K**
8. **UT of Chandigarh**
9. **IndiGrid (FBTL, PrKTCL)**
10. **STSL (AESL)**
11. **ABC Renewable Pvt. Ltd**
12. **ACME Chittorgarh Solar Energy Pvt Ltd**
13. **Azure Power Forty One Pvt limited**
14. **Azure Power Forty Three Pvt. Ltd._RSS**
15. **Azure Maple Pvt. Ltd.**
16. **AZURE POWER INDIA Pvt. Ltd., Bhadla**
17. **Azure Power Thirty Four Pvt. Ltd.**
18. **Eden Renewable Cite Private Limited**
19. **Mahindra Renewable Private Limited**
20. **Mega Surya Urja Pvt. Ltd. (MSUPL)**
21. **AURAIYA Solar**
22. **DADRI SOLAR**
23. **SINGRAULI SOLAR**
24. **Anta Solar**
25. **Unchahar Solar**
26. **ReNew Solar Urja Private Limited**
27. **Renew Surya Ayaan Pvt. Ltd.**
28. **Renew Solar Photovoltaic Pvt Ltd**

29. **ReNew Hans Urja Pvt Ltd.**
30. **RENEW SOLAR POWER Pvt. Ltd. Bikaner**
31. **ReNew Dinkar Urja Pvt. Ltd.**
32. **Rising Sun Energy-K Pvt. Ltd.**
33. **Khidrat Renewable energy Pvt ltd.**
34. **Thar Surya Pvt. Ltd.**
35. **TRANSITION ENERGY SERVICES PRIVATE LIMITED**
36. **Transition Green Energy Private Limited**
37. **Transition Sustainable Energy Services Private Limited**
38. **Gorbea Solar Pvt Ltd (GSPL)**
39. **Prerak Greentech Private Limited (PGPL)**
40. **Megasolis Renewables Pvt Ltd (MSRPL)**

A.6.9 POWERGRID NR-3 representative conveyed that 3rd Party Protection audit have been completed for 12 substations. He was requested to share protection audit report of these substations. Further, audit plan for rest of the sub-stations may be submitted without any further delay.

Decision of the Forum:

Forum directed all utilities to submit audit plan. Subsequently, the audit reports along with compliance status may be submitted to NRPC Secretariat within one month of completion of audit. POWERGRID NR-3 was requested to share protection audit report of audited substations. Further, audit plan for rest of the sub-stations may be submitted without any further delay.

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

A.7.1 AEE (P), NRPC apprised that as per clause 15 of IEGC 2023*;*

- *All users shall conduct internal audit of their protection systems annually**, and any shortcomings identified shall be rectified and informed to their respective RPC.** The audit report along with action plan for rectification of deficiencies detected, if any, shall be shared with respective RPC for users*

connected at 220 kV and above (132 kV and above in NER).

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

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

A.7.3 Following **internal audit reports** were discussed in the meeting and observations (attached as **Annexure-A.VII)** were given considering approved protection philosophy of Northern Region:

S.N.	FY (Audit Date)	Utility	Stations
1	2025-26	RVPN	3 Substations (Baman Ka Tukda, Hamirgarh Pratapgarh)
2	2025-26	BBMB	3 Substations (Bhiwani, Hisar, Charkhi Dadri)
3	2025-26	PSTCL	2 Substations (Dhandari Kala-2, Malerkotla)
4	2025-26	AGEL	5 plants (SBE Hybrid 450 Adani Solar Energy Jaisalmer One Ltd. Adani Green Energy Twenty-Four Limited Adani Solar Energy RJ two Pvt Ltd Adani Solar Energy Jaisalmer Two Pvt. Ltd. (Project 2))
5	2025-26	POWERGRID	10 Substations (Abdullapur, Amritsar, Banala,

		NR-2	Drass, Hamirpur, Kargil, Khalsti, Phyang, Malerkotla, Sambha)
6	2025-26	Serentica Renewables	SRI4PL Bikaner
7	2025-26	HPPTCL	4 Substations (400kV Gumma, 400kV Lahal, 220kV Heiling, 220kV Hatkoti)
8	2025-26	Zelestra	1 Plant (Gorbea Solar Private Limited)

A.7.4 Following third party audit report was discussed in the meeting and observations (attached as **Annexure-A.VIII)** were given considering approved protection philosophy of Northern Region:

S.N.	**Utility**	**Stations**
1	SJVN	RHPS

A.7.5 No utility has submitted action plan on recommendation of audit team.

A.7.6 Utilities were asked to submit compliance report of the issues highlighted as per audit report.

Decision of the Forum:

Forum discussed the audit report and directed utilities to submit compliance report. Protection settings may be aligned with NRPC philosophy. Further, other utilities were directed to submit the protection audit report (for audited S/s as per submitted plan) to NRPC Secretariat and to update the compliance status regularly.

A.8. Updation of protection settings database (agenda by NRPC Secretariat)

A.8.1 AEE (P), NRPC apprised that as per regulation 14 (3) of IEGC 2023:

RPCs shall maintain a centralized database and update the same on periodic basis in respect of their respective region containing details of relay settings for grid elements connected to 220 kV and above (132 kV and above in NER). RLDCs shall also maintain such database.

A.8.2 The agenda was discussed in 62nd PSC meeting held on 26.08.2025. Accordingly, data available with NRPC Secretariat has been placed in Microsoft OneDrive link and has been shared to Nodal Officers for review. It was requested that if any element (line/ICT/etc) is missing, same may be intimated to NRPC Secretariat.

A.8.3 However, NRPC Secretariat has not received any feedback from Nodal Officers.

A.8.4 Further, some utilities have not nominated nodal officers as on date. A reminder letter dated 02.02.2026 was sent to the concerned (attached as **Annexure-A.IX)**. List of nodal officers received is attached as **Annexure-A.X**.

Decision of the Forum:

i. Utilities were requested to inform the NRPC Secretariat for the addition of new elements in the folder. Accordingly, "edit" permission shall be granted for updation of database.

ii. Nomination of Nodal Officers may be expedited.

A.9. Retaining over-voltage protection settings of Nokhra Solar Plant as per NTPC protection philosophy (agenda by NGEL)

A.9.1 NGEL representative apprised that agenda is with reference to the line tripping event reported at our Nokhra Solar Station and the related recommendations of the 59th Protection Sub-Committee (PSC) and the points discussed during the 61st PSC meeting held on 26.06.2025.

A.9.2 On 18th March 2025, multiple elements had tripped at 400 kV AGE25L and 220 kV Nokhra (IP) at around 10:00 hrs, and the PSC Forum recommended that NTPC needs to ensure over-voltage is disabled at Nokhra end of 220kV Nokhra-Bhadla-2 Circuit.

A.9.3 NGEL rrepresentative submitted that the incident was reviewed in detail by NTPC,

and it was observed that the tripping of the Nokhra plant line on 18.03.2025 had occurred due to unintended instantaneous operation of the over-voltage protection at around 110–112% of line voltage, whereas the protection was configured to operate with a time delay of 5 seconds. The root cause of this unintended instantaneous operation was examined jointly with the OEM (M/s Siemens) and the issue has been resolved.

A.9.4 Further, NGEL also informed that the over-voltage protection at the Nokhra Plant end is now functioning as intended with the following settings –

- Tripping will occur only if the line voltage remains above 112% for more than 5 seconds, or
- If the line voltage exceeds 140% for more than 100msec.

A.9.5 He added that the above-mentioned settings are consistent with those implemented at across other NTPC solar stations and considered essential for ensuring adequate protection of equipment installed at Solar Plant, while providing sufficient time margin for inverters to meet LVRT/HVRT requirements as per Grid requirement.

A.9.6 Since the issue of unintended instantaneous tripping on overvoltage has been resolved in coordination with the OEM, NGEL requested to retain the existing over-voltage protection settings at the Nokhra end of the 220 kV Nokhra–Bhadla-2 circuit, which is important to ensure both equipment safety and grid compliance.

A.9.7 NRLDC representative stated that as per philosophy over voltage stage -1 protection is not to be implemented by the RE plants for 220kV lines.

A.9.8 NRLDC representative asked NGEL about the HVRT settings. NGEL representative replied that pick up for HVRT is at 110% with 02 sec. delay. NRLDC representative mentioned that same may be confirmed by NGEL what has been implemented at inverter end. Implemented settings may be emailed by NGEL.

A.9.9 NRLDC representative highlighted that line should not get tripped on over voltage protection before tripping of inverter at HVRT. Coordination may be done in both settings.

A.9.10 EE (P), NRPC asked NGEL about prevailing over voltage conditions (If any) or other observations. NGEL representative was of view that equipment needs to be protected

from over voltage.

A.9.11 AGEL and ReNew submitted that over voltage protection stage-1 is not implemented at 220kV lines.

A.9.12 NRLDC representative suggested NGEL to keep 115% over voltage protection but delay may be kept more than 10 sec.

A.9.13 RVPN representative commented that if inverter trips before the tripping of 220kV line on over voltage protection, then connected line is of no use. NRLDC representative mentioned that there might be chance of inverter remains connected during HVRT conditions then available lines will evacuate the power.

A.9.14 Therefore, NRLDC representative concluded to keep the over voltage protection settings of 220kV lines at higher point than HVRT settings. Proper coordination may be done.

A.9.15 EE (P), NRPC asked NGEL the purpose of having over-voltage setting at 220 kV line.

A.9.16 NGEL informed that in case of no generation at plant, lines are charged at high voltage which may be dangerous for terminal equipment like CVT etc.

A.9.17 EE (P), NRPC stated that continuous rating of CVT is generally 120% of system voltage. Therefore, over-voltage protection may not be required. Further, NGEL was asked to submit actual specification of terminal equipment with respect to high voltage withstand capacity.

A.9.18 MS, NRPC stated that proper margins may be kept in settings of over voltage stage-1 protection of 220kV lines and HVRT settings in order to differentiate the tripping sequence.

A.9.19 NGEL representative submitted that there is need to confirm the above after having study.

A.9.20 Subsequently, it was decided that NGEL may put up the agenda again after having study for coordination of HVRT compliance and over voltage stage -1 protection settings of 220kV lines.

Decision of the Forum:

NGEL may put up the agenda again after having study for coordination of HVRT compliance and over voltage stage -1protection settings of 220kV lines. NGEL was

asked to submit actual specification of terminal equipment with respect to high voltage withstand capacity.

A.10. Installation of Auto Reclosure on 220kV lines emanating from RAPP A Nuclear power plant, Rajasthan (agenda by Rajasthan SLDC)

A.10.1 AEE (P), NRPC apprised that following transmission lines are emanating from RAPP A Power plant (Unit 2 -200MW)

I. 220kV RAPP A- Sakatpura ckt-1 (39.77km)

II. 220kV RAPP A- Sakatpura ckt-2 (42.5km)

III. 220kV RAPP A -Debari line (192km)

IV. 220kV RAPP A- RAPP B tie line (1.8km)

A.10.2 Rajasthan SLDC representative informed that issue of frequent tripping of 220kV lines emanating from RAPP A is continuously being raised in the OCC and PSC meetings. In this regard, it is intimated that various measures have been taken by RVPN to reduce the trippings of these 220kV lines emanating from RAPP A. However, one of the major reasons for continued increase in tripping incidents is non installation of auto recloser schemes on these 220kV lines as per approved NR protection philosophy.

A.10.3 Further, Rajasthan SLDC has submitted that on this line Debari end A/R is installed and activated but at RAPP end it is not installed. Therefore, under transient fault A/R is successfully operated at Debari end but tripped from RAPP end.

A.10.4 Similarly, on both 220 kV circuits between Sakatpura and RAPP(A), Sakatpura end A/R is installed (**kept deactivated**) but at RAPP end A/R is not installed.

A.10.5 He emphasized that availability of 220 kV S/C RAPP(A)-Debari line is critically required for reliable and secure supply of Udaipur District.

A.10.6 Further, Rajasthan SLDC intimated that 220 KV S/C Debari-RAPP(A) line and both 220 KV Sakatpura-RAPP(A) lines are an important evacuating path for RAPP(A) Nuclear generation. Frequent outage of these lines affects the security & reliability of RAPS Nuclear Generation complex. Any major contingencies may also lead to

poisoning out of RAPS reactors.

A.10.7 Majority of faults on the 220 kV lines emanating from RAPP(A) power plant are transient in nature as these lines are passing through dense forest area, therefore, A/R are essentially required to availability of the lines.

A.10.8 Auto Reclosing scheme shall be installed and activated on 220 kV and above lines as per approved NR Protection Philosophy, but Auto Reclosing scheme are not installed at RAPP(A) end on all 220 kV lines emanating from RAPP(A) power plant which is against agreed & approved NR Protection Philosophy.

A.10.9 In view of above, Rajasthan SLDC submitted that

I. The Nuclear Power Corporation of India Limited (NPCIL) may be advised to install Auto-Reclosure (A/R) schemes on all 220 kV lines emanating from RAPP(A) Nuclear Power Plant at the earliest in line with the agreed and approved NR Protection Philosophy. This will help improve grid stability and reliability and strengthen the power evacuation system of the critical nuclear power plant. If required, refurbishment of the RAPP(A) switchyard may also be undertaken to facilitate installation of A/R schemes on the 220 kV lines.

II. Further, RVPN may be permitted to activate Auto-Reclosure at the Sakatpura end on the 220 kV circuits between RAPP(A) and Sakatpura to reduce downtime of these 220 kV lines following fault occurrences. In this regard, it may be noted that A/R at the Debari end of the 220 kV S/C Debari-RAPP(A) line is already operational and has proven effective, as in most cases the line remains charged from the Debari end after fault clearance.

A.10.10 The details of trippings of RAPP A to Debari & Sakatpura lines have been tabulated by Rajasthan SLDC and shared with the above proposal attached as **Annexure-A.XI.**

A.10.11 RAP A, NPCIL representative mentioned that even though auto recloser scheme is beneficial to grid, it may give some negative effect on turbine side. In view of this, a prior clearance is generally obtained from turbine manufacturer before implementation of auto recloser scheme.

A.10.12 He added that single phase auto reclose causes Torsional forces due to electrical torque on the shaft during dead time when a single pole opens with other two poles in closed condition.

A.10.13 The above was earlier communicated to MS, NRPC by CE, transmission of NPCIL in 2009.

A.10.14 He submitted that clearance from manufacturer (OEM) has not been received for auto recloser implementation. Now, study was carried out by designer of NPCIL (HQ) through software simulation wherein torsional stress was observed in the rotor, leading to turbine blade failure if auto recloser is implemented. Failure probability may be higher due to vintage nature of turbine.

A.10.15 Auto recloser has been implemented at RAP B, C, D & NAP. But it has not been implemented at RAP A as its turbine is of old design and was manufactured in 1960s.

A.10.16 EE (P), NRPC asked NPCIL that turbine nature is particular to nuclear plant or can be applicable to thermal, gas. RAP A, NPCIL representative replied that it is due to old design not due to specific to nuclear.

A.10.17 RVPN representative mentioned that turbine design issue has come into notice of RVPN now. It was supposed that auto recloser is not being implemented due to switchyard issues.

A.10.18 RVPN representative was of view that design study has been done by internal team of NPCIL. He proposed to have study by any third party and report may be presented before PSC Forum.

A.10.19 MS, NRPC suggested NPCIL to take up the matter again with OEM and third party vendor may be explored by NPCIL for design study of RAP A turbine.

A.10.20 RAP A, NPCIL representative submitted that it is rare to have 3rd party vendor doing study for such old designed turbine.

A.10.21 EE (P), NRPC opined that professor from IITs may be consulted for design studies of turbine.

A.10.22 RAP A, NPCIL representative raised concern of frequent trippings of lines emanating from RAP A. He stated that there might be issue of design fault in the line which may be looked into by RVPN. RVPN representative replied that RAP A -Debari line is going to have conductor replacement and tower strengthening. However, implementation of auto recloser will reduce no. of trippings.

A.10.23 MS, NRPC emphasized that RVPN may ensure to reduce tripppnig of line emanating

from RAP A.

A.10.24 Rajasthan SLDC representative highlighted that most of the time, fault of bottom phase to earth has been found in RAP A- Debari due to forest area which may be reduced by auto recloser.

A.10.25 Further, it was decided that deactivated auto recloser at Sakatpura (RVPN) end may be activated for RAP A-Sakatpura D/c lines. NPCIL representative agreed for the same.

Decision of the Forum:

i. Forum directed NPCIL to explore the feasibility for 3rd Party study of turbine design of RAP A in order to implement auto recloser scheme.

ii. Forum accorded approval for activating the auto recloser at Sakatpura end for RAP A to Sakatpura D/c lines.

A.11. Revised 220kV lines and transformers for Installation of Special Protection Scheme (SPS) on 400/220 kV transformers at PGCIL 400/220 kV Substations in Rajasthan Control area (agenda by Rajasthan SLDC)

A.11.1 AEE (P), NRPC apprised that 220 kV lines and transformers for Installation of Special Protection Scheme (SPS) on 400/220 kV transformers at PGCIL 400 kV Substations in Rajasthan Control area at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG) was approved by the OCC in its 237th meeting held on 17.11.2025 and further SPS logic was approved in the 64th PSC meeting held on 21.11.2025.

A.11.2 In this regard, Rajasthan SLDC submitted that in ongoing high demand Rabi Season power flow pattern on the transmission lines emanating from PGCIL 400 kV GSS and also at RVPN's 220 kV GSS has been changed, therefore, after detail discussions and deliberations in the joint meeting of RVPN and PGCIL held on 12.1.2026 at Vidyut Bhawan, Jaipur, revised 220 kV lines & transformers for installation of SPS at the PGCIL 400 kV substations at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG) has been identified and attached as **Annexure-A.XII** with detailed proposal submitted by Rajasthan SLDC.

A.11.3 Following SPS logic was proposed by RVPN for implementation of SPS at the PGCIL 400kV substations vide letter dated 16.01.2026:-

I. SPS logic for Stage-1 operation: Trip commands for stage-1 SPS shall be generated at time delay of 0.5 second IDMT at 115 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS.

II. SPS logic for Stage-2 operation: Trip commands for stage-2 SPS shall be generated at time delay of 0.5 second IDMT at 120 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS

A.11.4 Rajasthan SLDC asked to further optimize the SPS over load tripping settings and time delay on the basis of the specification of the 400 kV transformers at PGCIL 400 kV GSS and also considering approved protection philosophy of NR to avoid un necessary SPS operation and optimum utilization of the transformers.

A.11.5 Further it was requested that different SPS settings for Summer and Winter period may be approved and considered in view of low temperature in the winter.

A.11.6 Rajasthan SLDC submitted that additional 500 MVA transformers are under installation each at the PGCIL 400/220 kV Substations at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG). In the 237th OCC meeting held on 17.11.2025, PGCIL intimated that 500 MVA, 400 kV ICTs at 400 kV GSS Bassi, Kotputli & Kankroli would be commissioned by Dec 2025, but till now these have not been commissioned, therefore, PGCIL may be advised to expedite installation of the approved 400 kV transformers at the PGCIL substations.

A.11.7 NRLDC representative mentioned that SPS logic at the PGCIL 400 kV substations at Kankroli(PG), Neemrana(PG), Bhiwadi(PG), Bassi(PG), Kotputli(PG), Sikar(PG) has bene studied and may be approved by Forum. He added that SPS proposal (feeder details are as per annexure-XII) was found to be adequate to meet required load relief for Kankroli(PG), Neemrana(PG), Bhiwadi(PG). For Bassi(PG), Kotputli(PG), Sikar(PG), the revised proposal submitted by RVPN vide letter dated 27.01.2026 (attached as **Annexure-A.XIII**) was found in order.

A.11.8 Further, He highlighted that ICT at Jaipur(South-PG) was found N-1 non compliant in 2024 and later load did not reach upto that level. Therefore, he asked RVPN the

reason for reduction of load at Jaipur (South-PG). RVPN representative replied that load pattern will not increase at Jaipur (South-PG).

A.11.9 Therefore, it was decided that SPS is not required at Jaipur (South-PG).

A.11.10 POWERGRID was asked regarding implementation status of SPSs. POWERGRID NR-1 representative stated that approved SPSs for 6 substations with stage -1 & 2 will be implemented by 15.02.2026. However, to configure stage-3 & 4 for the SPSs at Bassi(PG), Kotputli(PG), Sikar(PG), additional time would be needed as there are feeders without communication link and extra DTPC may be needed depending upon requirement.

A.11.11 He informed that ICT is going to be augmented at Kotputli(PG) within short period of time so SPS would not be needed after the commissioning. NRLDC representative mentioned that SPS may be implemented as commissioning of ICT may get delayed.

A.11.12 Subsequently, RVPN representative proposed the following logics for implementation of SPS at the PGCIL 400kV substations:-

I. SPS logic for Stage-1 operation: Trip commands for stage-1 SPS shall be generated at time delay of 3 second DT at 115 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS.

II. SPS logic for Stage-2 operation: Trip commands for stage-2 SPS shall be generated at time delay of 3 second DT at 120 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS.

III. SPS logic for Stage-3 operation: Trip commands for stage-3 SPS shall be generated at time delay of 1 second DT at 125 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS.

IV. SPS logic for Stage-4 operation: Trip commands for stage-4 SPS shall be generated at time delay of 1 second DT at 130 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS.

A.11.13 Forum approved the above SPS logic.

A.11.14 Further, Rajasthan SLDC requested Forum to direct POWERGRID to start the SPS implementation immediately. RVPN representative mentioned that implementation of stage-1 & 2 would provide sufficient relief. Therefore, the same may be expedited by

POWERGRID.

A.11.15 Consequently, Forum asked POWERGRID to complete stage-1, and 2 of SPS implementation for all 6 substations except Jaipur (South-PG) by 15.02.2026. POWERGRID may explore the communication link & DTPC requirements for feeders associated with Stage-3, 4 of SPS at Bassi(PG), Kotputli(PG), Sikar(PG) and implement the same accordingly.

Decision of the Forum:

I. Forum approved the SPS proposal for Kankroli(PG), Neemrana(PG), Bhiwadi(PG) with feeder details mentioned in RVPN letter dated 16.01.2026.

II. For Bassi(PG), Kotputli(PG), Sikar(PG), the revised proposal submitted by RVPN vide letter dated 27.01.2026 was approved.

III. Forum decided that SPS is not required at Jaipur (South-PG).

IV. Forum directed POWERGRID to complete stage-1, and 2 of SPS implementation for all 6 substations except Jaipur (South-PG) by 15.02.2026.

A.12. Recognition of Protection Pioneers in Northern Region (agenda by NRPC Secretariat)

A.12.1 AEE (P), NRPC stated that Power system protection is indispensable for ensuring safety, reliability, stability, and economic operation of electrical power networks. Without proper protection, even minor faults can escalate into major system failures, making protection systems a fundamental requirement of any power system.

A.12.2 Modern power systems are large, complex, and interconnected networks that operate under high voltages and currents. Due to their exposure to faults, abnormal operating conditions, and external disturbances, power system protection is essential to ensure safe, reliable, and continuous operation.

A.12.3 Since, IEGC 2023 has become effective since 01.10.2023 as per notification issued by Hon'ble CERC. A new chapter has been added in IEGC 2023 for Protection Code. Protection Protocol, Protection Settings, Protection Audit Plan, System Protection Scheme & Recording Instruments are clauses under the Protection Code.

A.12.4 Accordingly, NRPC Secretariat has regularly been monitoring compliances of IEGC,

2023 and discussions on the Protection Performance Indices, Protection audit report observations, compliances, Grid events, and protection philosophies are done in the Protection Sub-Committee meetings. Discussions of the PSC meeting always results in fruitful outcomes with the suggestions of Protection experts from various organizations.

A.12.5 Now, NRPC is looking forward to recognize outstanding expertise, dedication, and significant contributions in the field of Power System Protection Engineering. There may be officers who have demonstrated proficiency in the analysis and implementation of reliable and selective protection schemes for generators, transformers, transmission lines, substations, and through deep technical knowledge and practical insights, they have consistently ensured system security, operational reliability, under both normal and fault conditions including Regular compliances of IEGC, 2023.

A.12.6 To recognize technical achievements, invaluable contribution to the reliability, safety, and resilience of the power system, it is proposed to facilitate the officers with recognition of Protection Pioneer.

A.12.7 In view of above, discussion for facilitating the officers with recognition of Protection Pioneer was discussed.

A.12.8 EE (P), NRPC suggested that officers may be nominated from utilities with individual contribution. The same is required to be endorsed by senior officials. Further, finalization of officers for recognition may be done by a selection committee.

A.12.9 NRLDC representative was of view that recognition may be facilitated in two categories viz. for officer and utility.

A.12.10 MS, NRPC agreed for the same and stated to prepare of selection criteria by a committee. After fixing criteria, it can be presented in the PSC meeting. Accordingly, nominations may be asked from the utilities and officers.

A.12.11 She added that selected officers and utilities will be facilitated by the recognition in the NRPC meeting. A Committee having members from NRPC Secretariat, and NRLDC may be constituted under chairmanship of Director (Protection), NRPC for finalizing selection criteria, application format, scrutiny of applications, recommendation for recognition etc. for both categories i.e. individual as well as utility.

Decision of the Forum:

A Committee having members from NRPC Secretariat, and NRLDC may be constituted under Chairmanship of Director (Protection), NRPC for finalizing selection criteria, application format, scrutiny of applications, recommendation for recognition etc. for both categories i.e. individual as well as utility.

Part-B: Agenda by NRLDC

B.1 Status of remedial actions recommended during previous PSC meetings (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. In view of the same, a mail dt 19.01.2026 has also been sent from NRLDC to constituents requesting to share the status of remedial actions taken. It is expected that necessary actions would have taken place.

B.1.2 NRLDC representative presented all the points and discussion was held with all the respective constituents. Constituents were requested to apprise the status of the remedial actions. Updated status on the basis of discussion held in 66th PSC meeting is attached as **Annexure-B.I**. Further, concerned members were requested to take expeditious corrective actions and resolve the issues at the earliest.

Decision of the Forum:

Forum requested all the concerned members to take necessary corrective actions at their, actions need to be expedited, and healthiness of protection & control system need to be ensured.

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

B.2.1 A total of 13 grid events occurred in the month of December 2025 of which 07 are of

GD-1 Category, 03 is of GI-2 Category and 03 are of GI-1 Category. The tripping report of all the events have been issued from NRLDC. The list of Grid events along with the status of DR/EL submission is attached as **Annexure-B.II.**

B.2.2 Maximum delayed clearance of fault observed in event of tripping event at 220/66kV South Wazirabad(DTL) at 10:39 hrs on 29th December 2025 (As per PMU at Mandola(PG), R-B phase to phase fault converted to 3-phase fault was observed with delayed fault clearing time of 600ms).

B.2.3 Delayed clearance of fault (more than 100ms for 400kV and 160ms for 220kV system) observed in total **05** events out of **13** grid events occurred in the months. In **01** (no.) of grid event, there was no fault in the grid.

B.2.4 ***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 NRLDC requested utilities share DR/EL and the detailed report of the tripping events as per timeline mentioned in IEGC 2023 and share the same with NRLDC, NRPC and PSC forum. Remedial actions taken by constituents to avoid such multiple elements tripping may also be included in the detailed report.

B.2.6 Members stated that delay occurred due to non-submission of DR/EL & tripping details from site however they are taking continuous follow up actions to ensure timely completion of tripping analysis within stipulated timeline.

B.2.7 Regarding “Multiple elements tripping at 220/132kV Harduaganj(UP)”, SLDC UP informed that DR extraction facility is not available at 220kV Harduaganj(UP).

B.2.8 Regarding “Multiple elements tripping at 765kV Anpara-C & D TPS (UP)”, SLDC UP informed that time sync issue at Unnao(UP) end is resolved and issue w.r.t. SPS operation at Anpara-C is resolved [“AND” logic in SPS is modified to “OR” logic].

B.2.9 Further, NRLDC highlighted the major tripping events occurred during December 2025 (attached as **Annexure-B.III**). Concerned constituents/utilities were requested to share the detailed analysis of the tripping elements along with status of remedial action taken/to be taken.

B.2.10 Utilities were requested to prepare detailed analysis report and present the event details during 66th PSC meeting. Events involving more than one utility may be jointly prepared and presented.

B.2.11 **Discussion during the meeting:**

Tripping Events

A. Multiple elements tripping at 220/132kV Raebareilly(PG) at 12:25 hrs on 02.12.2025

NRLDC representative shared the following observations w.r.t. tripping event:

i. Reason for broken conductor tripping in 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 need to be analysed. Why tripping was enabled at NTPC end?
ii. DR/EL along with detailed tripping report need to be shared by NTPC.
iii. Remedial action taken report need to be shared.

UPPTCL representative informed following points

i. During antecedent condition, 220kV Unchahar(NT)-Raebarielly(PG) Ckt-1 &2 were under shutdown for line diversion work by UPPTCL on 02.11.2025. 220kV Raebareilly (PG) - C.G. City Ckt was under shutdown for load management of 220kV Unchahar (NT)-Raebareilly (PG) Ckt-3 as it is the only source at Raebareilly. 220/132/33kV Bachhrawan UPPTCL station was being fed only from 220kV Raebareilly(PG) - Bachhrawan.

ii. As reported, at 12:24hrs, Broken conductor alarm was observed at both Raebareilly(PG) and Unchahar (NT) end for 220kV Unchahar (NT)-Raebareilly (PG) Ckt-3. Line tripped from Unchahar (NTPC) end only due to tripping was enabled on Broken conductor alarm.

iii. As at the time of tripping 220kV Bachrawan was being fed radially through 220 KV Raebareilly(PG)-Bachrawan (UP) Ckt, the tripping of 220kV Unchahar (NT)- Raebareilly(PG) Ckt-3 resulted into loss of source for 220kV Raebareilly(PG) and 220kV Bachrawan. This led to operation of UFR relays at 220kV Bachrawan (47.7Hz) and 132kV Amawan (47.9Hz), 132kV Tripula, Raebareli (47.9Hz), 132kV Dalmau (47.9Hz), 132kV Bachrawan (47.9Hz) and 132kv Salon (47.9Hz) due to frequency sinked up.

POWERGRID(NR-3) representative informed the following points:

i. It was observed in the past that whenever two among three ckts of 220kV Unchahar (NT)- Raebareilly (PG) T/C remains under shutdown, and only one ckt remains as the source to 220/132/33kV Bachhrawan UPPTCL station, significant amount of unbalance occurs in the phase currents of the remaining line. Broken conductor alarm appears due to this unbalance and not a true broken conductor condition. Hence, SLDC UP is requested to review and analyse the pattern of load connected to 220/132/33kV Bachhrawan(UP).

ii. NTPC is requested to review tripping on broken conductor alarm in 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckts to avoid unwanted tripping in future.

NTPC representative informed that tripping is now disabled on broken conductor alarm in 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckts as per NRPC protection philosophy.

PSC Recommendations:

- *Pattern of load connected to 220/132/33kV Bachhrawan(UP) need to be reviewed and analysed. (Action: SLDC UP)*
- *Third party protection audit need to be done at Unchahar(NTPC) for a*

thorough review. (Action: NTPC)

B. Multiple elements tripping at 220/66kV Naraingarh(PS) at 03:55 hrs on 13.12.2025

NRLDC representative shared the following observations w.r.t. tripping event:

i. Exact location of fault in 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 need to be shared.
ii. Reason of delayed clearance of fault need to be shared.
iii. SCADA data was not available at 220/66kV Naraingarh(PS) during the event. Healthiness and availability of the same need to be ensured.
iv. DR/EL along with detailed report need to be shared for all the elements from both ends.
v. Necessary remedial actions need to be taken to avoid such events in future.

NRLDC representative requested SLDC Punjab to share detailed presentation with root cause analysis. SLDC Punjab agreed to share the same within 1 week. NRLDC representative also requested to update the SLD of 220/66kV Naraingarh(PS) in SCADA.

PSC Recommendations:

- *DR/EL (.dat/.cfg file): along with detailed tripping report need to be shared within one week (Action SLDC Punjab)*

C. Multiple elements tripping at 220/66kV South Wazirabad(DTL) at 04:15 hrs on 15.12.2025

NRLDC representative shared the following observations w.r.t. tripping event:

i. Exact reason, nature and location of fault need to be shared.
ii. Reason of delayed clearance of fault need to be shared.
iii. DR time sync issue at South Wazirabad(DTL) need to be resolved at the earliest.

iv. SCADA data was suspected and freezed during the event at South Wazirabad(DTL). Availability and healthiness of SCADA data need to be ensured.

v. DR/EL (.dat/.cfg file) with detailed tripping report need to be shared for all the elements.

vi. Remedial action taken report needs to be shared.

DTL representative informed the following points:

i. The 220 kV SOW – Geeta colony Ckt.-II tripped at SOW end on 15.12.2025, 04:01 hrs. on Distance protection Zone-1,C-ph,4.4 KM,A/R Lock-out,Ic-11.5kA,Vc-26kV. Tripping occurred on A/R Lock-out at SOW end due to missing C-Ph CB status. A/R successful at Geeta colony end.

ii. The 220 kV SOW – Geeta colony Ckt.-I tripped at SOW end on 15.12.2025, 04:09 hrs. on Distance protection Zone-1, B-ph, 4.368 KM, A/R Lock-out, Ib-14.67kA. Tripping occurred at SOW end. A/R successful at Geeta colony end.

iii. At 04:14 hrs., another fault of 3kA magnitude occurred in A-Ph in 220 kV SOW – Geeta colony Ckt.-II due to external tracking through the CB porcelain insulator (between the two clamps of CB pole), in dense fog condition as evident by the flash on the clamps. The fault is also feed at Geeta colony end as the relay captured 3 kA current in the DR. Since the A/R Lock-out condition was prevailing due to the tripping mentioned at S.No.(i) at 04:01hrs., and 86 relay had already operated, the flow of 3 kA current in A-Ph due to external tracking through the CB porcelain insulator resulted the operation of LBB on 220 kV Bus-II after the time delay of 200 ms.

iv. Due to the tripping of both 220 kV SOW – Geeta colony Ckt.-I & II, one after another and both ckts. of 220 kV Patparganj-IP were also connected on the same Bus at Patparganj end where Bus coupler was in open position, this led to disconnection with the Grid for the Generator at Pragati which further resulted operation of UFR and thereafter tripping of 220 kV IP-RPH Ckt.-I & II, 220 V IP-PPG Ckt.-I and 33 kV O/G feeders at IP.

PSC Recommendations:

- *Healthiness of CBs need to be ensured. A/R Lockout conditions due to missing CB status need to be addressed. (Action: DTL)*
- *DR time sync issue at South Wazirabad(DTL) need to be resolved at the earliest. (Action: DTL)*

D. Multiple elements tripping at 765kV Obra_C TPS(UP) at 06:34 hrs on 16.12.2025

NRLDC representative shared the following observations w.r.t. tripping event:

i. Reason of tripping of 660 MW Unit-1&2 at Obra_C and 765/400kV 1000 MVA ICT-1 at Obra_C (UP) need to be shared. As line fault cleared within 100msec, Unit and ICT shouldn't have tripped. Earth fault protection setting need to be reviewed. SLDC-UP may share the O/C E/F protection setting details of Units and ICT at Obra_C (UP).
ii. DR(.dat/.cfg) files of tripping of units and ICT at Obra_C need to be shared.
iii. Disturbance recorder at Unnao end (line DR) is not standardized (time sync issue).
iv. Remedial action taken report needs to be shared.

UPPTCL representative informed the following points:

i. Repeated Y-phase earth faults occurred on Unnao Line within a short duration.
ii. Auto reclose operated successfully during the first two instances.
iii. During the third occurrence, A/R could not operate due to reclaim time restriction.
iv. Absence of carrier signal from the remote end caused the relay to trip in Zone-2 after 500 ms.
v. Sustained fault duration resulted in earth fault current flow through the system, leading to the operation of EF1 (IN>2) protection of ICT-1, GT-1, and GT-2.

vi. As remedial action taken, EF1 (IN>2) has been disabled in the protection relay settings of ICT-1, GT-1 & GT-2. EF1 (IN>1) stage settings have been modified in ICT-1, GT-1 & GT-2 relays to ensure better coordination and to avoid unnecessary tripping during remote line faults.

PSC Recommendations:

- *Protection co-ordination need to be ensured at765kV Obra_C TPS (UP) to avoid this kind of event in future. (Action: UPPTCL)*
- *Any issue in carrier communication at765kV Obra_C TPS (UP) need to be resolved at the earliest. (Action: UPPTCL)*
- *Zone-2 distance protection settings need to be reviewed at Obra_C end of 765kV Obra_C -Unnao Ckt. Over-current protection needs to be disabled in line. (Action: UPPTCL)*
- *High set O/C/E/F time delay of GT need to be reviewed as per NRPC protection philosophy. (Action: UPPTCL)*
- *Time sync issue in DR at 765kV Obra_C TPS (UP) need to be ensured. (Action: UPPTCL)*
- *Third party protection audit need to be done at 765kV Obra_C TPS (UP) for a thorough review. (Action: UPPTCL)*

E. Multiple elements tripping at 765kV Anpara-C&D TPS(UP) at 07:29 hrs on 16.12.2025

NRLDC representative shared the following observations w.r.t. tripping event:

i. Disturbance recorder at Unnao end is not standardized (time sync issue and time window is less).
ii. Issue w.r.t. SPS operation at Anpara-C end need to be reviewed and corrected at the earliest possible.
iii. Remedial action taken report needs to be shared.

Anpara-C representative informed that main server of SPS is at Anpara-D. During SPS operation, two logic signals (Real time flow on 400 kV Anpara-

Obra B line>1100 MW) are taken as input to Anpara-C unit tripping with "AND" logic which means if both the logics are high then only unit will trip. Now "AND" logic in SPS is modified to "OR" logic and the issue is resolved.

UPPTCL representative informed that time sync issue at Unnao(UP) end is resolved. Local GPS is replaced by SNTP.

PSC Recommendations:

- *Healthiness of SPS need to be ensured (Action: Anpara-C/D).*

F. Multiple elements tripping at 220/66kV South Wazirabad(DTL) at 10:39 hrs on 29.12.2025

NRLDC representative shared the following observations w.r.t. tripping event:

i. Reason of occurrence of fault on 66kv bus at South Wazirabad(DTL).
ii. As per DR of ICT-3, no significant fault current is observed in phases. Reason of the same need to be shared.
iii. SCADA data of South Wazirabad(DTL) got freezed after the tripping event. Healthiness of SCADA data needs to be ensured.
iv. Remedial action taken report needs to be shared.

DTL representative informed that all the 4 nos. 66 kV Incomers tripped on O/C/E/F relay indication due to 66 kV bus fault occurred during the bus shifting operation of 66/11 kV, 20 MVA Transformer (no busbar protection at 66kV level). NRLDC representative highlighted that occurrence of bus fault during the bus shifting operation is not desired. DTL may ensure that such type of event didn't occur during bus shifting operation of elements.

PSC Recommendations:

- *Healthiness of CBs and isolators need to be ensured. SOP for bus shifting operation of elements need to be strictly followed to avoid this kind of events in future. (Action: DTL)*

Grid event analysis details of all the aforementioned grid incidents is attached as **Annexure-B.III(a).**

Decision of the Forum:

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

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

B.3.1 The following transmission elements were frequently tripping during the month of **December 2025**:

S. NO.	Element Name	No. of forced outages	Utility/SLDC
1	400 KV Amritsar(PG)-Makhu(PS) (PSTCL) Ckt-1	5	PGCIL/Punjab
2	220 KV Anta(NT)-Lalsote(RS) (PG) Ckt-1	4	NTPC/ Rajasthan/PGCIL
3	220 KV Ballabhgarh(BB)-Badarpur(NT) (BB) Ckt-2	4	NTPC/BBMB
4	220 KV Khara(UP)-Saharanpur(PG) (UP) Ckt-1	4	UP/PGCIL
5	400 KV Muzaffarnagar-Ataur (UP) Ckt-1	4	UP
6	250 MW (PSP) TEHRI HPS - UNIT 6	3	Tehri PSP

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

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

B.3.4 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.**

Discussion during the meeting:

- **400 KV Amritsar(PG)-Makhu(PS) (PSTCL) Ckt-1:** PSTCL representative informed that tripping occurred due to string insulator failure. PSTCL was requested to complete insulator replacement work at the earliest.
- **220 KV Anta(NT)-Lalsote(RS) (PG) Ckt-1:** RVPNL representative informed that tripping occurred due to disc insulator failure and discs are already replaced.
- **220 KV Ballabhgarh(BB)-Badarpur(NT) (BB) Ckt-2:** BBMB representative informed that BCU cable was faulty and A/R was disabled in line. Faulty BCU cable was replaced and A/R is enabled now.
- **220 KV Khara(UP)-Saharanpur(PG) (UP) Ckt-1:** POWERGRID (NR-3) representative informed that on 18.12.2025 there was no tripping at PG end; spurious tripping was observed at Khara end. On 20.12.2025, Saharanpur(PG)-Nanauta jumper broke and came within the range. On 23.12.2025 and 28.12.2025, flashover occurred at tower loc. No. 118 and 170 respectively and discs were replaced.
- **400 KV Muzaffarnagar-Ataur (UP) Ckt-1:** SLDC UP representative informed that on 17.12.2025, multiple A/R occurred at same location hence line manually tripped. On 19.12.2025, flashover occurred at tower loc. No. 50. On 26.12.2025, R-N fault occurred with fault distance of 2.8km from Muzaffarnagar end.
- **250 MW (PSP) TEHRI HPS - UNIT 6:** Tehri PSP representative informed that on 15.12.2025 cooling flow sensor mal-operated. On 22.12.2025 and 31.12.2025, sudden pressure drop occurred in dewatering valve; filter is installed and issue is resolved now.

B.3.5 NRLDC representative emphasized that A/R (auto re-closer) issue was found in many of these tripping. All the utilities were sensitized to ensure the healthiness of A/R as well as whether the A/R is in service in 220 kV and above transmission lines in

compliance to CEA Grid Standards. It was further informed that most of the tripping were of transient in nature but due to non-operation of A/R, it resulted into tripping of the transmission element thus reducing the reliability of the grid.

B.3.6 It was requested that all the utilities shall endeavour to keep auto re-closer in service and healthy condition of 220 kV and above voltage level transmission line. The issue of time syncing of DR/EL at many of the stations was also highlighted, constituents were requested to ensure the time syncing of DR/EL. In addition, utilities were requested to take necessary actions to ensure the Right of Way and other operation & maintenance issues to minimize the frequent faults in the line. All the utilities agreed for the same.

Decision of the Forum

Forum reiterated that frequent outages of transmission elements affect the reliability and security of the grid. Members were requested to investigate such frequent outages and share the suitable remedial measures taken/being taken in this respect.

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

B.4.1 A total of 10 inter-regional lines tripping occurred in the month of December 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.

B.4.2 NRLDC representative highlighted that during tripping of 400 KV Sahupuri(UP)-Biharshariff(PG) (PG) Ckt-1 and 220 KV Auraiya(NT)-Malanpur(MP) (PG) Ckt-1 no A/R

operation is observed at Sahupuri(UP) end and Auraiya(NT) end respectively. SLDC UP and NTPC was requested to review A/R operation at Sahupuri(UP) end and Auraiya(NT) end respectively. SLDC UP and NTPC agreed for the same.

B.4.3 It was also highlighted that tripping of 400 KV Allahabad-Sasaram (PG) Ckt-1 occurred due to PLCC maloperation. POWERGRID(NR-3) informed that issue was at Sasaram end and DT was received at Allahabad end. POWERGRID(NR-3) was requested to share the DR of Allahabad end.

Decision of the Forum

Forum recommended members to take necessary actions to minimise the tripping on inter regional line and ensure proper operation of protection system. Further utilities were requested to share DR/EL and the detailed report of the tripping events as per timeline mentioned in IEGC 2023.

B.5 Frequent multiple elements tripping event at 400/220kV Kanpur (PG) (agenda by NRLDC)

B.5.1 Two major grid events have been reported at 400/220kV Kanpur(PG) during first week of January 2026 in which all the 400kV elements at Kanpur(PG) tripped. There was significant delayed clearance of fault during the events and protection system didn't operate in coordination and as per desired operation. Brief of the grid events are as follows:

a) Multiple elements tripping on 05.01.2026 at 00:29 hrs: At 00:29 hrs, all the 400kV elements at Kanpur(PG) along with 400kV Kanpur765-Lucknow(PG) D/C and STATCOM at Lucknow(PG) tripped. Event triggered due to stuck of B-ph pole of Main CB at Kanpur end of 400kV Kanpur-Ballabhgarh line-I. As per PMU and DR received, B-N fault at 00:28:57:820 hrs with delayed clearance of ~440 msec followed by R-N fault at 00:28:58:640 hrs with delayed clearance of ~1540 msec is observed.

b) Multiple elements tripping on 07.01.2026 at 16:47 hrs: At 16:47 hrs, all the 400kV elements at Kanpur(PG) tripped during bus fault on 400kV Bus-1. Fault occurred due to fall of jack bus conductor on 400kV Bus-1 & 2. As per PMU, R-Y-B-N fault at 16:47:53:320 hrs with delayed clearance of ~1560 msec is observed.

B.5.2 NRLDC representative shared brief details w.r.t. protection operation:

a) During both the events, fault cleared on back up protection after tripping of lines from remote end in Z-2/Z-3 and ICTs on back up impedance / earth fault protection.

b) Bus bar protection failed to operate during both the events, leading to significant delayed clearance of fault.

POWERGRID(NR_3) was requested to share reason of non-operation of bus bar protection.

c) 400kV Kanpur-Kanpur765 D/C tripped in Z-3 during both the events which should have tripped in Z-2. As informed by POWERGRID(NR-3), reactance of Line Series Reactor (LSR) at Kanpur(PG) end hasn't been considered in distance protection setting. This might be the reason of underreach of Z-2 distance protection.

POWERGRID(NR_3) was requested to review distance protection setting (Z-2) of 400kV Kanpur-Kanpur765 D/C. Members were requested to discuss philosophy for distance protection setting in case of LSR.

d) Tie CBs at Kanpur(PG) end also tripped during the first event. However, there was no protection operation due to which Tie CB should trip at Kanpur(PG).

POWERGRID(NR_3) was requested to share reason of opening of Tie CBs at Kanpur(PG).

B.5.3 POWERGRID(NR-3) was requested to share the detailed analysis of the grid events mentioned above.

B.5.4 It was also highlighted that such grid events affect security and reliability of the grid. Necessary remedial actions need to be taken to avoid such grid events in future. Proper

operation of protection system and its coordination also need to be ensured.

B.5.5 POWERGRID(NR-3) representative informed that 400/220kV Kanpur(PG) has one and half breaker D-type (Bus-1 and Bus-2 are placed nearby) scheme at 400kV level.

B.5.6 On 05.01.2026, 400 KV Kanpur-Ballabhgarh Ckt-1 was opened on voltage regulation from Ballabhgarh end. DT received at Kanpur end in Channel-1 only. Main and tie CB (416-52 and 417-52) at Kanpur opened on receipt of DT. From DR it is observed that after opening of circuit breakers, current and voltage reduced in all 03 phases, however, after around 1.2 sec., B phase voltage increased to normal value and current increased up to 300 A and then kept fluctuating around value of 200 A. As current value was fluctuating around LBB operation, signal was getting high and reset several times and final Bus bar trip due to BFR back trip was issued for 400 kV Bus-2. All circuit breakers opened except 426-52 (Main CB of ICT-1) due to faulty 96 relay. Since 426-52 CB did not open on BFR back trip, fault on Bus-2 due to 417 bay circuit breaker was being continuously fed through 426-52 circuit breaker. Thereafter, after a delay of around 45 sec fault current in B phase jumped to 9 kA and remaining elements connected to 400 kV Bus-1 also tripped. Fault in Bus-2 due to failure of 417 circuit breaker cleared after tripping of ICT-2. However, due to blast in CB, flash over spread to adjacent Bus-1 R phase and caused fault in Bus-1. Busbar Zone-1 or Zone-2 protection did not operate during this event and lines tripped in zone-2 from remote ends.

B.5.7 On 07.01.2026, during the Shutdown of 400kV Bus-2, the R-phase Jack Bus Jumper of 400kV Kanpur- Kanpur (GIS)-1 Line got dislodged from Insulator Fitting and R-phase jumper fell on charged 400kV Bus-1 & under Shutdown 400kV Bus-2. All 400kV Elements connected to 400kV Bus-1 got tripped.

B.5.8 In 400 KV Kanpur-Kanpur GIS-1 and 2 lines, line CVT is installed after series line reactor towards line side. Therefore, impedance of series reactor is measured by distance relays in reverse direction. This is reflected in higher voltages read by line protection relay in these lines as compared to other lines in case of bus fault. In event of 07.01.26, there was solid earthed (Bus-2 earth switch was closed) three phase ground fault on bus. The fault voltage and current read by these line relays is around 72 kV and 6 kA respectively, which translates to impedance of 12 ohm, same as rating of series reactor. As series

reactor is not considered in calculation of Z4 reach, lines did not trip on Z4. Zone-3 settings of 400 KV Kanpur-Kanpur GIS-1 and 2 lines modified to 1 s from 1.5 s as precautionary action.

B.5.9 As remedial action taken, testing of 400kV Bus-1 Bus Bar Protection was carried out and 96 Relay of 426 Bay found faulty and the same has been replaced. Neutral wire of TB 101:6B was found dislodged which might be responsible for the non-operation of Bus Bar-1 Relay. Stabilising Resistor value of Bus Bar-1 Relay was found set at 6.5 kOhms, the same has been now set as 475 Ohms and bus bar protection was found healthy during testing on 07.01.2026 after reducing the value of stabilizing resistance. B-phase CT of 417 (Ballabhgarh-1) line Main Bay was replaced. Further dismantling and Replacement of 02 Nos. SIEMENS Make PIR CB poles of 417 Bay is under progress in the presence of SIEMENS Engineer.

B.5.10 Detailed analysis as shared by POWERGRID(NR-3) is attached as **Annexure-B.VI.**

B.5.11 MS, NRPC stated that a committee may be formed under EE (P), NRPC for analysis of the event and recommendations for avoiding future trappings. Members may be taken from NRLDC, and UPPTCL. Committee may visit Kanpur s/s for understanding the issue.

Decision of the Forum

i. *Distance protection settings of 400kV Kanpur-Kanpur765 D/C (line with LSR) need to be reviewed. (Action: POWERGRID)*

ii. *A Committee may be formed under EE (P), NRPC for analysis of the event and recommendations for avoiding future trappings. Members may be taken from NRLDC, and UPPTCL. Committee may visit Kanpur s/s for understanding the issue.*

B.6 Frequent multiple elements tripping event at 400/220kV Muzaffarnagar(UP) (agenda by NRLDC)

B.6.1 Five major grid events have been reported at 400/220kV Muzaffarnagar(UP) during

mid-week of January 2026 as bus bar protection operated on fault due to insulator flashover. Generation loss also occurred at Alaknanda and Vishnuprayag HEP during these events. NRLDC representative shared brief of the grid events as follows:

a. **Multiple elements tripping on 13.01.2026 at 05:16 hrs:** At 05:16 hrs, all elements connected to 400kV Bus-2 tripped due to bus bar protection operation. As per SCADA, generation loss of ~45 MW occurred at Vishnuprayag HEP.

b. **Multiple elements tripping on 13.01.2026 at 07:43 hrs:** At 07:43 hrs, all elements connected to 400kV Bus-2 tripped again due to bus bar protection operation. As per SCADA, generation loss of ~62 MW occurred at Vishnuprayag HEP.

c. **Multiple elements tripping on 17.01.2026 at 02:08 hrs:** At 02:08 hrs, all elements connected to 400kV Bus-1 & 2 tripped due to bus bar protection operation. As per SCADA, generation loss of ~74 MW and ~50 MW occurred at Alaknanda HEP and Vishnuprayag HEP respectively.

d. **Multiple elements tripping on 17.01.2026 at 05:34 hrs:** 400kV Bus-1 was charged at 03:54 hrs and again tripped at 05:34 hrs due to bus bar protection operation. As per SCADA, generation loss of ~84 MW occurred at Alaknanda HEP.

e. **Multiple elements tripping on 17.01.2026 at 06:18 hrs:** 400kV Bus-2 was charged at 06:08 hrs and again tripped at 06:18 Hrs due to bus bar protection operation. No generation loss occurred during this event as no units of Alaknanda or Vishnuprayag HEP was in running condition.

B.6.2 SLDC UP was requested to analyse and share reason of bus bar protection operation in every case.

B.6.3 It was also highlighted that such grid events affect security and reliability of the grid. Necessary remedial actions need to be taken to minimize frequent faults due to insulator flashover so that such grid events can be avoided in future.

B.6.4 SLDC UP was requested to share the detailed analysis of the grid events mentioned above.

B.6.5 UPPTCL representative informed that pollution level in this area increased substantially in recent year and fog condition was also there. All the tripping events were mainly due to flashover at bus post insulator. Cleaning work of insulators of 400 KV elements is in progress to prevent such faults in future.

B.6.6 At 02:08 hrs on 17.01.2026, due to B ph post insulator flashover of 315 MVA ICT-III (connected to 400 KV bus-B), Busbar relay sensed fault in Z-2. But from DR, it was observed that bus isolator status of 400 KV Ataur line was at 400 KV bus-A, instead of 400 KV bus-B as this line was physically connected to bus- B. So due to wrong isolator status of 400 KV Ataur line on 400 KV bus-A, an operating current observed in Z-1 of bus bar relay causing tripping of bus bar relay in Z-1 along with Z-2.

B.6.7 At 05:34 hrs on 17.01.2026, due to Y phase post insulator flashover of 400 KV Alaknanda line connected to 400 KV A-Bus, Busbar relay sensed fault in Z-1.

B.6.8 At 06:18 hrs on 17.01.2026, due B phase post insulator flashover of 400 kV Ataur line connected to 400 KV B-Bus, Busbar relay sensed fault in Z-2.

B.6.9 As remedial action taken, defective post insulators of 315 MVA ICT-III, 400 KV Alaknanda line and 400 KV Ataur line were replaced. Problem in bus isolator status of 400 KV Ataur line was also rectified.

B.6.10 Detailed analysis as shared by SLDC UP is attached as **Annexure-B.VII.**

B.6.11 ***Decision of the Forum:***

i. Cleaning work of insulators of 400 KV elements at Muzaffarnagar(UP) need to be expedited. Same may also be replaced if necessary. (Action: UPPTCL)

ii. Healthiness of protection auxiliary system need to be ensured. (Action: UPPTCL)

B.7 Multiple elements tripping events in Rajasthan RE complex on 14.01.2026 (agenda by NRLDC)

B.7.1 Multiple elements tripping events have been reported in Rajasthan RE Complex during 13:38 hrs-14:35 hrs on 14th January 2026. Significant drop in NR total RE generation has been observed during these events. NRLDC representative shared brief of the grid events as follows:

i. **Event at 13:38 hrs:** As reported, at 13:38 hrs, 400kV Bassi-Phagi ckt-2 tripped on R-Y fault. At the same time, 765 KV Bhadla2-Fatehgarh2 ckt-3 and 220kV Fatehgarh3-RSAPL ckt tripped on overvoltage. As per SCADA, drop in NR total solar generation of approx. 1681 MW was observed. 700 MW RAPP D unit-7 (generating ~600 MW) also tripped during the event on turbine trip.

ii. **Event at 14:05 hrs:** As reported, at 14:05 hrs, 765kV Sikar2-Aligarh ckt-1 tripped on R-Y-B three phase fault. At the same time, 765kV Fatehgarh2-Bhadla2 ckt-1&4, 765kV Bikaner-Bhadla2 ckt-1, 765kV Bhadla2-Ajmer ckt-1, 765kV Bhiwani-Narela ckt, 400kV Fatehgarh1-ACME Pool ckt, 400kV Bikaner(PG)-Renew Solar Ckt and 400kV Renew Solar- Renew Surya Ravi Ckt tripped on overvoltage. . As per SCADA, drop in NR total solar generation of approx. 3787 MW was observed.

iii. **Event at 14:09 hrs**: As reported, at 14:09 hrs, 765kV Sikar2-Aligarh ckt-2 tripped on R-Y fault. As per SCADA, drop in NR total solar generation of approx. 925 MW was observed.

Further, as reported, at 14:35 hrs, 220kV Bikaner2-Renew Dinkar ckt tripped on overvoltage.

B.7.2 List of transmission lines tripped on overvoltage with PMU data:

Sr. No.	Transmission line	Tripping time	Overvoltage as per PMU
1	765 KV Bhadla2-Fatehgarh2 ckt-3	13:38 hrs	Vph: 469 kV; 1.06pu for ~5s
2	220kV Fatehgarh3-RSAPL ckt	13:38 hrs	Vph: 137kV; 1.08pu for

			~14s
3	765 KV Bhadla2-Fatehgarh2 ckt-1	14:05 hrs	Vph: 469 kV; 1.06pu for ~5s
4	765 KV Bhadla2-Fatehgarh2 ckt-4	14:05 hrs	Vph: 470 kV; 1.06pu for ~6s
5	765kV Bikaner-Bhadla2 ckt-1	14:05 hrs	Vph: 475 kV; 1.07pu for ~5s
6	765kV Bhadla2-Ajmer ckt-1	14:05 hrs	PMU data not available
7	765kV Bhiwani-Narela ckt	14:06 hrs	PMU data not available
8	400kV Fatehgarh1-ACME Pool ckt	14:06 hrs	PMU data not available
9	400kV Bikaner(PG)-Renew Solar	14:06 hrs	Vph: 247 kV; 1.07pu for ~8s
10	400kV Renew Solar- Renew Surya Ravi Ckt	14:06 hrs	Vph: 247kV; 1.07pu for ~10s
11	220kV Bikaner2-Renew Dinkar ckt	14:35 hrs	PMU data not available

Preliminary observations:

i. DR/EL for all the tripped elements need to be shared from both the ends.
ii. Tripping of EHV lines need to be analysed as per recommended over-voltage settings and same may be reviewed if necessary.
iii. RE plants are requested to analyse LVRT/HVRT compliance and share DR of their end.

B.7.3 NRLDC representative highlighted that 220kV Fatehgarh3-RSAPL ckt and 220kV Bikaner2-Renew Dinkar ckt tripped on over-voltage during these events. However, no response received regarding tripping of 220kV Fatehgarh3-RSAPL ckt from INDIGRID.

RENEW and POWERGRID(NR-1) representatives confirmed that over-voltage tripping is not enabled in 220kV Bikaner2-Renew Dinkar Ckt. They will check the exact reason of tripping of the line and share DR within 1 week.

B.7.4 POWERGRID(NR-1) representative further informed that over-voltage settings implemented in 765kV lines was correct. However, 765kV lines which tripped during these events have old MiCOM P-444 relays as Main-I/II and during the event only this

relay operated, not the other one. Old MiCOM P-444 relays have issue with drop-off to pick-up ratio and hysteresis settings cannot be done in those relays. Hence, once these relays sensed the over-voltage momentarily, it picked up but did not get reset even if voltage came well below the settings value and 765kV lines tripped due to Old MiCOM P-444 relays operation.

B.7.5 POWERGRID(NR-1) representative also shared that over-voltage settings in these relays can be disabled and only one relay will be available for over-voltage protection in 765kV lines where these relays were installed.

B.7.6 NRLDC representative suggested POWERGRID(NR-1) to explore possibility of replacing these relays especially in 765kV lines of RE Complex at the earliest, so that these kind of events can be avoided in future.

B.7.7 NRLDC representative also highlighted that 700 MW Unit-7 at RAPP-D tripped during this event even though no other unit of RAPP-C tripped during this event. NPCIL was also requested to share the RCA of unit tripping within 1 week.

B.7.8 RAPP-D representative informed that unit-7 tripped due to tripping of turbine and loss of excitation in AVR and design logic of this unit is different from that of RAPP-C units. Unit sensed df/dt on mechanical vibration and controller is designed such that it latched turbine MW and AVR excitation sensing df/dt and reduce them gradually to zero and unit tripped as per logic design implemented. However, NPCIL design team is reviewing the logic with OEM (GE) to avoid this kind of tripping in future.

B.7.9 MS, NRPC stated that a committee may be formed under EE (P), NRPC for recommendation on drop off to pick up ratio for over voltage protection in general and particularly RE zone. Committee may look into suitability of available relay model having limitation of drop off to pick up ratio setting. Members may be taken from NRLDC, POWERGRID, and RVPN.

Decision of the Forum:

i. A committee may be formed under EE (P), NRPC for recommendation on drop off to pick up ratio for over voltage protection in general and particularly RE zone.

Committee may look into suitability of available relay model having limitation of drop off to pick up ratio setting. Members may be taken from NRLDC, POWERGRID, and RVPN.

ii. *Issue with drop-off to pick-up ratio and hysteresis settings in old MiCOM P-444 relays need to be addressed at the earliest. Possibility of replacing old MiCOM P-444 relays especially in 765kV lines of RE Complex need to be explored. (**Action: POWERGRID**)*

iii. *DR of both the ends for all 765kV lines tripped during these events need to be shared within 1 week. (Action: **POWERGRID**)*

iv. *Design logic of 700 MW Unit-7 at RAPP-D need to be reviewed to avoid tripping during RE generation loss events in future. (**Action: NPCIL**)*

v. *Over-voltage protection need to be disabled (if enabled) in 220kV Fatehgarh3-RSAPL ckt and 220kV Bikaner2-Renew Dinkar ckt. DR need to be shared within one week for both these ckts. (Action: **POWERGRID, INDIGRID, RENEW**)*

B.8 Mock testing of System Protection Schemes (SPS) in Northern Region (agenda by NRLDC)

B.8.1 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.8.2 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.8.3 There are 65 numbers of System Protection Scheme (SPS) approved in Northern Region. These SPS are implemented at major generation complexes, important evacuating transmission lines and ICTs, which are N-1 non-complaint. System Protection Scheme Document of Northern Region has been revised/updated on 31st January, 2025.

B.8.4 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.8.5 In this regard, communication has already been sent to constituents through NRLDC letter dated 01.05.2024, 21.02.2025, 05.03.2025, 04.04.2025 & 28.05.2025 and continuous follow up is being done in OCC & PSC meeting since May 2024.

B.8.6 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, NRLDC vide letter dated 04.04.2025 requested all the concerned utility to conduct the mock testing of pending SPS by the end of April 2025. However, as reported, mock testing of 03 SPS out of pending 14 SPS have been done. In this regard, discussion was also held in past PSC meetings. PSC forum requested all the members to conduct the mock testing of all the SPS in their respective control area at the earliest.

B.8.7 Status of mock testing of all the SPS in NR is attached as **Annexure-B.VIII**.

B.8.8 Status of follow-up actions w.r.t. some of the SPS are as follows:

i. **SPS of HVDC Rihand-Dadri:** During mock testing of SPS of HVDC Rihand-Dadri on 20.03.2025, issues i.e., faulty SPS hardware at Singrauli TPS (NTPC) and no receipt of SPS signal at 220/132kV Ratangarh(RS) were identified. Further, during recent operation of SPS on 21.05.2025 in incident of outage of both poles, desired SPS actions i.e., generation backdown at Singrauli TPS and

load relief in UP, Delhi, Haryana & Punjab were not observed. Desired load / generation relief is important to ensure the security and reliability of grid during such contingency. As per details received, SPS signal was sent to all the mapped stations from POWERGRID end however either due to non receipt of signal or error in SPS system at load / generation, SPS action didn't occur. NRLDC vide letter dated 02.07.2025, requested POWERGRID and Singrauli NTPC to take necessary remedial measures and make complete SPS system healthy.

During 233rd OCC meeting, POWERGRID representative stated that the equipment's at Singrauli TPS end is owned by NTPC and need to be revived by them. SPS system at Rihand(PG) is healthy and operational. NTPC representative stated that as per details received from site, NTPC Singrauli team have initiated necessary actions in coordination with the POWERGRID. SPS operation is crucial as it is planned for special contingencies, and its unavailability may lead to cascade tripping or major grid disturbance especially in case of high demand period.

In the 237th OCC meeting:

a) NRLDC requested NTPC Singrauli and POWERGRID to share the details of necessary corrective actions taken / planned to be taken to ensure healthiness of SPS system at Singrauli TPS and load stations.
b) Representative from NTPC informed that existing SPS system at Singrauli TPS is defective, procurement work has been initiated. NRLDC requested NTPC to share the tentative timeline for completion of work and to expedite the remedial actions for early restoration of SPS system at Singrauli TPS.
c) Regarding issues at load stations, POWERGRID agreed to take necessary actions in coordination with the site stations.
d) Further, NRLDC also informed that mock testing of SPS of HVDC Rihand-Dadri has been scheduled tentatively on 19.11.2025. Concerned members were requested to ensure the readiness and share the details of coordinators.

SPS mock testing of HVDC RIhand-Dadri was conducted successfully on 19.11.2025. SPS command didn't receive at 220kV Muradnagar(UP), 220kV Merta(RS), 220kV Kota Sakatpura(RS), 220kV Dhanonda(HR) and Singrauli TPS(NTPC). SPS system at Rihand HVDC, Dadri HVDC and at remaining load and generating stations are healthy.

POWERRGID, Singrauli(NTPC) and other concerned were requested to share the details of actions taken / planned to be taken to rectify the issues in HVDC Rihand-Dadri SPS system.

During 66th PSC meeting, POWERGRID(NR-1) representative informed that action is being taken and issues will be resolved by 15.02.2026. NTPC representative informed that communication card is faulty at Singrauli end and procurement is in progress; however, this issue will be resolved by Dec'26.

NRLDC representative emphasized that it is essential to make SPS healthy before peak summer season 2026.

PSC forum requested Singrauli to expedite the process for making the SPS system healthy at the earliest.

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

During 235th OCC meeting, SLDC-Rajasthan representative informed that automatic load shedding of ~750 MW has been implemented.

During 236th OCC meeting, SLDC-Rajasthan confirmed that mock testing of automatic load shedding part of the SPS has been conducted.

In the 237th OCC meeting:

a) NRLDC representative requested Rajasthan to share the mock test report of the automatic load shedding part of the SPS.
b) RVPNL agreed to share the mock test report w.r.t. automatic load shedding part of the SPS at the earliest.

Details haven't been received yet. Rajasthan was requested to share the details at the earliest possible.

iii. **SPS of N.Jhajkri, Karcham, Rampur hydro generation complex:** Status of implementation of case-6 (i) and corrective actions w.r.t case-6 (ii) need to be shared.

During 235th OCC meeting, HPPTCL representative informed that faulty communication card at Wangtoo S/s is to be replaced with new card. The case is at procurement stage, and it is estimated that work will be completed by the end of December 2025.

Karcham(JSW) through mail dated 08.12.2025 confirmed the incorporation of 400kV kala Amb-Abdullapur D/C in SPS system hence, case-6 is completely implemented now.

HPPTCL was requested to share the update w.r.t. replacement of faulty communication card at Wangtoo(HP).

HPPTCL representative informed that issue was in terminal block and the same was addressed. They also checked the communication with Karcham and now there is no requirement of changing the communication card at Wangtoo(HP).

iv. **SPS of 765kV Agra-Gwalior D/C:** Mock testing of the SPS was conducted on 10.10.2025. During the testing, it was observed that there is communication issue at Bhiwadi(PG), Bamnauli(DTL), Kota, Debari, Chittorgarh, Ratangarh, Nunamajra, Safidon, Ajitwal, Dandhari-II, Ablowal substations.

NRLDC requested all the concerned states to submit the mock test report of their respective control area. Details have been received from Delhi, Rajasthan

and Punjab. UP, BBMB, Haryana and POWERGRID have shared the partial details.

Further, POWERGRID was requested to share the details of actions taken / planned to be taken to resolve the issues in SPS system.

During 237th OCC meeting, POWERGRID was requested to take expeditious corrective actions to rectify the issues and make the SPS healthy and operational at all the stations.

NRLDC has also sent a letter dated 28.11.2025 to POWERGRID for expeditious corrective actions and make complete SPS system healthy and operational.

POWERRGID was requested to share the details of actions taken / planned to be taken to rectify the issues in 765kV Agra-Gwalior D/C SPS system.

During 66th PSC meeting, POWERGRID(NR-1) representative informed that communication issue at Bhiwadi(PG) was already addressed. Action is being taken and issues will be resolved by 15.02.2026.

Mock test report has been received from Delhi, Rajasthan and Punjab. UP, BBMB, Haryana and POWERGRID have shared the partial details.

Concerned utilities are requested to share the SPS report of your respective control area at the earliest so that final SPS mock test report can be issued timely.

In view of the above, members were requested to take following actions:

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

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

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

B.8.9 In the 60th PSC meeting, it was decided that the SPS which are not required from constraint point of view will not be disabled for keeping the assets associated with SPS healthy and will be treated as “reserve SPS”, as may be required during prolonged outages of any system element. In case of reserve SPS for transformers (where logic was based on “tripping” of transformer) logic need to be modified based on “loading” of transformer in place of “tripping” of transformer.

B.8.10 In the 64th PSC meeting, MS-NRPC suggested that assets of “reserve SPS” can be used in new SPS to be commissioned and hence they may be removed from existing SPS list. PSC forum suggested to remove the above mentioned 06 ”reserve SPS” schemes.

B.8.11 In the 238th OCC meeting, SLDC UP informed that SPS for Transformers at 400KV Sultanpur (UPPTCL) and Gorakhpur(UPPTCL) is required as loading exceeded (N-1) limit during summer of 2025, hence SPS may be kept in service. SLDC Delhi informed that SPS for Transformers at Bamnauli (DTL) may be kept in service until 315 MVA ICT is revived which currently is not in service.

During 65th PSC meeting, it was decided to disable and remove the following SPS:

i. SPS for Transformers at Ballabhgarh (PG)
ii. SPS for Transformers at 400KV Muzaffarnagar (UP)
iii. SPS for Transformers at 400KV Greater Noida (UPPTCL)

B.8.12 In the 239th OCC meeting, it was proposed that following SPS may be removed:

i. SPS for Reliable Evacuation of Ropar Generation
ii. SPS for contingency due to tripping of evacuating lines from Narora Atomic Power Station

B.8.13 PSC Forum agreed to the above proposal.

B.8.14 On the basis of inputs received from utilities during discussion in PSC meeting, updated status of SPS mock testing is attached as **Annexure-B.IX.**

B.8.15 **Implementation of SPS in POWERGRID substations in Rajasthan control area:**

SPS stage wise logic (received from Rajasthan) for SPS of ICTs at POWERGRID stations in Rajasthan control area was discussed in 64th PSC meeting. The time delay logic proposed by Rajasthan was found OK and POWERGRID was requested to start the implementation process of the SPS at designated stations.

Time delay for stage-1&2 of SPS was decided as:

Stage-1: 105% loading with 1 sec delay

Stage-2: 105% loading with 1.5 sec delay

NRLDC through mail dated 02.12.2025 requested POWERGRID to implement the SPS at designated stations i.e., 400/220kV Kankroli(PG), Bassi(PG), Neemrana(PG), Kotputli(PG), Bhiwadi(PG), Jaipur South(PG) and Sikar(PG) at the earliest possible.

POWERGRID representative informed that SPS (case-1 & 2) at designated stations i.e., 400/220kV Kankroli(PG), Bassi(PG), Neemrana(PG), Kotputli(PG), Bhiwadi(PG) and Sikar(PG) will be installed by 15.02.2026. Case 3 & 4 of 400/220kV Bassi(PG), Kotputli(PG), and Sikar(PG) will need time. SPS at Jaipur South is not required. The same was already discussed and decided in the agenda item A.XI of this meeting.

B.8.16 POWERGRID was requested to implement the SPS at 400/220kV Kankroli(PG), Bassi(PG), Neemrana(PG), Kotputli(PG), Bhiwadi(PG) and Sikar(PG) at the earliest possible in co-ordination with Rajasthan.

Decision of the Forum:

Forum requested members to conduct the mock testing of SPS in their respective control area, share the tentative schedule of mock testing of SPS and share the report after conducting mock test.

B.9 Corrective action for healthiness of 500kV Mundra-Mahindergarh SPS (agenda by NRLDC)

B.9.1 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.9.2 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.9.3 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.9.4 Load end details have been received from UP, Haryana, Punjab Rajasthan & Delhi.

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.9.5 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.9.6 During 53rd PSC meeting, ADANI was requested to coordinate with the respective states to rectify the issues in the SPS system and share the status of remedial action taken / planned to be taken. Desired remedial actions need to be expedited.

B.9.7 ADANI agreed for the same and stated that update would be given within 01 week. However, no detail received yet from ADANI.

B.9.8 During discussion in 55th PSC meeting it was decided that ADANI shall take lead in rectification work as this SPS scheme was commissioned by them. Protection nodal officers from States will provide possible necessary assistance from their end. Further, states were also requested to ensure incorporation of revised decided feeders during work at their stations. States representative assured to provide all necessary coordination from their end.

B.9.9 During 56th PSC meeting, ADANI was requested to apprise the forum about the present status of remedial actions. ADANI representative stated that they have raised service order to COMTEL (OEM) for approval. After approval of this service order, COMTEL engineers will visit all the sites in coordination with nodal officers from respective stations. It is expected that identification of issues and estimate hardware requirement will be completed by the end April 2025. Thereafter, after financial approval, rectification of issues will be done. ADANI was requested to ensure completion of whole work before summer 2025. State representatives were also requested to coordinate with the ADANI team and ensure incorporation of identified revised feeders for load relief in SPS.

B.9.10 Further, through mail dt 3rd April 2025, ADANI has informed that they awarded the rectification work service to M/s COMTEL for survey and restoration of possible elements installed at the locations and engineers from M/s COMTEL shall be visiting respective stations as per the schedule.

B.9.11 During 57th PSC meeting, ADANI representative informed that visit by COMTEL engineers at all the sites is completed and COMTEL will submit the report within 10 days.

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

B.9.13 During 58th PSC meeting, ADANI representative shared the observations made by COMTEL engineers and informed that it would at least require 6 months to complete the work.

B.9.14 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.9.15 ADANI representative further informed that cost implication in this case is estimated as approx. Rs. 1.5 Cr. Till now they conducted technical assessment and made cost estimation. They will look into the regulatory aspect of the same for finalising the action plan.

B.9.16 During 59th PSC meeting, ADANI representative informed that they are doing discussions with ULDC for allocation of necessary links between locations. They have also initiated internal approval for placing necessary orders to the partner for execution of upgradation activity. They are expecting to complete the execution within 4-5 months in collaboration with all the stakeholders from respective utilities and ULDC team. Communication from ATIL in this regard is also sent to NRLDC through letter dated 10th April 2025.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.9.17 During 60th PSC meeting, ADANI representative informed that internal approval is taken for placing the order and order will be released to vendor by end of August 2025.

They have expedited the execution of upgradation activity and now it is expected to get completed by August 2025.

B.9.18 NRLDC representative requested to share weekly progress report once the execution work starts and ADANI agreed for the same.

B.9.19 ADANI was requested to apprise the forum about identified issues at various stations, action plan and progress in rectification work.

B.9.20 During 61st PSC meeting, ADANI representative informed that order will be released by 1st week of July to the vendor for completion of work. The vendor has given 06 (six) months' timeline for completion of whole work however, we will follow up with the vendor and try to complete the whole work within 04 months.

B.9.21 NRLDC representative requested ADANI to expedite the necessary actions at their end as corrective actions has already been delayed. It was also requested to give action plan of corrective actions for smooth coordination and actions. Weekly progress and status of actions may also be shared.

B.9.22 Vide mail dt 30th July 2025, ADANI has informed that order has been placed with vendor for the procurement and development of the scheme on new devices and they also shared the timeline for the upcoming broader steps which has evolved based on discussions held with the vendor

B.9.23 During 62nd PSC meeting, ADANI confirmed the following :

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

ii) Following the FAT, the material will be shipped to various sites and installed by 30th October 2025. Concerned constituents need to ensure the material is kept in a safe and secure area till commissioning at original location.

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

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

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

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

B.9.24 NRLDC representative apprised the forum regarding update received from ADANI via mail dt 15th September 2025. ADANI has informed that Hardware is expected to be received by the partner by 20th September 2025 and FAT is expected to be carried out by 30th September 2025. The Dispatch and site activities shall be planned based on FAT punch point closures.

B.9.25 During discussion in 63rd PSC meeting, ADANI representatives were not present in the meeting. States were requested to ensure the readiness at their end. List of feeders which are not radial may be identified, and other feeders may be identified for incorporation in SPS.

B.9.26 NRLDC, through mail dated 30.10.2025, requested ADANI to share the present status and further actions plan.

B.9.27 ADANI, vide mailed dated 05.11.2025, informed the following:

i. FAT has been completed, and material has been arrived at Mahinderagrh S/s.

ii. The tentative schedule for visit at different load substations has been planned and shared.

B.9.28 Further vide mailed dated 19.11.2025, ADANI informed that the team has installed and tested the commands up to the DTPC panels from Mohindergarh for the following locations: BBMB, Charkhi Dadri, Ratangarh, Hisar-PG, Alwar, Merta, Nuna Majra and Shamli.

B.9.29 During 64th PSC meeting, ADANI representative informed that SPS for contingency due to tripping of HVDC Mundra-Mahendergarh will be made operational and healthy by Dec'25.

B.9.30 ADANI vide mailed dated 15.12.2025 informed that the scheme has been made ready and the commands have been tested between Mahindergarh and locations between

DTPCs. All the commands have been terminated to respective trip circuits of the identified feeders except Gobindgarh and Malerkotla where the same is in progress and expected to be completed within a week.

B.9.31 ADANI vide mailed dated 07.01.2026 informed that the scheme has been made ready to be taken into service and the commands have been tested between Mahindergarh and locations between DTPCs. All the commands have been terminated to respective trip circuits of the identified feeders.

B.9.32 Details are attached as **Annexure-B.X.**

Decision taken by Forum:

Forum requested to ADANI to conduct mock testing of 500kV Mundra-Mahindergarh SPS at the earliest and share the report to NRPC and NRLDC after conducting the same.

B.10 Confirmation of regarding implementation of proposed Overvoltage protection setting by committee (agenda by NRLDC)

B.10.1 A committee was formed by NRPC during 52nd PSC meeting held on 20th September 2024 to review the Overvoltage Protection settings of 400kV and 765kV transmission lines in Northern Region. This committee was formed for compliance of the recommendation given by the committee formed by CEA for analysis of Grid incident occurred on 17th June 2024. The committee reviewed the Overvoltage Protection settings of 400kV and 765kV transmission lines in Northern Region, finalized the protection settings for overvoltage protection and proposed the revised overvoltage protection settings. The proposed Overvoltage protection settings were discussed and approved in 58th Protection Sub-Committee (PSC) meeting held on 26th March 2025. The PSC Forum requested all to implement the proposed overvoltage protection settings in 400kV and 765kV transmission lines in their respective control area. Status of the revised overvoltage protection setting to be implemented is attached as Annexure-B.VIII of agenda.

B.10.2 Further, the agenda in this regard was again discussed in 230th OCC meeting and 60th, 61st, 62nd, 63rd & 64th PSC meeting. It was observed that many members are yet to confirm the implementation of revised overvoltage settings.

B.10.3 Status of confirmation received from BBMB, Rajasthan, UP, Haryana, Punjab (Partial), Delhi, NHPC, POWERGRID, Uttarakhand, HP, NUPPL, SJVN, APCPL, NTPC & INDIGRID.

B.10.4 However, status of confirmation from Punjab (Partial) and J&K are yet to be received (7 lines pending out of 683 lines).

B.10.5 The list of transmission lines whose confirmation is pending is also shown during the meeting and is attached as **Annexure-B.XI.**

B.10.6 SLDC Punjab vide mail dt 05th June 2025 informed that over-voltage settings implementation will take 3-4 months.

B.10.7 In the 61st PSC meeting, PSTCL representative stated that due to shortage of manpower in protection team, 3–4-month time is required for implementation of revised OV settings.

B.10.8 Forum suggested PSTCL to address the issue and propose to form separate protection wing so that protection related compliance and grid event analysis may be done in stipulate time frame.

B.10.9 During 62nd PSC meeting, PSTCL representative confirmed that implementation work is in progress and partially done, however work will be completed before the next PSC meeting.

B.10.10 In the 63rd PSC meeting, POWERGRID(NR-2) representative informed that revised OV setting has been implemented in almost all the lines except 10 lines. Implementation in remaining lines shall also been done at the earliest.

B.10.11 In the 64th & 65th PSC meeting, NRLDC representative requested HVUNL, PSTCL, JKPTCL, Indigrid, APCPL and NTPC to ensure expeditious implementation of proposed Overvoltage Protection settings in the remaining 400kV and 765kV transmission lines in their respective control area at the earliest and send a confirmation mail regarding this to NRPC and NRLDC.

B.10.12 APCPL Jhajjar vide mail dt 17th January 2026 confirmed over-voltage settings implementation at their end.

B.10.13 A meeting was taken by NRPC Secretariat on 23.01.2026 for implementation of pending lines, wherein utilities were asked to comply without any further delay.

B.10.14 In the 66th PSC meeting, INDIGRID, NTPC and Haryana (Generation Evacuating lines) confirmed over-voltage settings implementation at their end.

B.10.15 All members were requested to ensure the implementation of proposed overvoltage settings in their control area at the earliest to avoid any unwanted tripping. In this regard, e-mail communication was also sent dated 07.05.2025 & 03.06.2025 to all members.

B.10.16 NRLDC requested PSTCL and JKPTCL to ensure expeditious implementation of proposed Overvoltage Protection settings in the remaining 400kV and 765kV transmission lines in their respective control area at the earliest and send a confirmation mail regarding this to NRPC and NRLDC.

Decision taken by Forum

Forum requested all the members to share the confirmation regarding implementation of revised overvoltage protection setting in 400kV and 765kV transmission lines in their respective control area at the earliest and send a confirmation regarding this to NRPC and NRLDC.

B.11 Status of connected load relief quantum during operation of UFR and df/dt (agenda by NRLDC)

B.11.1 UFRs and df/dt are envisaged to take care of sudden contingencies arising out of outage of generation stations or separation of inter-regional lines. UFRs setting are for steady state operation of the Grid at considerably low frequency and df/dt settings are for dynamic change when frequency falls suddenly with jerks.

B.11.2 As per IEGC 2023 Clause 29.(13)(d),

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

B.11.3 In view of the above, NRLDC requested SLDCs to share the list of feeders mapped for UFR and df/dt along with feeder-wise planned load relief quantum. SLDCs were also requested to share details of mapped/telemetered stage-wise quantum of load relief on UFR and df/dt operation against the planned quantum.

B.11.4 In the 66th PSC meeting, PSC forum requested SLDCs to share the above data latest by 15th Feb'26.

B.11.5 Data is to be furnished in the format attached as **Annexure-B.XII.**

B.11.6 In the 64th PSC meeting, SLDC Rajasthan informed that telemetry is being done and will be completed by Dec'25. They had already taken up the matter and sent the list to SCADA. Feeder-wise mapped/telemetered data will be made available by Jan'26.

B.11.7 As per IEGC 2023 Clause 30.(1),

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

B.11.8 NRLDC stated that in view of recent events due to UFR operation, major review of UFR and df/dt settings is required to avoid unwanted tripping of feeders and load loss in states. SLDCs were requested to review UFR settings of the relays (whether frequency settings can be done upto three decimal places or not). SLDCs were also advised to look into any issue in transducer etc to avoid any unwanted tripping on UFR operation in future.

B.11.9 It was also highlighted that no time delay should be kept in UFR relay operation.

Decision taken by Forum:

Forum requested constituents to ensure the telemetry of UFR and df/dt feeders of their respective control area at the earliest. Further, UFR & df/dt relay also need to be tested to ensure its proper operation.

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

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

C.1.1 NRLDC has submitted the list of FTCs for month of **December 2025** wherein protection settings have been allowed provisionally as per NRPC procedure. The same was uploaded on NRPC website for access of members of the forum.

C.1.2 After deliberations, protection settings were approved by forum on basis of provisional acceptance granted by NRLDC. The same is attached as **Annexure-C.I.** No comments received by any members in the meeting.

Decision of the Forum:

Forum approved the settings for elements attached as Annexure-C.I.

C.2. First Time Charging of transmission Lines/Bays/Transformer/Reactor etc. by SLDCs

C.2.1 AEE (P), NRPC stated that in 63rd PSC meeting, all SLDCs were requested to share the monthly list of provisionally approved settings during FTCs given as similar to being done by NRLDC. **However, the list is not being sent to NRPC Secretariat by SLDCs except UPSLDC**.

C.2.2 UPSLDC shared the list of elements (≥220kV) charged in the month of December 2025 along with settings for which Provisional approval given for FTC from UPSLDC level. The same may be found on NRPC website: **https://nrpc.gov.in/meetings/prsub.html.**

C.2.3 After deliberations, protection settings were approved by forum for all elements except 220 kV/33 kV, 60 MVA T/F-I & 2 at 220kV GIS TRANSGANGA CITY.

C.2.4 Following points were observed in submitted settings of 220 kV/33 kV, 60 MVA T/F-I & 2 at 220kV GIS TRANSGANGA CITY

i. I2/I1 -20% while as per philosophy 10-15%.
ii. I5/I1-45% while as per philosophy 25%.
iii. REF, B/U O/C, E/F settings were not shared.

C.2.5 Accordingly, it was decided that UPSLDC may review the above observations. Forum did not approve the FTC for these two Transformers.

Decision of the Forum:

i. SLDCs were requested to send list of elements for which provisionally approved the settings (if any) in previous month along with compiled settings.

ii. Forum approved the settings of all elements for which Provisional approval given for FTC by UPSLDC ***except 220 kV/33 kV, 60 MVA T/F-I & 2 at 220kV GIS Transganga City.*** *UPSLDC may review the settings of* 220kV GIS TRANSGANGA CITY *as per Northern Region Protection Philosophy.*

*****

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66	Nedan Solar NTPC	
67	NTPC Nokhra_300MW	
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74	Renew Surya Roshni Pvt. Ltd.	
75	Renew Surya Vihan Pvt. Ltd.	
76	Renew Hans Urja Pvt Ltd.	
77	RENEW SOLAR POWER Pvt. Ltd. Bikaner	
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3	Parbati Koldam Transmission Company Limited		
4	Patran Transmission Company Ltd		
5	NRSS-XXXI(B) Transmission Ltd	SEKURA	neeraj.verma@energy-sel.com
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Annexure-P

66th Protection Sub-Committee Meeting on 28.01.2026 (11:00 AM)

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Participants joined via VC

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7	Gautam Upadhyay			
8	HJ			
9	Harshit agarwal	DGM	NTPC	
10	Lokendra Singh Ranav	Lead	IndiGrid	
11	M P SHARMA	EE	Rajasthan SLDC	
12	MEIL ANPARA			
13	PSPCL			
14	Pardeep Kumar			
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16	Punjab SLDC			
17	SEHPSLDC			
18	SLDC HARYANA			
19	Sagar		THDC	
20	Sanjeet Parmar		Nathpa Jhakri	
21	UPSLDC			
22	VINAY		Rampur Hps	
23	XEn/P&OS/		PSTCL	
24	YASHPAL_	DGM	PGCIL	
25	punjab sldc			
26	shashi saini	Sr. Mgr.	Apraava energy	

Status of action taken on decisions of 65th PSC

S.N.	Agenda No.	Agenda/ Issue	Decision of 65th PSC	Status of action Taken
1	A.5	Annual protection audit plan for FY 2026-27	Non-compliant utilities were asked to submit annual audit plan for sub-station wise audit date without any further delay.	Agenda was discussed and non-compliant utilities were asked to submit annual audit plan for sub-station wise audit date without any further delay.
2	A.6	Third-party protection audit plan	Forum directed utilities to submit audit plan. Subsequently, the audit reports along with compliance status may be submitted to NRPC Secretariat within one month of completion of audit.	Agenda was discussed and Forum directed utilities to submit audit plan.
3	A.8	Updation of protection settings database (agenda by NRPC Secretariat)	i. Utilities were requested to inform NRPC Secretariat for requirement of addition of elements in folder. Accordingly, “edit” permission shall be granted for updation of database. ii. Nomination of Nodal Officers may be expedited. Letter may be issued for reminder.	A reminder letter dated 02.02.2026 was sent to the concerned.

Status of perfomance indices reporting of December 2025 (Last date of submission 07.01.2026)							
S. No.	**Utility**		**Received Status (Yes/No)**	**Vide mail dated**	**Remarks**	**Indices less than 1 (Yes/No)**	**Reason submitted and corrective action taken**
1	PGCIL	Central Government owned Transmission Company	Y	06.01.2026	NR-1	No	NA
			Y	09.01.2026	NR-2	No	NA
			Y	06.01.2026	NR-3	No	NA
2	NTPC	Central Generating Company	Y	20.01.2026	Anta	Yes	Yes
			Y	21.01.2026	Auriya	No	NA
			Y	29.01.2026	Dadri (Thermal)	No	NA
			Y	08.01.2026	Koldam	No	NA
			Y	21.01.2026	Rihand	No	NA
			Y	22.01.2026	Singrauli	Yes	Yes
					Unchahar		
			Y	03.01.2026	Tanda	No	NA
3	BBMB		Y	08.01.2026		No	NA
4	THDC		Y	02.01.2026	Tehri	No	NA
			Y	02.01.2026	Tehri PSP	No	NA
			Y	03.01.2026	Koteshwar	No	NA
5	SJVN		Y	05.01.2026	RHPS	No	NA
			Y	02.01.2026	NJHPS	No	NA
6	NHPC		Y	02.01.2026	-	Yes	Yes
7	NPCIL		Y	03.01.2026	RAPS-A	No	NA
			Y	06.01.2026	RAPS-B	No	NA
			Y	03.01.2026	RAPS-C(5&6)	No	NA
			Y	07.01.2026	RAP -D (7 & 8)	No	NA
			Y	03.01.2026	NAPS-1&2	No	NA
8	DTL	State Transmission Utility	Y	12.01.2026		Yes	Yes
9	HVPNL		Y	05.01.2026	-	No	NA
10	RRVPNL		Y	07.01.2026	-	Yes	Yes
11	UPPTCL		Y	05.01.2026	Meerut Circle	No	NA
			Y	05.01.2026	Agra Circle	No	NA
			Y	01.01.2026	Jhansi Circle	No	NA
			Y	05.01.2026	Prayagraj Circle	Yes	Yes
			Y	05.01.2026	Gorakhpur Circle	No	NA
			Y	05.01.2026	Lucknow Circle	No	NA
12	PTCUL		Y	06.01.2026	Kumaon	No	NA
13	PSTCL		Y	07.01.2026		Yes	Yes
14	HPPTCL		Y	07.01.2026	-	Yes	Yes
15	JKPTCL	UT	Y	05.01.2026	Jammu	No	NA
		UT	Y	05.01.2026	Kashmir	No	NA
16	Chandigarh Power Distribution Ltd	RPSG Group	Y	30.12.2025	220 Kv Kishangarh	No	NA
17	IPGCL	State Generating Company	Y	02.01.2026	PPS-I	No	NA
			Y	02.01.2026	PPS-III, Bawana	No	NA
18	HPGCL		Y	09.01.2026	PTPS, Panipat	No	NA
			Y	09.01.2026	DCRTPP, Yamunanagar	No	NA
			Y	09.01.2026	RGTPP (Khedar)	No	NA
19	RRVUNL		Y	07.01.2026	KTPS	No	NA
			Y	07.01.2026	kATPP, Jhalawar	No	NA
			Y	06.01.2026	CSCTPP Chhabra	No	NA
			Y	03.01.2026	RGTPP, Ramgarh	No	NA
			Y	07.01.2026	Ctpp,Chhabra	No	NA
			Y	01.01.2026	DCCPP, Dholpur	No	NA
			Y	07.01.2026	STPS Suratgarh	No	NA
			Y	07.01.2026	SSCTPS Suratgarh	No	NA
18	UPRVUNL		Y	02.01.2026	Parichha B (220 kV)	No	NA
			Y	01.01.2026	Parichha C (400 kV)	Yes	No
			Y	02.01.2026	DTPS Anpara	No	NA
			Y	05.01.2026	Obra A & B	No	NA
			Y	05.01.2026	Obra C	No	NA
			Y	09.01.2026	Harduaganj 220 kV	No	NA
			Y	09.01.2026	Harduaganj 400 kV	No	NA
			Y	05.01.2026	Anpara-A&B	Yes	Yes
			Y	09.01.2026	Panki TPS	No	NA
			Y	09.01.2026	Jawaharpur	No	NA
	NUPPL		Y	07.01.2026	Ghatampur 765 kV	No	NA
19	UJVNL		Y	01.01.2026	Dharasu	No	NA
			Y	01.01.2026	Tiloth	No	NA
			Y	03.01.2026	Khodri	No	NA

			Y	03.01.2026	Chibro	No	NA
			Y	03.01.2026	Vyasi	No	NA
20	HPPCL		Y	03.01.2026	Kashang HEP	No	NA
			Y	03.01.2026	Sawara Kuddu	No	NA
			Y	03.01.2026	Sainj	No	NA
21	PSPCL	State Generating Company & State owned Distribution Company	Y	04.01.2026	RSD	No	NA
			Y	06.01.2026	GGSTPS, Rupnagar	No	NA
			Y	02.01.2026	GVK Power Goindwal Shahib Ltd.	No	NA
			Y	05.01.2026	GHSTPS, Lehra Mohabbat	No	NA
22	HPSEBL	Distribution company having Transmission	Y	06.01.2026	Hamirpur Circle	No	NA
			Y	03.01.2026	Shimla Circle	Yes	Yes
23	Prayagraj Power Generation Co. Ltd.		Y	01.01.2026		No	NA
24	Aravali Power Company Pvt. Ltd						
25	Apraava Energy Private Limited		Y	09.01.2026		No	NA
26	Talwandi Sabo Power Ltd.		Y	06.01.2026		No	NA
27	Nabha Power Limited		Y	01.01.2026		No	NA
28	MEIL Anpara Energy Ltd (Anpara-C)		Y	05.01.2026		No	NA
29	Rosa Power Supply Company Ltd		Y	03.01.2026		No	NA
30	Lalitpur Power Generation Company Ltd		Y	02.01.2026		No	NA
31	MEJA Urja Nigam Ltd.						
32	Adani Power Rajasthan Limited		Y	05.01.2026		No	NA
33	JSW Energy Ltd. (KWHEP)		Y	02.01.2026		No	NA
	ISTS Transmission Utilities						
34	INDIGRID						
35	ADHPL		Y	06.01.2026		No	NA
36	Adani Transmission Limited	AESL	Y	07.01.2026		No	NA
37	Bikaner Khetri Transmission Limited		Y	07.01.2026		No	NA
38	Fatehgarh Bhadla Transmission Limited		Y	07.01.2026		No	NA
	State Utilities						
	Uttar Pradesh						
39	Vishnuprayag Hydro Electric Plant (J.P.)		Y	01.01.2026		No	NA
40	Alaknanda Hydro Electric Plant (GVK)		Y	05.01.2026		No	NA
41	Khara Power House (Khara)		Y	02.01.2026		No	NA
42	WUPPTCL	MEIL	Y	03.01.2026		No	NA
43	SEUPPTCL	Resurgent Power	Y	05.01.2026		No	NA
44	GTL	**AESL**	Y	07.01.2026		No	NA
45	OCBTL	**AESL**	Y	07.01.2026		No	NA
	Rajasthan						
46	Barsingsar Plant	**NLC**					
47	Rajwest Plant	**JSW**					
48	ATSCL	**AESL**	Y	07.01.2026		No	NA
49	HPTSL	**AESL**	Y	07.01.2026		No	NA
50	STSL	**AESL**	Y	07.01.2026		No	NA
51	MTSCL	**AESL**	Y	07.01.2026		No	NA
	RE Utilities						
52	ABC Renewable Pvt. Ltd		Y	03.01.2026		No	NA
53	ACME Heeragarh powertech Pvt. Ltd	**ACME**	Y	02.01.2026		No	NA
54	ACME Phalodi	**ACME**	Y	02.01.2026		No	NA
55	ACME Deogarh	**ACME**					
56	ACME Raisar	**ACME**					
57	ACME Dhaulpur	**ACME**					
58	ACME Sikar	**ACME**	Y	02.01.2026		No	NA
59	ACME Chittorgarh Solar Energy Pvt Ltd (Ayana)	**AYANA**					
60	AHEJOL-Hybrid-1 Madhopura	ADANI GREEN	Y	08.01.2026		No	NA
61	AHEJ3L - Hybrid-2B 300MW	ADANI GREEN	Y	08.01.2026		No	NA
62	AHEJFL(AEML_250)	ADANI GREEN	Y	08.01.2026		No	NA
63	AHEJ4L(AEML-350)	ADANI GREEN	Y	08.01.2026		No	NA
64	ASEJ2PL(Hapasar 300MW) SPC11PL	ADANI GREEN	Y	08.01.2026		No	NA
65	Adani Renewable Energy (RJ) Limited Rawra 200	ADANI GREEN	Y	08.01.2026		No	NA

66	Adani Solar Energy Four Limited SECI 50	ADANI GREEN	Y	08.01.2026		No	NA
67	Adani Solar Energy Jodhpur Two Limited Merchant 50	ADANI GREEN	Y	08.01.2026		No	NA
68	ASEJ05PL (RJ200)	ADANI GREEN	Y	08.01.2026		No	NA
69	ASERJ2PL - Phalodi 150 MW	ADANI GREEN	Y	08.01.2026		No	NA
70	ASERJ01PL-Pokhran 300 MW (SB energy six)	ADANI GREEN	Y	08.01.2026		No	NA
71	AGE25L(Badi Sid)	ADANI GREEN	Y	08.01.2026		No	NA
72	Bhadla park - South block	ADANI GREEN	Y	08.01.2026		No	NA
73	AGE24L (Bhimsar)	ADANI GREEN	Y	08.01.2026		No	NA
74	AHEJ2L - Hybrid-2A 300MW	ADANI GREEN	Y	08.01.2026		No	NA
75	ASERJ2PL - Devikot 180 MW	ADANI GREEN	Y	08.01.2026		No	NA
76	ASEJOPL-Hybrid 450 MW	ADANI GREEN	Y	08.01.2026		Yes	Yes
77	Altra Xergi Pvt. Ltd.		Y	01.01.2026		No	NA
78	AMP Energy Green Four Pvt. Ltd.	AMPIN ENERGY					
79	AMP Energy Green Five Pvt. Ltd.	AMPIN ENERGY					
80	AMP Energy Green Six Pvt. Ltd.	AMPIN ENERGY					
81	Amplus Ages Private Limited	GENTARI	Y	02.01.2026		No	NA
82	Avaada RJHN_240MW	AVAADA	Y	05.01.2026		No	NA
83	Avaada sunce energy Pvt limited		Y	05.01.2026		No	NA
84	Avaada Sunrays Pvt. Ltd.		Y	05.01.2026		No	NA
85	Avaada Sustainable RJ Pvt. Ltd.		Y	05.01.2026		No	NA
86	Ayana Renewable Power Three Private Limited						
87	Ayaana Renewable Power One Pvt. Ltd.						
88	Azure Power Forty One Pvt limited						
89	Azure Power Forty Three Pvt. Ltd._RSS						
90	Azure Maple Pvt. Ltd.						
91	AZURE POWER INDIA Pvt. Ltd., Bhadla						
92	Azure Power Thirty Four Pvt. Ltd.						
93	Clean Solar Power (Jodhpur) Pvt. Ltd.	Hero Future Energies	Y	01.01.2026		No	NA
94	Eden Renewable Cite Private Limited						
95	Grian Energy private limited	GENTARI	Y	02.01.2026		No	NA
96	Mahindra Renewable Private Limited						
97	Mega Surya Urja Pvt. Ltd. (MSUPL)						
98	AURAIYA Solar						
99	DADRI SOLAR						
100	SINGRAULI SOLAR						
101	Anta Solar						
102	Unchahar Solar						
103	NTPC Devikot Solar plant-1	NGEL	Y	05.02.2026		No	NA
104	NTPC Devikot Solar plant-2		Y	05.02.2026		No	NA
105	SKB NTPC -1 (250MW)	NGEL	Y	05.02.2026		No	NA
106	SKB NTPC-2 (300MW)		Y	05.02.2026		No	NA
107	NTPC Nokhra_300MW		Y	05.02.2026		Yes	No
108	NTPC Fatehgarh 296MW		Y	05.02.2026		No	NA
109	One Volt energy Pvt. Ltd.	GENTARI	Y	02.01.2026		No	NA
110	ReNew Solar Urja Private Limited	IndiGrid					
111	ReNew Solar Energy (Jharkhand Three) Private Limited		Y	06.01.2026		No	NA
112	Neemba Renew Surya Vihan Pvt. Ltd.		Y	06.01.2026		No	NA
113	Renew Sun Bright Pvt. Ltd. (RSBPL)		Y	06.01.2026		No	NA
114	Renew Surya Partap Pvt. Ltd.		Y	06.01.2026		No	NA
115	Renew Surya jyoti Pvt. Ltd.	ReNew	Y	06.01.2026		No	NA
116	Renew Surya Ravi Pvt. Ltd.		Y	06.01.2026		No	NA
117	Renew Surya Roshni Pvt. Ltd.		Y	06.01.2026		No	NA
118	Renew Surya Vihan Pvt. Ltd.		Y	06.01.2026		No	NA
119	Renew Solar Photovoltaic Pvt Ltd		Y	06.01.2026		No	NA
120	Renew Hans Urja Pvt Ltd.		Y	06.01.2026		No	NA
121	RENEW SOLAR POWER Pvt. Ltd. Bikaner		Y	06.01.2026		No	NA
122	Renew Surya Ayaan Pvt. Ltd.	IndiGrid					
123	Rising Sun Energy-K Pvt. Ltd.						

124	Serentica Renewables India 4 & 5 Private Limited	Serentica	Y	04.01.2026		No	NA
125	Khidrat Renewable energy Pvt ltd.		Y	07.01.2026		No	NA
126	Solzen Urja Private Limited	Sekura	Y	09.01.2026		No	NA
127	Tata Power Green Energy Ltd. (TPGEL)	TATA POWER	Y	02.01.2026		No	NA
128	Tata Power Renewable Energy Ltd. (TPREL)		Y	02.01.2026		No	NA
129	Banderwala Solar Plant TP Surya Ltd.		Y	02.01.2026		No	NA
130	Thar Surya Pvt. Ltd.						
131	TRANSITION ENERGY SERVICES PRIVATE LIMITED						
132	Transition Green Energy Private Limited						
133	Transition Sustainable Energy Services Private Limited						
134	GSPL_BHDL2 (Gorbea Solar Pvt Ltd)	Zelestra	Y	09.01.2026		No	NA
135	Prerak Greentech Private Limited		Y	23.01.2026		No	NA

AGEL - NR- Performance Indices for the period Dec- 2025

क्र. सं. /S.NO.	एलमेन्ट नाम/ ELEMENT NAME	ELEMENT TYPE	Voltage Level	ट्रिपिंग की तारीख/ TRIPPING DATE	ट्रिपिंग का समय/ TRIPPING TIME	Sending End				Index			रिएमार्क्स /REMARKS (Sending End)	Action Plan for Corrective Measures
						Trippings in order as per protection operation (Nc)	No.of Unwarranted Operations (Nu)	No.of failed operations (Nf)	Ni = No. of Incorrect Operations = Nf + Nu	Security Index [S=Nc/ (Nc+Nu)]	Dependability Index [D=Nc/ (Nc+Nf)]	Reliability Index [R=Nc/ (Nc+Ni)]		
2	AHEJOL-Hybrid-1 Madhopura	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
4	AHEJ3L - Hybrid-2B 300MW	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
5	AHEJFL(AEML 250)	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
6	AHEJ4L(AEML-350)	ICT-2	220kV	18.12.2025	18:53	1	0	0	0	1	1	1	Differential Protection operated due to OG feeder cable end termination failure	End Termination replaced and after necessary testing Trafo Charged
7	ASEJ2PL(Hapasar 300MW) SPC11PL	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
8	Adani Renewable Energy (RJ) Limited Bawra 200	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
9	Adani Solar Energy Four Limited SEC1 50	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
10	Adani Solar Energy Jodhpur Two Limited Merchant 50	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
11	ASEJ05PL (RJ200)	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
13	ASERJ3PL - Phalodi 150 MW	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
14	ASERJ01PL-Pokhran 300 MW (SB energy six)	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
15	AGEJ5L(Badi Sidi)	No Tripping	400kV			0	0	0	0	NA	NA	NA	NA	NA
16	Bhadla park - South block	ICT-2	220kV	27.12.2025	11:07	1	0	0	0	1	1	1	Differential Protection operated due to OG feeder cable end termination failure	Cable End termination replaced and after necessary testing ,Trafo Charged
17	AGEJ4L (Bhinsar)	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
18	AHEJ2L - Hybrid-2A 300MW	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
19	ASERJ2PL - Devikot 180 MW	No Tripping	220kV			0	0	0	0	NA	NA	NA	NA	NA
20	ASEJOPL-Hybrid 450 MW	ICT-1	220kV	18.12.2025	7:54	0	1	0	1	0	NA	0	Relay contact shorted leads to Trafo Tripping	Spare BCI configured and trafo Charged
21	ASEJOPL-Hybrid 450 MW	ICT-1	220kV	28.12.2025	12:08	0	1	0	1	0	NA	0	Relay internal trip function block acted only without any trip function	Relay operation observed suspected , Relay replaced and transformer charged.

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	BTPS ANPARA	Anpara Sarnath CKT 2	17.12.25/ 15:31:47	U	Anpara Sarnath Ckt 2 tripped at Anpara end only due to non operation of auto reclose at Anpara end.	Autorecloser circuit was checked and made it corrected.
2	BTPS ANPARA	Anpara Sarnath CKT 2	17.12.25/ 23:27:24	U	Anpara Sarnath Ckt 2 tripped at Anpara end only due to non operation of auto reclose at Anpara end.	Autorecloser circuit was checked and made it corrected.
3	BTPS ANPARA	Anpara Sarnath CKT 2	18.12.25/ 02:11:13	U	Anpara Sarnath Ckt 2 tripped at Anpara end only due to non operation of auto reclose at Anpara end.	Autorecloser circuit was checked and made it corrected.

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

Month: December 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)/ Remarks
1	400kV Bawana	400kV Mundka Ckt-2	1	0	0	0	1	1	1	
2	400kV Bamnauli	220kV Pappankalan Ckt-1	1	0	0	0	1	1	1	
3	400kV Mundka	400kV Jhatikara Ckt-1	2	0	0	0	1	1	1	
		400kV Jhatikara Ckt-2	1	0	0	0	1	1	1	
		400kV Bawana Ckt-2	2	0	0	0	1	1	1	
		220kV Peergarhi Ckt-1	1	0	0	0	1	1	1	
4	220kV South of Wazirabad	220kV Mandola Ckt-1	1	0	0	0	1	1	1	
		220kV Mandola Ckt-2	2	0	0	0	1	1	1	
		220kV Mandola Ckt-3	1	0	0	0	1	1	1	
		160MVA Transformer-2 (220/66kV)	1	0	0	0	1	1	1	
		All 66kV Incomers	1	0	0	0	1	1	1	
5	220kV BTPS	220kV Ballabgarh Ckt-2	4	0	0	0	1	1	1	
		220kV Alwar Ckt-1	2	0	0	0	1	1	1	
6	220kV Gopalpur	220kV Mandola Ckt-1	3	0	0	0	1	1	1	
		160MVA Transformer-4 (220/66kV)	1	0	0	0	1	1	1	
7	220kV Tuglakabad	220kV Mehrauli Ckt-1	1	0	0	0	1	1	1	
		220kV Okhla Ckt-1	1	0	0	0	1	1	1	
8	220kV Geeta Colony	220kV South of Wazirabad Ckt-1	2	0	0	0	1	1	1	
		220kV South of Wazirabad Ckt-2	4	0	0	0	1	1	1	
9	220kV IP	220kV Patparganj Ckt-1	5	0	0	0	1	1	1	
		220kV Patparganj Ckt-2	2	0	0	0	1	1	1	
10	220kV Kanjhawala	220kV Mundka Ckt	1	0	0	0	1	1	1	
		220kV Najafagarh Ckt	1	0	0	0	1	1	1	
11	220kV Kashmere Gate	220kV South of Wazirabad Ckt-1	1	0	0	0	1	1	1	
		220kV South of Wazirabad Ckt-2	1	0	0	0	1	1	1	
12	220kV Lodhi Road	220kV Maharani Bagh Ckt-2	1	0	0	0	1	1	1	
13	220kV Maharani Bagh	220kV Lodhi Road Ckt-1	1	0	0	0	1	1	1	
		220kV Lodhi Road 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)/ Remarks
14	220kV Mehrauli	220kV Tuglakabad Ckt-1	3	0	0	0	1	1	1	
		220kV Tuglakabad Ckt-2	3	0	0	0	1	1	1	
15	220kV Najafgarh	220kV Kanjhawala Ckt	1	0	0	0	1	1	1	
		220kV Bamnauli Ckt-1	1	0	0	0	1	1	1	
16	220kV Narela	220kV DSIIDC Bawana Ckt-2	1	0	0	0	1	1	1	
17	220kV Patparganj	220kV Geeta Colony Ckt-1	2	0	0	0	1	1	1	
		220kV Geeta Colony Ckt-1	1	0	0	0	1	1	1	
		220kV Preet Vihar Ckt-1	1	0	0	0	1	1	1	
		220kV Preet Vihar Ckt-1	1	0	0	0	1	1	1	
		220kV IP Ckt-1	1	0	0	0	1	1	1	
		220kV Gazipur Ckt	2	0	0	0	1	1	1	
18	220kV Pappankalan-I	100MVA Transformer-2 (220/66kV)	1	0	0	0	1	1	1	
19	220kV Rajghat	220kV IP Ckt-1	2	0	0	0	1	1	1	
		220kV IP Ckt-2	2	0	0	0	1	1	1	
		100MVA Transformer-1 (220/33kV)	1	0	0	0	1	1	1	
20	220kV Ridge Valley	220kV Naraina Ckt	1	0	0	0	1	1	1	
		220kV Bus Coupler	1	0	0	0	1	1	1	
21	220kV Rohini-I	220kV Bawana Ckt-2	1	0	0	0	1	1	1	
		220kV Shalimar Bagh Ckt-2	1	0	0	0	1	1	1	
22	220kV Sarita Vihar	220kV BTPS Ckt-1	0	0	1	1	0	0	0	Tripping occurred due to tracking on the base of 86 relay. The relay has been repaired.
		220kV BTPS Ckt-2	2	0	0	0	1	1	1	
		220kV Maharani Bagh Ckt	2	0	0	0	1	1	1	
23	220kV SGTN	220kV Shalimar Bagh Ckt-2	1	0	0	0	1	1	1	
24	220kV Timarpur	220kV Kashmere Gate Ckt-1	1	0	0	0	1	1	1	
		220kV Kashmere Gate Ckt-2	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

H.P. POWER TRANSMISSION CORPORATION LIMITED

(A State Government Undertaking)

Regd. Office: Himfed Bhawan, Panjari, Tutikandi, Shimla-171005

DGM (Protection & Communication), Chowki Jamwalan, Hamirpur (H.P.)-177020

Email: dgmprot.tcl@hpmail.in; Web: www.hpptcl.com

No: HPPTCL/DGM (P&C)/NRPC/2025-26- 321-323 **Dated:-** 07/01/2026

To

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

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

Sir,

Enclosed please find herewith the detailed performance indices of protection system of HPPTCL for elements connected at 220 kV and above voltage level for the month of December, 2025 for your reference please.

DA: As above

Yours faithfully,

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

Copy to:

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

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

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

Sr. No.	Name of Sub-Station	Unit (SPS/Line/ICT/GT/ etc.)	Nc	Nf	Nu	Nl=Nf +Nu	Dependability Index (D) D= Nc/Nc+Nf	Security Index (S) S=Nc/Nc+ Nu	Reallability Index (R) R=Nc/Nc+ Nl	Brief Description of Tripping	Corrective Action
1	400/220/66 KV Wangtoo Substation	400 kV Wangtoo - karcham Ckt I	-	-	-	-	-	-	-	Nil	
		400 kV Wangtoo - karcham Ckt II	-	-	-	-	-	-	-		
		400 kV Wangtoo - kala Amb Ckt	-	-	-	-	-	-	-		
		400 kV Wangtoo - Sorang Ckt	-	-	-	-	-	-	-		
		ICT I (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		ICT II (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		220 kV Wangtoo - Bhaba Ckt.	-	-	-	-	-	-	-		
		220 kV Wangtoo - Kashang Ckt	-	-	-	-	-	-	-		
		220 kV Wangtoo-Kotla ckt.	-	-	-	-	-	-	-		
		220 kV Wangtoo-Bhoktoo	-	-	-	-	-	-	-		
		Trafo I (80/100 MVA, 220/66/33 kV)	-	-	-	-	-	-	-		
		Trafo II (80/100 MVA, 220/66/33 kV)	-	-	-	-	-	-	-		
2	400/220/33kV GIS Lahal, Distt Chamba	400 kV Lahal Rajera ckt.	-	-	-	-	-	-	-	Nil	
		400 kV Lahal Kutehar ckt.	-	-	-	-	-	-	-		
		ICT -I (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		ICT -2 (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-		
		105 MVA Spare Transformer (400/220/33 kV)	-	-	-	-	-	-	-		
		220 kV Lahal -Budhil Ckt. 1	-	-	-	-	-	-	-		
		220 kV Lahal - Bajoli Holi Ckt.	-	-	-	-	-	-	-		
		220 kV Lahal - Heiling Ckt.	-	-	-	-	-	-	-		
		220/33 kV Transformer	-	-	-	-	-	-	-		
3	400/220/66kV GIS S/Stn GUMMA	ICT-I (315 MVA, 400/220/33 kV)	-	-	-	-	-	-	-	Nil	
		ICT-2 (315 MVA, 400/220/33 kV)	1	0	0	0	1	1	1	ICT- 2 got tripped due to buchholz realy operation,While working on Spare Phase.	During the Buchholz operation of the spare phase (earlier B-phase), the tripping was initiated to the ICT bank; however, as per the scheme/drawing, this tripping is correct. Corrective action has been taken.
		400kV Bus-1	-	-	-	-	-	-	-	Nil	
		400kV Bus-2	-	-	-	-	-	-	-		
		400kV Gumma-Panchkula Ckt-I	-	-	-	-	-	-	-		
		400kV Gumma-Panchkula Ckt-II	-	-	-	-	-	-	-		
		400kV Gumma-Jhakri Ckt-I	-	-	-	-	-	-	-		
		400kV Gumma-Jhakri Ckt-II	-	-	-	-	-	-	-		
		220kV Gumma-Hatkoti Ckt-I	-	-	-	-	-	-	-		
		220kV Gumma-Hatkoti Ckt-II	-	-	-	-	-	-	-		
4	220kV Switching S/Stn Hatkoti	220kV Hatkoti-Gumma Ckt-I	-	-	-	-	-	-	-	Nil	
		220kV Hatkoti-Gumma Ckt-II	-	-	-	-	-	-	-		
		220kV Hatkoti-Natwar Mori Ckt-I	-	-	-	-	-	-	-		
		220kV Hatkoti-Snail Ckt	-	-	-	-	-	-	-		
		220kV Hatkoti-Sunda Ckt-I	-	-	-	-	-	-	-		
		220kV Hatkoti-Sunda Ckt-II	-	-	-	-	-	-	-		
5	220/132/66 kV, GIS Substation Sunda	220 kV Sunda-Hatkoti Ckt-1	-	-	-	-	-	-	-	Nil	
		220 kV Sunda-Hatkoti Ckt-2	-	-	-	-	-	-	-		
		220/132 kV, ICT-1	-	-	-	-	-	-	-		
		220/132 kV, ICT-2	-	-	-	-	-	-	-		
		220/66 kV Transformer.	-	-	-	-	-	-	-		

Assistant Engineer (E)
O/o DGM (Prot. Comm.)

6	220/33 kV GIS S/Stn. Phozal	220 kV Phojal to Nalagarh(Bay 205)	-	-	-	-	-	-	-	Nil	
		220 kV Phojal to ADHPL(Bay 201)	-	-	-	-	-	-	-		
		220/33kV, 80/100 MVA Transformer Bank	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**Tranformer tripped due to Differential & LV REF relay operation. (LV side B-phase cable straight joint kit punctured)**	**Issue resolved straight joint kit repaired**
7	220/132/33kV Charor Substation	ICT - 220/132 kV Transformer	-	-	-	-	-	-	-	Nil	
		220/33 kV Power Transformer	-	-	-	-	-	-	-		
		220 kV Charor-Banala Ckt-1	-	-	-	-	-	-	-		
		220 kV Charor-Banala Ckt-2	-	-	-	-	-	-	-		
8	220/33 kV GIS S/Stn. Karian	220 KV Karian - Rajera Transmission Line	-	-	-	-	-	-	-	Nil	
		220 kV Karian-Mazra Ckt.	-	-	-	-	-	-	-		
		220/33 kV Power Transformer	-	-	-	-	-	-	-		
9	220/132 kV GIS S/Stn. Mazra	220/132/33 kV, 80/100 MVA ICT-1	-	-	-	-	-	-	-	Nil	
		220/132/33 kV, 80/100 MVA ICT-2	-	-	-	-	-	-	-		
		220 kV Mazra - Rajera Ckt.	-	-	-	-	-	-	-		
		220 kV Mazra-Karian Ckt.	-	-	-	-	-	-	-		
10	220/132 kV GIS S/stn. Dehan	220 kV Dehan-Tikkar Ckt. 1	-	-	-	-	-	-	-	Nil	
		220 kV Dehan- Tikkar Ckt. 2	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**Line tripped due to 86 LO relay malfunction during BCU restart/database update.**	**Issue resolved**
		220/132/33 kV, 60/80/100 MVA ICT-1	-	-	-	-	-	-	-	Nil	
		220/132/33 kV, 60/80/100 MVA ICT-2	-	-	-	-	-	-	-		
11	220/66/22 kV GIS S/stn. Bhoktoo	220/66 kV, 25/31.5 MVA Transformer	-	-	-	-	-	-	-	Nil	
		220 kV Bhoktoo-Kashang-Ckt.	-	-	-	-	-	-	-		
		220 kV Bhoktoo-Wangtoo Ckt.	-	-	-	-	-	-	-		
12	220/132/33 kV AIS S/stn. Kala Amb	220 kV Andheri-PKATL Ckt.1	-	-	-	-	-	-	-	Nil	
		220 kV Andheri-PKATL Ckt.2	-	-	-	-	-	-	-		
		3x53.33/66.66 MVA (223/132/33 kV Auto Transformer	-	-	-	-	-	-	-		
13	220/66 kV GIS S/stn. Heiling	220/66 kV, 80/100 MVA Transformer	-	-	-	-	-	-	-	Nil	
		220 kV Heiling-Holi Ckt.	-	-	-	-	-	-	-		
		220 kV Heiling-Lahal Ckt.	-	-	-	-	-	-	-		

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

Performance Indices for the Month of Dec'25

Sl. No.	Name of Utility	Name of PS	Elements (Line/ Unit)	From		To		Total Outage	Outage Reason	Nc	Nf	Nu	Ni	Dependability Index (D=Nc/(Nc+Nf))	Security Index (S=Nc/(Nc+Nu))	Reliability Index (R=Nc/(Nc+Ni))	Reason for wrong operation	Action Taken
1	NHPC Ltd	Chamera-II	400 KV Chamera-II-Kishenpur Line#1	06-Dec-25	17:55	06-Dec-25	19:49	01:54	Distance Protection relay operated in Z1 at R-Y Phase fault	1	0	0	0	1	1	1	NA	NA
2	NHPC Ltd	Tanakpur	220 KV Tanakpur-CB Ganj Line#1	08-Dec-25	15:59	08-Dec-25	18:10	02:11	Line tripped on operation of DPR in Z2 at B-N phase fault.	1	0	0	0	1	1	1	NA	NA
3	NHPC Ltd	Uri-I	40 KV Uri-I-Amargarh Line#1	21-Dec-25	00:46	21-Dec-25	02:48	02:02	Line#1 tripped on operation of Direct Trip Signal from the remote end.	1	0	0	0	1	1	1	NA	NA
4	NHPC Ltd	Bairasiul	220 KV Bairasiul-Pong Line#1	24-Dec-25	16:18	--	--	--	No tripping from Bairasiul end	--	--	--	--	--	--	--	No tripping from Bairasiul end	No tripping from Bairasiul end
5	NHPC Ltd	Salal	220 KV Salal-Kishenpur Line#5	24-Dec-25	05:48	24-Dec-25	13:20	07:32	Salal-Kishanpur Line#5 tripped on operation of Z4 protection	1	0	1	1	1	0.5	0.5	Due to the sudden loss of the Bus–A isolator feedback contact, the distance protection relay operated in operation of Z4 protection.	Isolator Feedback status was rectified.

01.01.26
SM(E)

Performance Indices of Anta Gas Power Station for Dec-2025

Index. No.	Number of correct operations at internal power system faults(Nc)	Number of failures to operate at internal power system faults(Nf)	The Dependability Index(D=Nc/(Nc+Nf)	Remark
1	8	0	1	

Index. No.	Number of correct operations at internal power system faults(Nc)	Number of unwanted operations (Nu)	The Security Index(S=Nc/(Nc+Nu)	
2	8	1	0.888888889	Maloperation of the relay M1 of the line bhilwara-2 ,we have tested the relay and associated circuit and bay equipments Now system is working ok

Index. No.	Number of correct operations at internal power system faults(Nc)	Number of incorrect operations (Ni=NF+Nu)	The Reliability Index (R=Nc/(Nc+Ni)
3	8	1	0.888888889

Annexure-X

FormatNo.-PI-01

Reporting of performance indices for protection system

(for elements connected at 220 kV and above)

Name of

NTPC SINGRAULI: DEC 2025

S.N.	Sub-station	Unit(SPS/Line/ ICT/GT/etc)	N c	N f	N u	Ni	Dependability index (D)	Securityl ndex(S)	ReliabilityIndex (R)
1	STAGE-1 400KV SWITCHYARD	Allahabad line-01 and Allahabad line-02 tripping	1	0	1	1	1	1	1
2	STAGE-1 400KV SWITCHYARD		0	0	0	0	1	1	1

1: -On 27th Dec 2025 at 07:26 Hrs Allahabad line-01 got tripped on Bucholz Operation of Reactor. It was maloperation of Bucholz contact. available at
2:-On 12th Dec 2025 at 03:36 Hrs, Line tripped on unsuccessful A/R operation.

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.

The Dependability Index defined as D = Nc / Nc+Nf
The Security Index defined as S = Nc / Nc+Nu
The Reliability Index defined as R = Nc / Nc+Ni

गौतम उपाध्याय/GAUTAM UPADHYAY
उप महाप्रबन्धक (ई.एम.डी.)/DGM (EMD)
एनटीपीसी सिंगरौली / NTPC Singrauli
पो० शक्तिनगर, जिला-सोनभद्र (उ०प्र०) 231222
P.O. Shaktinagar, Sonebhadra (U.P.) 231222

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	400KV PARICHHA	400KV PARICHHA-ORAI CIRCUIT 1	12/28/2025 1:47	U	During a single-phase transient fault, Auto reclose lockout shot recorded at Parichha end because of continuously persisting COS (carrier out of service) alarm.	UPPTCL Microwave division need to address the issue of healthy carrier feedback signal to relay panel originating from teleprotection panel (DTPC) .We are writing to concrned division for early rectification.

Tripping Details

Punjab State Transmission Corporation Limited

December-2025

S.N.	Sub-Station	Unit (SPS/Line/ICT/GT/etc.)	Date on which Power System Fault occurred	Local End Indications	Remote End Indications	Reason & Remedial Action	Nc	Nf	Nu	Ni	Dependability Index (D)	Security Index (S)	Reliabilty Index (R)
1	400 kV S/S Dhuri	400 kV Dhuri-Talwandi ckt.II	09.12.2025 at 10:06(A/R)	Zone-I, B-ph, Fault Distance-64.8 km (A/R optd.)			1	0	0	0	1	1	1
		400 kV Dhuri-Talwandi ckt.I	17.12.2025 at 06.59 Hrs (A/R)	Zone-I, Y-ph, Fault Distance-31.4 km(A/R optd.)			1	0	0	0	1	1	1
		400 kV Dhuri-Talwandi ckt.I	17.12.2025 at 07.12 Hrs (A/R)	Zone-I, B-ph, Fault Distance-26.4 km (A/R optd.)			1	0	0	0	1	1	1
		400 kV Dhuri-Talwandi ckt.I	17.12.2025 at 07.15 Hrs (A/R)	Zone-I, B-ph, Fault Distance-22.3 km(A/R optd.)			1	0	0	0	1	1	1
		400 kV Dhuri-Talwandi ckt.I	17.12.2025 at 07.18 Hrs (A/R)	Zone-I, Y-ph, Fault Distance-20.5 km(A/R optd.)			1	0	0	0	1	1	1
		400 kV Dhuri-Talwandi ckt.I	17.12.2025 at 07.28 Hrs	Zone-I, Y-ph, Fault Distance-20.3 km	Zone-I, B-ph, Fault Distance-62.74 km	Change Y phase string with healthy one at tower no 187	1	0	0	0	1	1	1
		220 KV Dhuri(400)-Chajjli ckt-1	17-12-2025 at 07.29 Hrs	Zone-I, R-ph, Fault Distance-23.1 km	Zone-I, Fault Distance-14.3 km	Change R phase string with healthy one at tower no 79	1	0	0	0	1	1	1
		220 KV Dhuri(400)-Chajjli ckt-2	18-12-2025 at 02.59 Hrs	Zone-I, B-ph, Fault Distance-31.6 km	Zone-I, B-ph, Fault Distance-12.5 km	Change B phase string with healthy one at tower no 99A	1	0	0	0	1	1	1
		220 KV Dhuri(400)-Sunam ckt-1	18-12-2025 at 05.18 Hrs	Zone-I, Y-ph, Fault Distance-13.1 km	Zone-I, Y-ph, Fault Distance-17.59 km	Change Y phase string with healthy one at tower no 46/2	1	0	0	0	1	1	1
		220 KV Dhuri(400)-Dhuri ckt-1	21-12-2025 at 02.17 Hrs	Zone-I, R-ph (A/R optd.)			1	0	0	0	1	1	1
2	400 kV S/S Nakodar	400 kV Nakodar-Talwandi ckt.	17-12-2025 at 07.01 Hrs	Zone-I, R-ph, Fault Distance-39.1 km	R-ph, Fault Distance-142.2 km		1	0	0	0	1	1	1
3	400 kV S/S Rajpura	400 kV Rajpura-Lalru ckt.II	17-12-2025 at 05.24 Hrs	Zone-I, R-ph, Fault Distance-16.11 km	Zone-I, R-ph, Fault Distance-13.18 km		1	0	0	0	1	1	1
4	400 kV S/S Ropar	400 kV Ropar-Ludhiana(PG) ckt.	0612-2025 at 00.12 Hrs	Zone-I, B-ph, Fault Distance-8 km	Zone-I, B-ph, Fault Distance-87 km		1	0	0	0	1	1	1
5	400 kV S/S Muktsar	400 kV Muktsar-Talwandi ckt.I	05-12-2025 at 00.55 Hrs	Zone-I, R-ph, Fault distance-48.6km (A/R optd.)	Zone-I, R-ph, Fault distance-34.41 km		1	0	0	0	1	1	1
		400 kV Muktsar-Makhu ckt.I	14.12.2025 at 06:28	Phase-L2-E, FC- 6.18kA, Distance-25.3km	Master operated 86.1, L2-E ,FC-4.99kA, Distance- 63KM ,Zone-1		1	0	0	0	1	1	1
		400 kV Muktsar-Talwandi ckt.I	14.12.2025 at 06:28	No indications	Not tripped	Due to Issue in Main CB, Line was charged from Tie CB. Tie CB tripped with fault of Makhu ckt.I	0	0	1	1	0	0	0
		400 kV Muktsar-Makhu ckt.II	14.12.2025 at 11:46	Phase-L2-E, FC- 3.44kA, Distance-77.2km	No indications	unwanted tripping because Main II(ABB) relay went into default mode	0	0	1	1	0	0	0
		400 kV Muktsar-Makhu ckt.I	16.12.2025 at 04:07	Phase-L1-E, FC- 3.6kA, Distance-65.4km	Master operated 86.1, L1-E ,FC-8.15kA, Distance- 23.4KM ,Zone-1		1	0	0	0	1	1	1
		400 kV Muktsar-Talwandi ckt.I	16.12.2025 at 04:07	No indications	Not tripped	Due to Issue in Main CB, Line was charged from Tie CB. Tie CB tripped with fault of Makhu ckt.I	0	0	1	1	0	0	0
		220 kV Muktsar(400)-Sandhwan ckt.	16.12.2025 at 04.56	Zone-I, Y-ph, Fault Distance-9.1 km			1	0	0	0	1	1	1
		220 kV Muktsar(400)-Sandhwan ckt.	16.12.2025 at 11.21	Zone-I, Y-ph, Fault Distance-10.2 km	CB not closed from Sandhwan end	Y Phase String damaged at Tower no. 35	1	0	0	0	1	1	1
		400 kV Muktsar-Makhu ckt.II	16.12.2025 at 06:41	Phase-L1-E, FC- 4.1kA, Distance-71.9km	Not tripped	unwanted tripping because Main II(ABB) relay went into default mode, now problem set right(proper setting file uploaded in relay)	0	0	1	1	0	0	0
		400 kV Muktsar-Makhu ckt.I	23.12.2025 at 03:37	Phase-L3-E, FC- 3.67kA, Distance-68.7km	Master operated 86.1, L3-E ,FC-8.98kA, Distance- 22.1KM ,Zone-1		1	0	0	0	1	1	1
		400 kV Muktsar-Talwandi ckt.I	23.12.2025 at 03:37	No indications	Not tripped	Due to Issue in Main CB, Line was charged from Tie CB. Tie CB tripped with fault of Makhu ckt.I	0	0	1	1	0	0	0
6	400 KV S/S Makhu	400kv Makhu Muktsar Ckt-1	14.12.2025 at 06:28	Master operated 86.1, L2-E ,FC-4.99kA, Distance- 63KM ,Zone-1	Phase-L2-E, FC- 6.18kA, Distance-25.3km	Y-phase insulator Disc strings flashed on Tower No.70	1	0	0	0	1	1	1
		400kv Makhu Muktsar Ckt-2	14.12.2025 at 11:46	No indications	Phase-L2-E, FC- 3.44kA, Distance-77.2km	unwanted tripping because Main II(ABB) relay went into default mode at muktsar end	1	0	0	0	1	1	1
		400kv Makhu Muktsar Ckt-1	16.12.2025 at 04:07	Master operated 86.1, L1-E ,FC-8.15kA, Distance- 23.4KM ,Zone-1	Phase-L1-E, FC- 3.6kA, Distance-65.4km	R-phase insulator Disc strings flashed on Tower No.201	1	0	0	0	1	1	1
		400kv Makhu Amritsar Ckt-1	16.12.2025 at 06:41	Master operated 86.1, L1-E ,FC-8.49kA, Distance- 42.7KM ,Zone-1	Phase-L1-E, FC- 6.41kA, Distance-41.2km	R-phase insulator Disc strings flashed on Tower No.61	1	0	0	0	1	1	1
		400kv Makhu Muktsar Ckt-2	16.12.2025 at 06:41	Not tripped	Phase-L1-E, FC- 4.1kA, Distance-71.9km	unwanted tripping because Main II(ABB) relay went into default mode at Muktsar end	1	0	0	0	1	1	1
		400kv Makhu Amritsar Ckt-1	17.12.2025 at 05:01	Master operated 86.1, L1-E ,FC-9.78kA, Distance- 27.7KM ,Zone-1	Phase-L1-E, FC- 6.2kA, Distance-36.4km	R-phase insulator Disc strings flashed on Tower No.73	1	0	0	0	1	1	1
		400kv Makhu Amritsar Ckt-1	19.12.2025 at 07:58	Master operated 86.1, L1-E ,FC-5.12kA, Distance- 46.1KM ,Zone-1	Phase-L1-E, FC- 13.62kA, Distance-14.6km	R-phase insulator Disc strings flashed on Tower No.126	1	0	0	0	1	1	1
		400kv Makhu Muktsar Ckt-1	23.12.2025 at 03:37	Master operated 86.1, L3-E ,FC-8.98kA, Distance- 22.1KM ,Zone-1	Phase-L3-E, FC- 3.67kA, Distance-68.7km	B-phase insulator Disc strings flashed on Tower No.197	1	0	0	0	1	1	1
		400kv Makhu Amritsar Ckt-1	29.12.2025 at 07:09	Master operated 86.1, L2-E ,FC-20.38kA, Distance- 2.2KM ,Zone-1	Phase-L2-E, FC- 7.1kA, Distance-52.7km	Y-phase insulator Disc strings flashed on Tower No.07	1	0	0	0	1	1	1
		400kv Makhu Amritsar Ckt-1	31.12.2025 at 08:12	Master operated 86.1, L1-E ,FC-7.12kA, Distance- 57.8KM ,Zone-1	Phase-L1-E, FC- 14.46kA, Distance-09.1km	R-phase insulator Disc strings flashed on Tower No.149	1	0	0	0	1	1	1

Format No. Pl-01

Reporting of performance indices for protection system

(for elements connected at 220 kV and above)

Name of Utility: Protection Division, Jalandhar

Month: -12/2025

S.N.	Sub-Station	Unit(SPS/Line/ICT/GT /etc)	Nc	Nf	Nu	Ni	Dependabilities Index (D)	Security Index (S)	Reliability Index (R)	Fault Detail		Date	From	to	Duration	Remarks
										This End	That End					
1	220 KV S/S Badshahpur	220 kV Badshahpur-Jamsher Line	0	0	1	1	0	0	0	ON	DT Received	10.12.2025	13.18 Hrs	15.17 Hrs	01.59 Hrs	DT received (wire found short same replaced with new one)

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

Case-1 400KV Bikaner-Bhadla-I & 400KV Bikaner-Bhadla-II at 400 KV GSS BIKANER on 22.12.2025

No. of Unwanted operation – 2

Reason of unwanted operation –

Line were charged for anti-theft and tripped during testing of Busbar integration of NTPC Bay.

Corrective Action taken – YES

Workmen are asked to work carefully.

Case-2 400KV Babai-STPS CKT-I line with 80 MVAR STPS CKT- I Line Reactor, 400KV Babai-STPS CKT-II line with 80 MVAR STPS CKT- I Line Reactor & 315 MVA ICT-I at 400 KV GSS BABAI on 24.12.2025

No. of Unwanted operation – 3

Reason of unwanted operation –

Tripping occurred due to non-selection of VT during shifting of load from main bus 2 to other main bus 1 during shutdown.

Corrective Action taken –YES

VT selection problem rectified.

Case-3 400/220/33KV 500MVA ICT-2 at 400 KV GSS BHADLA on 23.12.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

During Busbar protection testing by Protection Engineers.

Corrective Action taken – YES

Workmen are asked to work carefully.

Case-4 220 KV Kishangarh- Ajmer Line at 220 KV GSS KISHANGARH on 09.12.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

M2 relay tripped with Z2 start.

Corrective Action taken – YES

Relay setting corrected.

Case-5 220KV Karoli- Khushkera line at 220 KV GSS KAROLI on 18.12.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

C.B of 220KV Khushkhera line bay at Karoli GSS tripped during attending of its C&R panel relay by M/S Popular switchgear with AEN (MPT&S), Bhiwadi.

Corrective Action taken – YES

Workmen are asked to work carefully.

Case-6 220 kv Sikar -PGCIL CKT- I at 220 KV GSS SIKAR on 18.12.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

Over current setting left enabled.

Corrective Action taken –YES

Over current setting disabled.

Case-7 220/132KV 100MVA TRANSFORMER-II at 220KV GSS LALSOT on 11.12.2025 & 220 / 132 KV 100 MVA, TELK Make Transformer TFR-I 220 KV GSS HINDAUN on 24.12.2025

No. of Unwanted operation – 2

Reason of unwanted operation –

OSR relay defective.

Corrective Action taken – NO

Defective OSR relay put out of service and shall be replaced soon.

Case-8 220/132 KV, 160 MVA TRANSFORMER Ist at 220KV GSS BAP on 28.12.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

Buccholz relay operated due to control cable fault.

Corrective Action taken – YES

Faulty cable replaced.

Case-9 220/132 KV, 100 MVA Transformer-II At 220 KV GSS KAWAI on 29.12.2025

No. of Unwanted operation – 1

Reason of unwanted operation –

REF relay defective.

Corrective Action taken –YES

REF relay replaced.

HIMACHAL PRADESH STATE ELECTRICITY BOARD LIMITED
(A State Government Undertaking)
Registered Office Vidyut Bhawan, HPSEBL Shimla-171004 (H.P)
CIN U40109HP2009SGC031255
GST HPSEBL 02 AACCH4894EHZB
Website address www.hpseb.com

No. HPSEBL/ESCS/W-249/2025-26-9105-08 Dated: -03 /01/2026

To

The Chief Engineer,
HPSLDC, Totu Shimla-11.

Sub:- Reporting of performance indices for protection system for the month of December,2025 submission thereof.

Sir,

"Jai Hind"

Enclosed please find herewith the reporting of performance indices for protection system submission for the month of December, 2025 in respect of this circle is sent herewith for your kind information and further necessary action at your end please.

DA:- As above.

Yours faithfully,

Superintending Engineer,
Electrical System Circle,
HPSEBL, Totu,Shimla-11.

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

1. The Chief Engineer(ES), HPSEBL, Mattansidh Hamirpur.
2. The Superintending Engineer, Northern Regional Power Corporation, 18- A, Shahed Jeet Singh Marg, Katwartia Sarai, New Delhi-110016(e mail seo-nrpc@nic.in)
3. The Superintending Engineer, PRALDC, HPSEBL, Totu Shimla-11.

Superintending Engineer,
Electrical System Circle,
HPSEBL, Totu,Shimla-11.

Scanned with OKEN Scanner

Report of performance Indices for protection system for December, 2025 (for element connected at 220KV and above) in respect of ES Circle, Totu, Shimla-11

Sr. No.	Name of Substation	Unit (SPS/Lines/ ICT/GT/etc)	Nc	Nf	Nu	Ni	Dependability Index(D) D=Nc/Nc+Nf	Security Index(S) S=Nc/Nc+Nu	Reliability Index R=Nc/Nc+Ni	Brief Description of Tripping	Corrective Action
I. ES DIVISION NALAGARH											
1	220/66/33/11 KV Sub Station Katha Baddi	220KV Baddi-Nangal	0	0	0	0	0	0	0	0	
		220KV Baddi-Mandhala	0	0	0	0	0	0	0	0	
		220KV Baddi-Kunihar ckt-No.I	0	0	0	0	0	0	0	0	
		220KV Baddi-Kunihar ckt-No.II	0	0	0	0	0	0	0	0	
		220KV Baddi-Pinjore ckt-No.I	0	0	0	0	0	0	0	0	
		220KV Baddi-Pinjore ckt-No.II	0	0	0	0	0	0	0	0	
		100 MVA Transformer No. 01	0	0	0	0	0	0	0	0	
		100 MVA Transformer No. 02	0	0	0	0	0	0	0	0	
		100 MVA Transformer No. 03	0	0	0	0	0	0	0	0	
		220/33 25/31.5 MVA Transformer No. 04	1	0	0	0	1	1	1	86 Relay operated due to E/F, O/C R-Phase on 33KV Feeder No.1	After check try taken hold ok
2	220/66KV Sub Station Nangal Uperlla	220 KV Nangal-Baddi Ckt I	0	0	0	0	0	0	0	0	
		220 KV Nangal-Mandhala Ckt. II	0	0	0	0	0	0	0	0	
		220/66KV, 1*100MVA TFR-I	0	0	0	0	0	0	0	0	
		220/66KV, 1*100MVA TFR-II	0	0	0	0	0	0	0	0	
3	220/66KV Sub Station Mandhala	220/66KV, 1*100MVA TFR-III	0	0	0	0	0	0	0	0	
II. ES DIVISION KOTLA											
1	220/66/22KV Sub Station Kotla (Jeori)	220KV Kotla-Wangtoo Transmission line	0	0	0	0	NA	NA	NA	No outage reported	No outage reported
		220KV Kotla-Kunihar Transmission line	0	0	0	0	NA	NA	NA	No outage reported	No outage reported
		100MVA Transformer-I	0	0	0	0	NA	NA	NA	No outage reported	No outage reported
		100MVA Transformer-II	0	0	0	0	NA	NA	NA	No outage reported	No outage reported
III. 220KV ES DIVISION KUNIHAR											
1	220/132/33KV Sub Station HPSEBL Kunihar	220 KV Bhaba-Wangtoo-Kunihar Ckt-I	0	0	0	0	0	0	0	NA	NA
		220 KV Kotla-Kunihar Ckt-II	0	0	0	0	0	0	0	NA	NA
		220/132KV Bank-I	0	0	0	1	1	1	0	E/F, Over current due to CT Blast on L.V.side	Supply restored through 220/132kV Trf. Bank No.II & Blast C.T. has been replaced on the same day
		220/132KV Bank-II	0	0	0	0	0	0	0	NA	NA
IV. ES DIVISION BHABANAGER			0	0	0	0	0	0	0	NA	NA
V. ES DIVISION NAHAN			0	0	0	0	0	0	0	NA	NA
VI. ES DIVISION SOLAN			0	0	0	0	0	0	0	NA	NA
VII. ES DIVISION TOTU			0	0	0	0	0	0	0	NA	NA

Superintending Engineer,
Electrical System Circle,
HPSEBL, Totu, Shimla-11

Copy of above is forwarded to the Superintending Engineer, PR&ALDC, HPSEB
Shimla-11 for information and necessary action please.

Scanned with OKEN Scanner

मुख्य अभियन्ता (सं0)
निदेशक (आपरेशन)

U.P. Power Transmission Corporation Ltd.
Shakti Bhawan Extn.
14 Ashok Marg, Lucknow– 226001
Tel/Fax: 0522–2287833 / 2286476
Email: director_op@upptcl.org

No: 25 **/Dir (Op)/ NRPC** **Date:** 02/01/2026

Subject: Protection performance indices & Performance indices (SPS) of protection system for the month of 12/2025.

SEO
NRPC
New Delhi.

Through E- Mail

Mail ID – seo-nrpc@nic.in

Kindly find enclosed herewith copy of compiled Protection performance indices & Performance indices (SPS) along with the reports obtained from all 06 Zonal offices of UPPTCL for the month of December, 2025.

3/1/26

(Md. Reza Ahmad)
Chief Engineer (A)

No: **/Dir (Op)/** **Date:**

Copy to :-

1 Director (Operation) UPPTCL, Lucknow for information.
2 Chief Engineer, TC/TW/TSW/TSC/TSE/TNE, UPPTCL, Lucknow/Meerut/Agra/Jhansi/ Prayagraj/Gorakhpur.
3 Superintending Engineer (RA), UPSLDC, Lucknow.

(Md. Reza Ahmad)
Chief Engineer (A)

Protection Perfomance Indices — December, 2025

.No.	Transmission Zone	Dependability index	Security index	Reliability index	Remark
1	TC, Lucknow	1	1	1	---
2	TSC, Jhansi	1	1	1	---
3	TW, Meerut	1	1	1	---
4	TNE, Gorakhpur	1	1	1	---
5	TSW, Agra	1	1	1	---
6	TSE, Prayagraj	0.94	1	0.94	**ANALYSIS :** Actually fault was in zone-2, relay sense the fault in zone-3 (Zone-2 starts but flags drops in few millisec) and fault cleared before the delay time of Zone-3 (Fault clearing time is 750ms), Fault cleared from 220 kV rewa road isolux line which relay operates earlier agnaist its earth fault setting. **REMEDY ACTION :** Relay healthyness checked found normal, detailed testing as per zone reach is planned on 07.01.2026, 400/220 kV rewa road officials will check their tms setting and its operation with respect to time and correct it. Relay healthyness checked found normal, detailed testing found normal, detailed testing as per zone reach is planned on 07.01.2026, 400/220 kV rewa road officials will check their tms setting and its operation with respect to time and correct it.
Total indices value		**0.990**	**1.000**	**0.990**	---

Status of perfomance indices reporting of SPS for December 2025 (Last date of submission 07.01.2026)

Sr. No.	Scheme Name	Owner / Agency	Received Status (Yes/No)	Vide mail dated	Remarks	Indices less than 1 (Yes/No)	Reason submitted and corrective action taken	Submitted by Utility	Submitted by SLDC/NRLDC
1	SPS for WR-NR corridor - 765kV Agra-Gwalior D/C	POWERGRID	Y	27.01.2026	Not operated	No	NA	Y	
2	SPS for contingency due to tripping of HVDC Mundra-Mahendergarh	ADANI							
3	SPS for high capacity 400 kV Muzaffarpur-Gorakhpur D/C Inter-regional tie-line related contingency	POWERGRID							
4	SPS for 1500 MW HVDC Rihand-Dadri Bipole related contingency	POWERGRID	Y	27.01.2026	Not operated	No	NA	Y	
5	System Protection Scheme (SPS) for HVDC Balia-Bhiwadi Bipole	POWERGRID	Y	27.01.2026	Not operated	No	NA	Y	
6	SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wangtoo HEP	SJVN/HPPTCL/JSW/ POWERGRID/SORANG							
7	SPS for Reliable Evacuation of Ropar Generation	PSTCL							
8	**SPS for Reliable Evacuation of Rosa Generation**	**UPPTCL**	Y	02.01.2026	Not operated	No	NA	Y	Y
9	SPS for contingency due to tripping of evacuating lines from Narora Atomic Power Station	NAPS/UPPTCL							
10	**SPS for evacuation of Kawai TPS, Kalisindh TPS generation complex**	**RVPNL**							
11	SPS for evacuation of Anpara Generation Complex	UPPTCL	Y	02.01.2026	correct operation	No	NA	Y	Y
12	**SPS for evacuation of Lalitpur TPS Generation**	**UPPTCL**	Y	02.01.2026	Not operated	No	NA	Y	Y
13	**SPS for Reliable Evacuation of Bara TPS Generation**	**UPPTCL**	Y	01.01.2026	Not operated	No	NA	Y	Y
14	SPS for Lahal Generation	HPPTCL	Y	07.01.2026	Not operated	No	NA	Y	Y
15	SPS for Transformers at Ballabhgarh (PG) Substation	POWERGRID							
16	**SPS for Transformers at Maharanibagh (PG) substation**	**POWERGRID**	Y	27.01.2026	Not operated	No	NA	Y	
17	**SPS for Transformers at Mandola (PG) substation**	**POWERGRID**	Y	27.01.2026	Not operated	No	NA	Y	
18	SPS for Transformers at Bamnauli (DTL) substation	DTL	Y	12.01.2026	Not operated	No	NA	Y	
19	**SPS for Transformers at Moradabad (UPPTCL) Substation**	**Uttar Pradesh**	Y	05.01.2026	Not operated	No	NA	Y	Y
20	SPS for Transformers at Muradnagar (UPPTCL) Substation	UPPTCL	Y	05.01.2026	Not operated	No	NA	Y	Y
21	SPS for Transformers at Muzaffarnagarr (UPPTCL) Substation	UPPTCL	Y	05.01.2026	Not operated	No	NA	Y	Y
22	SPS for Transformers at Greater Noida (UPPTCL) Substation	UPPTCL	Y	05.01.2026	Not operated	No	NA	Y	Y
23	SPS for Transformers at Agra (UPPTCL) Substation	UPPTCL							
24	**SPS for Transformers at 400kV Sarojininagar (UPPTCL) Substation**	**UPPTCL**							
25	**SPS for Transformers at 220kV Sarojininagar (UPPTCL) Substation**	**UPPTCL**	Y	05.01.2026	Not operated	No	NA	Y	Y
26	**SPS for Transformers at 400kV Unnao (UPPTCL) Substation**	**UPPTCL**	Y	05.01.2026	Not operated	No	NA	Y	Y
27	**SPS for Transformers at 400kV Sultanpur (UPPTCL) Substation**	**UPPTCL**	Y	05.01.2026	Not operated	No	NA	Y	Y
28	SPS for Transformers at 400kV Bareilly (UPPTCL) Substation	UPPTCL							
29	**SPS for Transformers at 400kV Azamgarh (UPPTCL) Substation**	**UPPTCL**	Y	05.01.2026	Not operated	No	NA	Y	Y
30	**SPS for Transformers at 400kV Mau (UPPTCL) Substation**	**UPPTCL**	Y	05.01.2026	Not operated	No	NA	Y	Y
31	**SPS for Transformers at 400kV Gorakhpur/Motiram Adda (UPPTCL) Substation**	**UPPTCL**	Y	05.01.2026	Not operated	No	NA	Y	Y
32	**SPS for Transformers at 400kV Sarnath (UPPTCL) Substation**	**UPPTCL**							
33	SPS for Transformer at 400kV Rajpura (PSTCL) Substation	PSTCL	Y	06.01.2026	Not operated	No	NA	Y	
34	SPS for Transformers at 400kV Mundka (DTL) Substation	DTL	Y	12.01.2026	Not operated	No	NA	Y	
35	**SPS for Transformers at 400kV Deepalpur (JKTPL) Substation**	**HVPNL**							
36	SPS for Transformers at 400kV Ajmer (RVPN) Substation	RVPNL	Y	07.01.2026	correct operation	No	NA	Y	Y
37	SPS for Transformers at 400kV Merta (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	
38	SPS for Transformers at 400kV Chittorgarh (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	
39	SPS for Transformers at 400kV Jodhpur (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	
40	SPS for Transformers at 400kV Bhadla (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	
41	SPS for Transformers at 400kV Ratangarh (RVPN) Substation	RVPNL	Y	07.01.2026	correct operation	No	NA	Y	Y
42	SPS for Transformers at 400kV Nehtaur(WUPPTCL) Substation	UPPTCL							
43	SPS for Transformers at Obra TPS	UPPTCL	Y	05.01.2026	Not operated	No	NA	Y	Y
44	SPS for Transformers at 400KV Kashipur (PTCUL) substation	PTCUL	Y	06.01.2026	Not operated	No	NA	Y	
45	**SPS for Transformers at 400KV Fatehgarh Solar Park (AREPRL)**	**ADANI**	Y	08.01.2026	Not operated	No	NA	Y	
46	**SPS to relive transmission congestion in RE complex (Bhadla2)**	**POWERGRID**	Y	27.01.2026	Not operated	No	NA	Y	

47	SPS for Transformers at 400kV Bikaner (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	Y
48	SPS for Transformers at 400kV Bawana (DTL) Substation	DTL	Y	12.01.2026	Not operated	No	NA	Y	
49	SPS for Transformers at 400kV Bhilwara (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	Y
50	SPS for Transformers at 400kV Hinduan (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	Y
51	SPS for Transformers at 400kV Suratgarh (RVPN) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	Y
52	SPS for Transformers at 400kV Babai(RS) Substation	RVPNL	Y	07.01.2026	Not operated	No	NA	Y	Y
53	SPS for Transformers at 400kV Allahabad(PG) Substation	UPPTCL							
54	SPS for Transformers at 400kV Jaunpur(UP) Substation	UPPTCL							
55	**SPS for Transformers at 765kV Jhatikara(PG) Substation (Bamnauli section)**	**POWERGRID**	Y	27.01.2026	Not operated	No	NA	Y	
	SPS for Transformers at 765kV Jhatikara(PG) Substation (Mundka section)		Y	27.01.2026	Not operated	No	NA	Y	
56	**SPS for Transformers at 765kV Bhiwani(PG) Substation**	**POWERGRID**							
57	SPS for Transformers at 400kV Panki (UPPTCL) Substation	UPPTCL							
58	SPS for Transformers at 400kV Agra(PG) Substation	POWERGRID/UPPTCL							

Status of perfomance indices reporting of SPS

Month-January 2026

Sr. No.	Scheme Name	Owner / Agency	Controlling SLDC/ NRLDC	Reporting by Owner / Agency to Concerned SLDC/NRLDC (Latest by 07.02.2026)									Verification by NRLDC/SLDC		
				Nc	Nu	Nf	Ni	Dependability Index	Security Index	Reliability Index	Reason for indices less than 1	Corrective action taken	Date of Receiving date from owner/agency (DD:MM:YYYY)	Verification of indices as per actual grid condition (Yes/No)	Remarks
1	SPS for WR-NR corridor - 765kV Agra-Gwalior D/C	POWERGRID	**NRLDC**												
2	SPS for contingency due to tripping of HVDC Mundra-Mahendergarh	ADANI	NRLDC												
3	SPS for high capacity 400 kV Muzaffarpur-Gorakhpur D/C Inter-regional tie-line related contingency	POWERGRID	NRLDC												
4	SPS for 1500 MW HVDC Rihand-Dadri Bipole related contingency	POWERGRID	NRLDC												
5	System Protection Scheme (SPS) for HVDC Balia-Bhiwadi Bipole	POWERGRID	NRLDC												
6	SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wangtoo HEP	SJVN	NRLDC												
		HPPTCL													
		JSW													
		POWERGRID													
		SORANG													
7	SPS for Transformers at Maharanibagh (PG) substation	POWERGRID	NRLDC												
8	SPS for Transformers at Mandola (PG) substation	POWERGRID	NRLDC												
9	SPS for Transformers at 400KV Fatehgarh Solar Park (AREPRL)	ADANI	NRLDC												
10	SPS to relive transmission congestion in RE complex (Bhadla2)	POWERGRID	NRLDC												
11	SPS for Transformers at 765kV Jhatikara(PG) Substation (Bamnauli section)	POWERGRID	NRLDC												
	SPS for Transformers at 765kV Jhatikara(PG) Substation (Mundka section)		NRLDC												
12	SPS for Transformers at 765kV Bhiwani(PG) Substation	POWERGRID	NRLDC												
13	SPS for Transformers at 400kV Agra(PG) Substation	POWERGRID	NRLDC												
		UPPTCL													
14	SPS for Transformers at Bamnauli (DTL) substation	DTL	**Delhi SLDC**												
15	SPS for Transformers at 400kV Mundka (DTL) Substation	DTL	Delhi SLDC												
16	SPS for Transformers at 400kV Bawana (DTL) Substation	DTL	Delhi SLDC												
17	SPS for Reliable Evacuation of Rosa Generation	UPPTCL	**UPSLDC**												
18	SPS for evacuation of Anpara Generation Complex	UPPTCL	UPSLDC												
19	SPS for evacuation of Lalitpur TPS Generation	UPPTCL	UPSLDC												
20	SPS for Reliable Evacuation of Bara TPS Generation	UPPTCL	UPSLDC												
21	SPS for Transformers at Moradabad (UPPTCL) Substation	UPPTCL	UPSLDC												
22	SPS for Transformers at Muradnagar (UPPTCL) Substation	UPPTCL	UPSLDC												
23	SPS for Transformers at Agra (UPPTCL) Substation	UPPTCL	UPSLDC												
24	SPS for Transformers at 400kV Sarojininagar (UPPTCL) Substation	UPPTCL	UPSLDC												
25	SPS for Transformers at 220kV Sarojininagar (UPPTCL) Substation	UPPTCL	UPSLDC												
26	SPS for Transformers at 400kV Unnao (UPPTCL) Substation	UPPTCL	UPSLDC												
27	SPS for Transformers at 400kV Sultanpur (UPPTCL) Substation	UPPTCL	UPSLDC												
28	SPS for Transformers at 400kV Bareilly (UPPTCL) Substation	UPPTCL	UPSLDC												
29	SPS for Transformers at 400kV Azamgarh (UPPTCL) Substation	UPPTCL	UPSLDC												
30	SPS for Transformers at 400kV Mau (UPPTCL) Substation	UPPTCL	UPSLDC												
31	SPS for Transformers at 400kV Gorakhpur (UPPTCL) Substation	UPPTCL	UPSLDC												
32	SPS for Transformers at 400kV Sarnath (UPPTCL) Substation	UPPTCL	UPSLDC												
33	SPS for Transformers at 400kV Nehtaur(WUPPTCL) Substation	UPPTCL	UPSLDC												
34	SPS for Transformers at Obra TPS	UPPTCL	UPSLDC												
35	SPS for Transformers at 400kV Allahabad(PG) Substation	UPPTCL	UPSLDC												
36	SPS for Transformers at 400kV Jaunpur(UP) Substation	UPPTCL	UPSLDC												
37	SPS for Transformers at 400kV Panki (UPPTCL) Substation	UPPTCL	UPSLDC												
38	SPS for Transformer at 400kV Rajpura (PSTCL) Substation	PSTCL	**Punjab SLDC**												
39	SPS for Transformers at 400kV Deepalpur (JKTPL) Substation	HVPNL	**Haryana SLDC**												
40	SPS for Transformers at 400KV Kashipur (PTCUL) substation	PTCUL	**Uttrakhand SLDC**												
41	SPS for Transformers at 400kV Ajmer (RVPN) Substation	RVPNL	**Rajasthan SLDC**												
42	SPS for Transformers at 400kV Merta (RVPN) Substation	RVPNL	Rajasthan SLDC												
43	SPS for Transformers at 400kV Chittorgarh (RVPN) Substation	RVPNL	Rajasthan SLDC												
44	SPS for Transformers at 400kV Jodhpur (RVPN) Substation	RVPNL	Rajasthan SLDC												
45	SPS for Transformers at 400kV Bhadla (RVPN) Substation	RVPNL	Rajasthan SLDC												
46	SPS for Transformers at 400kV Ratangarh (RVPN) Substation	RVPNL	Rajasthan SLDC												
47	SPS for evacuation of Kawai TPS, Kalisindh TPS generation complex	RVPNL	Rajasthan SLDC												
48	SPS for Transformers at 400kV Bikaner (RVPN) Substation	RVPNL	Rajasthan SLDC												
49	SPS for Transformers at 400kV Bhilwara (RVPN) Substation	RVPNL	Rajasthan SLDC												
50	SPS for Transformers at 400kV Hinduan (RVPN) Substation	RVPNL	Rajasthan SLDC												
51	SPS for Transformers at 400kV Suratgarh (RVPN) Substation	RVPNL	Rajasthan SLDC												
52	SPS for Transformers at 400kV Babai(RS) Substation	RVPNL	Rajasthan SLDC												

Note- Any other SPS details (if implemented and not mentioned above) may be added in this format by Concerned Utility/SLDC/NRLDC

Annexure-A.V

Status of Internal Protection Audit Plan for FY 2026 -27				
S. No.	**NRPC Member**	**Category**	**Status**	**Schedule submitted as per utililty**
1	PGCIL	Central Government owned Transmission Company	Received (NR-2) (24 Substations), Received (NR-1) (20+16 Substations)	
2	NTPC	Central Generating Company		
3	BBMB		Received	
4	THDC		Received (Tehri HPP)	Feb-27
			Received (Koteshwar)	Dec-26
			Received (Tehri PSP)	Feb-27
5	SJVN		Received (NJHPS)	December 2026- March 2027
			Received (RHPS)	October 2026- December 2026
6	NHPC		Received (13 stations)	
7	NPCIL			
8	Delhi SLDC	SLDC		
9	Haryana SLDC			
10	Rajasthan SLDC			
11	Uttar Pradesh SLDC			
12	Uttarakhand SLDC			
13	Punjab SLDC			
14	Himachal Pradesh SLDC			
15	DTL	State Transmission Utility	Received (47 Substations)	
16	HVPNL		Received (91 Substations)	
17	RRVPNL		Received	31.03.2027
18	UPPTCL		Meerut Zone	10/1/2027 -15/3/2027
			Agra Zone	10/1/2027 -30/3/2027
			Lucknow Zone	1/1/2027-10/3/2027
			Jhansi Zone	5/1/2027 -30/3/2027
			Prayagraj Zone	1/1/2027- 10/3/2027
			Gorakhpur Zone	10/1/2027-30/3/2027
19	PTCUL		Received	
20	PSTCL		Received	
21	HPPTCL		Received (12 Substations)	
22	IPGCL	State Generating Company	Received (PPS-I)	15.11.2026
			Received (PPS-III)	30.10.2026
23	HPGCL		Received	Apr-26
24	RRVUNL			
25	UPRVUNL		Anpara B	October 2026
			Obra A & B	October 2026
			Panki	October 2026
			Anpara D	May 2026
			Harduaganj	May 2026
			Harduaganj D	May 2026
			Harduaganj E	May 2026
			Parichha	August 2026
			Parichha Ext	August 2026
			Obra C	October 2026
			Jawaharpur	October 2026
26	UJVNL		Dharashu	December, 2026
			Tiloth	December, 2026
			Khodri	Nov-26
			Chibro	Oct-26
27	HPPCL		Vyasi	Dec-26
28	PSPCL	State Generating Company & State owned Distribution Company	RSD	
			GGSTPS, Rupnagar	
			GVK Power Goindwal Shahib Ltd.	
			GHSTPS, Lehra Mohabbat	Nov-26
29	HPSEBL	Distribution company having Transmission connectivity ownership		
30	Prayagraj Power Generation Co. Ltd.	IPP having more than 1000 MW installed capacity	Received	Sep-26
31	Aravali Power Company Pvt. Ltd		Received	Mar-27
32	Apraava Energy Private Limited		Received	May-26
33	Talwandi Sabo Power Ltd.			
34	Nabha Power Limited			
35	MEIL Anpara Energy Ltd		Received	Aug-26
36	Rosa Power Supply Company Ltd		Received	Jan-27
37	Lalitpur Power Generation Company Ltd		Received	Sep-26
38	MEJA Urja Nigam Ltd.			
39	Adani Power Rajasthan Limited			
40	JSW Energy Ltd. (KWHEP)			
41	UT of J&K	UT of Northern Region	Received (Jammu)	
			Received (Kashmir)	
42	UT of Chandigarh (CPDL)			
	ISTS Transmission Utilities			
43	INDIGRID			

44	ADHPL			
45	Adani Transmission Limited		Received	Oct-26
46	Bikaner Khetri Transmission Limited		Received	Oct-26
47	Fatehgarh Bhadla Transmission Limited		Received	Sep-26
	State Utilities			
	Uttar Pradesh			
48	Vishnuprayag Hydro Electric Plant (J.P.)		Received	March, 2027
49	Alaknanda Hydro Electric Plant (GVK)		Received	Nov-26
50	Ghatampur TPS		Received	Feb-27
51	Khara Power House (Khara)		Received	Dec-26
52	WUPPTCL		Received	Oct-26
53	SEUPPTCL		Received	Dec-26
54	ATSCL	**AESL**	Received	Sep-26
55	GTL (765 kV Hapur extension bays)	**AESL**	Received	Nov-26
56	GTL (765 kV Agra and Gr. Noida extension bays)	**AESL**	Received	Nov-26
57	HPTSL	**AESL**	Received	Aug-26
58	MTSCL	**AESL**	Received	Aug-26
59	OBTL	**AESL**	Received	Dec-26
60	STSL	**AESL**		
	Rajasthan			
61	Barsingsar Plant	**NLC**	Received	31-03-2027
62	Rajwest Plant	**JSW**	Received	Aug-26
	RE Utilities			
63	ABC Renewable Pvt. Ltd			
64	ACME Heeragarh powertech Pvt. Ltd	ACME	Received	Jan-27
65	ACME Pholidi	ACME	Received	Jan-27
66	ACME Deagarh	ACME		
67	ACME Raisar	ACME		
68	ACME Dhoulpar	ACME		
69	ACME Sikar	ACME	Received	Jan-27
70	ACME Chittorgarh Solar Energy Pvt Ltd	AYANA		
71	Adani Hybrid Energy Jaisalmer One Ltd.	AGEL	Received	7/16/2026
72	Adani Hybrid Energy Jaisalmer Two Ltd.	AGEL	Received	7/25/2026
73	Adani Hybrid Energy Jaisalmer Three Ltd.	AGEL	Received	8/8/2026
74	Adani Hybrid Energy Jaisalmer Four Ltd. (AEML 1 -350)	AGEL	Received	8/15/2026
75	Adani Hybrid Energy Jaisalmer Four Ltd. (AEML 2 -250)	AGEL	Received	9/11/2026
76	Adani Renewable Energy (RJ) limited Rawara	AGEL	Received	9/26/2026
77	Adani Solar Enegry Four Private Limited	AGEL	Received	9/26/2026
78	Adani Solar Energy Jaisalmer Two Private Limited Project Two	AGEL	Received	10/17/2026
79	SB Energy Six Private Limited, Bhadla	AGEL	Received	10/28/2026
80	Adani Solar Enegry Jodhpur Two Limited, Rawara	AGEL	Received	9/26/2026
81	Adani Solar Energy Jaisalmer One Ltd. (Hybrid450)	AGEL	Received	10/3/2026
82	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)	AGEL	Received	11/7/2026
83	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)	AGEL	Received	11/14/2026
84	Adani Green Energy 24 Limited (Bhimsar)	AGEL	Received	11/26/2026
85	Adani Green Twenty-Five Limited (Badisid)	AGEL	Received	12/4/2026
86	Bhadla park - South block	AGEL	Received	12/16/2026
87	AEML-250 WIND (Hybrid-2A)	AGEL	Received	9/16/2026
88	AEML-260 WIND (Hybrid-2B)	AGEL	Received	9/20/2026
89	Hybrid450-WIND (SBE Hybrid 450)	AGEL	Received	10/7/2026
90	Altra Xergi Pvt. Ltd.			
91	AMP Energy Green Four Pvt. Ltd.			

92	AMP Energy Green Five Pvt. Ltd.			
93	AMP Energy Green Six Pvt. Ltd.			
94	Amplus Ages Private Limited		Received	31-12-2026
95	Avaada RJHN_240MW		Received	Aug-26
96	Avaada sunce energy Pvt limited		Received	Aug-26
97	Avaada Sunrays Pvt. Ltd.		Received	Aug-26
98	Avaada Sustainable RJ Pvt. Ltd.		Received	Aug-26
99	Ayana Renewable Power Three Private Limited			
100	Ayaana Renewable Power One Pvt. Ltd.			
101	Azure Power Forty One Pvt limited			
102	Azure Power Forty Three Pvt. Ltd. RSS			
103	Azure Maple Pvt. Ltd.			
104	AZURE POWER INDIA Pvt. Ltd., Bhadla			
105	Azure Power Thirty Four Pvt. Ltd.			
106	Clean Solar Power (Jodhpur) Pvt. Ltd.	Hero Future Energies	Received	May, 2026
107	Eden Renewable Cite Private Limited			
108	Grian Energy private limited		Received	31-12-2026
109	Mahindra Renewable Private Limited			
110	Mega Surya Urja Pvt. Ltd. (MSUPL)			
111	AURAIYA Solar			
112	DADRI SOLAR			
113	SINGRAULI SOLAR			
114	Anta Solar			
115	Unchahar Solar			
116	NTPC Devikot Solar plant_240MW			
117	NTPC Kolayat_400kV			
118	Nedan Solar NTPC			
119	NTPC Nokhra_300MW			
120	One Volt energy Pvt. Ltd.		Received	31-12-2026
121	ReNew Solar Urja Private Limited (IndiGrid)	IndiGrid		
122	Renew Surya Ayaan Pvt. Ltd. (IndiGrid)	IndiGrid		
123	ReNew Solar Energy (Jharkhand Three) Private Limited	ReNew	Received	24/11/2026
124	RENEW SOLAR POWER Pvt. Ltd. Bikaner	ReNew	Received	17/11/2026
125	Renew Sun Bright Pvt. Ltd. (RSBPL)	ReNew	Received	19/11/2026
126	Renew Surya Partap Pvt. Ltd.	ReNew	Received	21/11/2026
127	Renew Surya Ravi Pvt. Ltd.	ReNew	Received	18/11/2026
128	Renew Surya Roshni Pvt. Ltd.	ReNew	Received	24/11/2026
129	Renew Surya Vihan Pvt. Ltd.	ReNew		
130	Renew Solar Photovoltaic Pvt Ltd	ReNew		
131	Renew Hans Urja Pvt Ltd	ReNew		
132	Renew Surya Jyoti Pvt Ltd	ReNew	Received	15/10/2026
133	Neemba Renew Surya Vihan Pvt Ltd	ReNew	Received	15/10/2026
134	ReNew Dinkar Urja Pvt. Ltd.	ReNew		
135	Rising Sun Energy-K Pvt. Ltd.			
136	Serentica Renewables India 4 Private Limited	Serentica	Received	Sep-26
137	Serentica Renewables India 5 Private Limited	Serentica	Received	Sep-26
138	Khidrat Renewable energy Pvt ltd.	Serentica	Received	Jun-26
139	Solzen Urja Private Limited	Sekura	Received	November, 2026
140	Tata Power Green Energy Ltd. (TPGEL) (225MW)	Tata Power	Received	31-03-2027
141	Tata Power Renewable Energy Ltd. (TPREL) (300MW)	Tata Power	Received	31-03-2027
142	Thar Surya Pvt. Ltd.			
143	TP Surya Ltd., Noorsar (110MW)	Tata Power	Received	31-03-2027
144	Banderwala Solar Plant TP Surya Ltd. (300MW)	Tata Power	Received	31-03-2027
145	TRANSITION ENERGY SERVICES PRIVATE LIMITED			
146	Transition Green Energy Private Limited			
147	Transition Sustainable Energy Services Private Limited			
148	Gorbea Solar Pvt Ltd (GSPL)			
149	Prerak Greentech Private Limited (PGPL)			
150	Megasolis Renewables Pvt Ltd(MSRPL)			

Status of 3rd Party Protection Audit Plan

S. No.	NRPC Member	Category	Status	Schedule submitted as per utililty	Present Status Comlpleted (yes/no)	Report Submission Date by audit party	Discussion held in PSC meeting number	Compliance status
1	PGCIL	Central Government owned Transmission Company	Received (26 S/s of NR-1, 24 S/s of NR-2)	NR-1 - 2026, NR-2 - 2026-2027				
2	NTPC	Central Generating Company	Received (Singrauli, Rihand, Unchahar, Dadri, Dadri Gas, Auraiya Gas, Faridabad Gas, Anta Gas Power Station)	By Oct 2028				
			Received (Tanda)	By 17.07.2025				
3	BBMB		Received	Feb-27				
4	THDC		Received	March 2026-Tehri, F.Y. 2025-26- Koteshwar, December 2029 - Tehri PSP	Completed (Koteshwar)		Report pending	
5	SJVN		Received (RHPS)	Nov-Dec 2025	Completed	4/11/2025	66	
			Received (NJHPS)	Nov 24- March 25	Completed	26-05-2025	65	
6	NHPC		Received	FY-2025-26	Completed (Dulhasti)	Sep-25	64	
					Completed (Salal)	Jul-25	64	
					Completed (Bairasul)	Aug-25	64	
					Completed (Chamera-I)	Oct-25	64	
					Completed (Parbati-III)	Sep-25	64	
7	NPCIL		Completed (220kV) (NAPS)	Jan'25	Completed	18.01.2025	57	
			RAP A		Completed	24.06.2025	64	
			RAP B		Completed		64	
			RAPS-C (6&5)	-	Completed	05.12.2024	64	
8	Delhi SLDC	SLDC						
9	Haryana SLDC							
10	Rajasthan SLDC							
11	Uttar Pradesh SLDC		Received (Tanda extension)	17.07.2025				
			Received (Tanda)	17.07.2025				
12	Uttarakhand SLDC							
13	Punjab SLDC							
14	Himachal Pradesh SLDC							
15	DTL	State Transmission Utility						
16	HVPNL		Received (5 Substations)	June-Oct 2025	Conducted (Dhanoda)	22.08.2025	62	67
17	RRVPNL		Received (40 Substations)	Mar-26				
18	UPPTCL		Received	2025;	going on			
19	PTCUL		Received	By Dec 2025	Completed (10 Substations)		55	
20	PSTCL							
21	HPPTCL		Received	FY 25-26				
22	IPGCL		Received (PPS-I)	November-December 2025	Completed		audi report to be submitted	
			Received (PPS-III)	FY 25-26	Completed		audi report to be submitted	
23	HPGCL		PTPS, Panipat	Nov-25	completed		audi report to be submitted	
			DCRTPP, Yamunanagar	Aug-25	Completed	22.08.2025	64	
			RGTPP (Khedar)	Oct'25	completed		audi report to be submitted	
24	RRVUNL		CTPP, Chhabra	2029	CTPP-Completed	Feb-24	51	
			CSCTPP, Chhabra	2027-28				
			STPS, suratgarh	Sep-27				
			SSCTPP, suratgarh	2028-29	SCTPS-completed		55	
			KTPS, Kota	2025-2026	KSTPS -Completed	Aug-25	63	
			KaTPP, Jhalawar	2027				
			RGTPP, Ramgarh	Jun-26				
			DCCPP, Dholpur	Jun-26				
25	UPRVUNL		Obra-B	2026-27				
			Obra-C	Feb-26				
			Anpara D	2025	Under tendering			
			Anpara B	2025	Under tendering			
			Harduaganj	2025	Under tendering			
			Harduaganj D	2025	Under tendering			
			Harduaganj F	2025	Under tendering			
			Parichha	2025	Under tendering			
			Parichha Ext	2025	Under tendering			
			Jawaharpur	2025	Under tendering			
			Panki	2025				
26	UJVNL		Dharasu		Completed in Nov, 2024		56	submitted
			Tiloth	Dec-28				
			Vyasi					
			Chibro		Completed	Nov-23	55	
			Khodri		Completed	Nov-23	55	
27	HPPCL		Swara Kuddu	2026				
			Sainj					
			Kashang HEP	FY 2025-26				
28	PSPCL	State Generating Company & State owned Distribution Company	Reeceived (GHTP)	Dec. 2025				
			Received (GATP)	May 2025				
			GGSSTP	2026				
			RSD/ Sahapur Kandi	Mar'26				
29	HPSEBL	Distribution company having Transmission connectivity ownership	Kunihar	Conducted	19.10.2024	20.11.2024	55	
			Upper Nangal	Conducted	13.02.2025		61	
			Kango	Conducted	Report not submitted			
			Mattansidh	Conducted	Report not submitted			
			Nehrain	Conducted	Report not submitted			
			Baddi	Conducted	04.03.2025		61	
30	Prayagraj Power Generation Co. Ltd.	IPP having more than 1000 MW installed capacity	Received	Dec-24	Januray 2025	08.01.2025	59	
31	Aravali Power Company Pvt. Ltd		Received	Sep-26				
32	Apraava Energy Private Limited		Received	By May, 2025	Completed	Jun-25	63	
33	Talwandi Sabo Power Ltd.							
34	Nabha Power Limited		Received	By December, 2025	Completed	9/1/2026	67	
35	MEIL Anpara Energy Ltd		Received	* May 2025				
36	Rosa Power Supply Company Ltd		Conducted	By 30.09.2024	08.08.2024	13.01.2025	57	
37	Lalitpur Power Generation Company Ltd		Conducted		26.03.2024	June, 2024	54	
38	MEJA Urja Nigam Ltd.		Conducted		Completed in Oct, 2024	Nov-24	59	
39	Adani Power Rajasthan Limited		Conducted	November, 2024	Kawai	04.12.2024	56	Pending
40	JSW Energy Ltd. (KWHEP)		Received	December 2024 to March 2025	Completed	29.01.2025	57	67
41	UT of J&K (JKPTCL)	UT of Northern Region						
42	UT of Chandigarh (CDPL)							
	ISTS Transmission Utilities							
43	INDIGRID		Received (PTCL)	FY 25-26				
			FBTL					
			PrKTCL					
			Received (NRSS 29)	FY 24-25				
44	ADHPL		Received	* September 2026				
45	Adani Transmission Limited		Received (400kV Mohindergarh SS)	October, 2025				
46	Bikaner Khetri Transmission Limited		Received (765 kV Bikaner and Khetri extension bays)	September, 2025				
47	Fatehgarh Bhadla Transmission Limited		Received (400 kV Fatehgarh SS)	September, 2025				
	State Utilities							
	Uttar Pradesh							
48	Vishnuprayag Hydro Electric Plant (J.P.)		Received	December, 2028				
49	Alaknanda Hydro Electric Plant (GVK)		Received	Mar-25				
50	Ghatampur TPS		Received	FY 27-28				
51	Khara Power House (Khara)		Received	Dec-25				
52	WUPPTCL		Conducted		Completed	20.03.2025	59	
53	SEUPPTCL		Completed		Completed	October, 2024	59	
54	ATSCL	AESL	Received (400/220KV Alwar SS)	September, 2025				
55	GTL	AESL	Received (765 kV Hapur extension bays)	September, 2025				
56	GTL	AESL	Received (765 kV Agra and Gr. Noida extension bays)	September, 2025				
57	HPTSL	AESL	Received (220kV Ranpur SS)	August, 2025				
58	MTSCL	AESL	Received (400/220/132KV Deedwana SS)	August, 2025				
59	OCBTL	AESL	Received (400/220/132KV Badaun SS)	Jan-25	Completed (report not shared)			
60	STSL	AESL						
	Rajasthan							
61	Barsingsar Plant	NLC	Received	by 31-03-2027				
62	Rajwest Plant	JSW	Received	Aug-26				
	RE Utilities							
63	ABC Renewable Pvt. Ltd							
64	ACME Heeragarh powertech Pvt. Ltd	ACME	Received	2027				
65	ACME Pholidi	ACME	Received	2028				
66	ACME Deagarh	ACME						
67	ACME Raisar	ACME						

68	ACME Dhoulpar	ACME						
69	ACME Sikar	ACME	Received	2028				
70	ACME Chittorgarh Solar Energy Pvt Ltd	Ayana						
71	Adani Hybrid Energy Jaisalmer One Ltd.		5 years have not completed since commissiong					
72	Adani Hybrid Energy Jaisalmer Two Ltd.		5 years have not completed since commissiong					
73	Adani Hybrid Energy Jaisalmer Three Ltd.		5 years have not completed since commissiong					
74	Adani Hybrid Energy Jaisalmer Four Ltd. (AEML 1 - 350)		5 years have not completed since commissiong					
75	Adani Hybrid Energy Jaisalmer Four Ltd. (AEML 2 - 250)		5 years have not completed since commissiong					
76	Adani Renewable Energy (RJ) limited Rawara		Received	1/15/2026				
77	Adani Solar Energy Four Private Limited		5 years have not completed since commissiong					
78	Adani Solar Energy Jaisalmer Two Private Limited Project Two		5 years have not completed since commissiong					
79	SB Energy Six Private Limited, Bhadla	AGEL	5 years have not completed since commissiong					
80	Adani Solar Energy Jodhpur Two Limited, Rawara		5 years have not completed since commissiong					
81	Adani Solar Energy Jaisalmer One Ltd. (Hybrid450)		5 years have not completed since commissiong					
82	Adani Solar Energy RJ Two Pvt. Ltd. (Devikot)		5 years have not completed since commissiong					
83	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)		5 years have not completed since commissiong					
84	Adani Green Energy 24 Limited (Bhimsar)		5 years have not completed since commissiong					
85	Adani Green Twenty-Five Limited (Badisid)		5 years have not completed since commissiong					
86	Bhadla park - South block		Received	1/28/2026				
87	AEML-250 WIND (Hybrid-2A)		5 years have not completed since commissiong					
88	AEML-260 WIND (Hybrid-2B)		5 years have not completed since commissiong					
89	Hybrid450-WIND (SBE Hybrid 450)		5 years have not completed since commissiong					
90	Altra Xergi Pvt. Ltd.		Conducted		Completed	04.02.2025	60	
91	AMP Energy Green Four Pvt. Ltd.				Completed for common substation			
92	AMP Energy Green Five Pvt. Ltd.		Received	Nov-27				
93	AMP Energy Green Six Pvt. Ltd.		Received	Nov-27		02.09.2025	63	
94	Amplus Aqes Private Limited		Received	31-12-2028				
95	Avaada RJHN 240MW		Received	Aug-26				
96	Avaada sunce energy Pvt limited		Received	Aug-26				
97	Avaada Sunrays Pvt. Ltd.		Received	Aug-27				
98	Avaada Sustainable RJ Pvt. Ltd.		Received	Aug-26				
99	Ayana Renewable Power Three Private Limited		Conducted		24.05.2025		61	
100	Ayaana Renewable Power One Pvt. Ltd.		Conducted				59	
101	Azure Power Forty One Pvt limited							
102	Azure Power Forty Three Pvt. Ltd. RSS							
103	Azure Maple Pvt. Ltd.							
104	AZURE POWER INDIA Pvt. Ltd., Bhadla							
105	Azure Power Thirty Four Pvt. Ltd.							
106	Clean Solar Power (Jodhpur) Pvt. Ltd.	Hero Future Energies	Received	Dec-26				
107	Eden Renewable Cite Private Limited							
108	Grian Energy private limited		Received	31-12-2028				
109	Mahindra Renewable Private Limited							
110	Mega Surya Urja Pvt. Ltd. (MSUPL)							
111	AURAIYA Solar							
112	DADRI SOLAR							
113	SINGRAULI SOLAR							
114	Anta Solar							
115	Unchahar Solar							
116	NTPC Devikot Solar plant 240MW		Received	Aug-26				
117	NTPC Kolayat 400kV		Received	May-26				
118	Nedan Solar NTPC		Received	Jul-26				
119	NTPC Nokhra 300MW		Received	Jun-26				
120	One Volt energy Pvt. Ltd.		Received	31-12-2028				
121	ReNew Solar Urja Private Limited	IndiGrid						
122	Renew Surya Ayaan Pvt. Ltd.	IndiGrid						
123	ReNew Solar Energy (Jharkhand Three) Private Limited	ReNew	Received	29-01-2027				
124	RENEW SOLAR POWER Pvt. Ltd. Bhadla	ReNew	Not Applicable as Plant running on 33kV					
125	Renew Sun Bright Pvt. Ltd. (RSBPL)	ReNew	Received	16-04-2027				
126	Renew Surya Partap Pvt. Ltd.	ReNew	Received	22-07-2029				
127	Renew Surya Ravi Pvt. Ltd.	ReNew	Received	24-07-2027				
128	Renew Surya Roshni Pvt. Ltd.	ReNew	Received	4/9/2029				
129	Renew Surya Vihan Pvt. Ltd.	ReNew	Received	27-08-2029				
130	Neemba Renew Surya Vihan Pvt Ltd	ReNew	Received	30-09-2030				
131	ReNew Surya Jyoti Pvt. Ltd	ReNew	Received	11/10/2030				
132	Renew Solar Photovoltaic Pvt Ltd	ReNew	STU-connected projects					
133	ReNew Hans Urja Pvt Ltd.	ReNew	STU-connected projects					
134	RENEW SOLAR POWER Pvt. Ltd. Bikaner	ReNew	awarded the PO					
135	ReNew Dinkar Urja Pvt. Ltd.	ReNew						
136	Rising Sun Energy-K Pvt. Ltd.							
137	Serentica Renewables India 4 Private Limited		Received	Mar-29				
138	Serentica Renewables India 5 Private Limited		Received	Mar-29				
139	Khidrat Renewable energy Pvt ltd.							
140	Solzen Urja Private Limited		Received	Oct-26				
141	Tata Power Green Energy Ltd. (TPGEL) (225MW)		Received	31-03-2027				
142	Tata Power Renewable Energy Ltd. (TPREL) (300MW)		Received	31-03-2027				
143	Thar Surya Pvt. Ltd.							
144	TP Surya Ltd., Noorsar (110MW)		Received	31-03-2027				
145	Banderwala Solar Plant TP Surya Ltd. (300MW)		Received	31-03-2027				
146	TRANSITION ENERGY SERVICES PRIVATE LIMITED							
147	Transition Green Energy Private Limited							
148	Transition Sustainable Energy Services Private Limited							
149	Gorbea Solar Pvt Ltd (GSPL)							
150	Prerak Greentech Private Limited (PGPL)							
151	Megasolis Renewables Pvt Ltd(MSRPL)							

RVPN (internal 2025-26)

1. 220kV Substation Baman ka Tukda

1. REF for HV side of 220kV/132kV Transformer has pick up current as 20% while as per philosophy the. It should be 10-15% of full load current.
2. Over flux protection setting for power transformers, may be kept as per capability curve provided by OEM curve or as per philosophy.
3. As per audit report, main-2 relay of 220kV Kankroli & Bali line-II line is defective.
4. Bus Bar protection functional has been mentioned in the audit report. Still zone-4 time setting has been kept as 160msec.

2. 220kV Substation Hamirgarh

1. Over flux protection setting for transformer-1, may be kept as per capability curve provided by OEM curve or as per philosophy.
2. Over current protection is enabled in 220kV transmission lines in case of VT fuse failure with Plug setting 100%, 200msec. delay.
3. Bus Bar protection functional has been mentioned in the audit report. Still zone-4 time setting has been kept as 160msec.

3. 220kV Substation Pratapgarh

1. Over flux protection setting for transformer-1, may be kept as per capability curve provided by OEM curve or as per philosophy.
2. Bus Bar protection functional has been mentioned in the audit report. Still zone-4 time setting has been kept as 160msec.

BBMB (internal 2025-26)

1. 400/220 kV GSS Bhiwani

1. Both main-1 & 2 distance relay for 400kV Rajpura ckt are of same make.
2. Line length of 220 kV Bhiwani -Bapora ckt.- I & II 6.8 KM, however, the zone-2 time delay has been taken as 0.5 sec. As per the philosophy, time delay of .5 sec may be taken for the long line followed by short line. Further, for very short

line (less than 10 km), line differential protection with distance protection as backup (built- in Main relay or standalone) shall be provided mandatorily as Main-I and Main-II.

3. Unrestrained operation level of Differential protection is 2.5pu and 1pu for 400kV, 50MVAR bus reactor and 400kV, 50MVAR line reactor while as per philosophy, it should be 2pu.
4. Over flux protection setting for power transformers, may be kept as per capability curve provided by OEM curve or as per philosophy.

2. 220kV Substation Hisar

1. 220kV Hisar-IA ckt-1 & 2 are of 3.2kM & 3.7kM which has distance protection with zone-2 time delay as .23sec which is not as per philosophy. Further, for very short line (less than 10 km), line differential protection with distance protection as backup (built- in Main relay or standalone) shall be provided mandatorily as Main-I and Main-II.
2. 220 kV Hisar-Jindal Steel Ltd. S/ckt has same make differential for both main - 1 & 2
3. For 220/132 kV, 100 MVA T/F T-1 & 3, I2/I1= 20% & I5/I=30% has been taken which is not as per philosophy.
4. Over flux protection setting for power transformers, may be kept as per capability curve provided by OEM curve or as per philosophy.

3. 220kV Substation Charkhi Dadri

1. Over flux protection setting for power transformers, may be kept as per capability curve provided by OEM curve or as per philosophy.

PSTCL (internal 2025-26)

1. 220kV Substation Dhandari Kalan-2

1. 220kV Jamalpur circuit is of 3.82kM with main -1 distance and main -2 differential protection while as per philosophy, for very short line (less than 10 km), line differential protection with distance protection as backup (built- in Main relay or standalone) shall be provided mandatorily as Main-I and Main-II.
2. For HV side of 220kV/66kV 160MVA T/F-1 & 100MVA T/F-3, the high set over current protection delay is mentioned as 100msec while as per philosophy it should be 0 to 50msec.
3. Bus Bar protection scheme is not operational.

2. 220kV Substation Malerkotla

1. Distance protection relay are of same make for main -1 & 2 for 220kV Dhuri Ckt-1,2 and Sandaur.
2. Bus Bar protection scheme is not operational.
3. For HV side of 220kV/66kV 160MVA T/F-1, the high set over current protection delay is mentioned as 100msec while as per philosophy it should be 0 to 50msec.

POWERGRID NR-2 (internal 2025-26)

1. Unrestrained operation level for differential protection of Reactor may be aligned with protection philosophy.
2. Observations may be complied as identified in internal audit.

Serentica Renewables (internal 2025-26)

SRI4PL Bikaner

1. For 125 MVA & 150 MVA transformers, I2/I1= 20% & I5/I=35% has been taken which is not as per philosophy.
2. High set non directional earth fault time setting is 150msec. while as per philosophy, it should be between 0-50msec for HV side.

HPPTCL (internal 2025-26)

1. 220kV GIS Heiling

1. Main_-1 relay of 220kV Heiling- Bajoli Holi line (length is 2.003km) has only distance protection protection instead of differential main cum distance back up.
2. Zone-2 reach setting may be aligned as per philosophy for 220kV Heiling-Lahal single circuit line & Heiling- Bajoli Holi line.
3. Zone-4 reach setting is to be set properly for main -1 relay of 220kV Heiling-Bajoli Holi line.
4. For 220/66 kV, 100 MVA T/F I2/I1= 20% & I5/I=35% has been taken which is not as per philosophy.
5. In high set over current protection for HV side 220/66 kV, 100 MVA T/F, the time setting is 100msec and current setting is at 95% of through fault level of transformer which is not as per philosophy.
6. In high set earth fault protection for HV side 220/66 kV, 100 MVA T/F, the time setting is 100msec and current setting is at 60% of through fault level of transformer which is not as per philosophy.
7. In high set earth fault protection for LV side 220/66 kV, 100 MVA T/F, current setting is at 47.4% of through fault level of transformer which is not as per philosophy.

2. 400kV GIS Lahal

1. In high set over current & earth Fault protection for HV & LV side 400/220kV, 315 MVA T/F, the time setting is 100msec both side and current setting is at 97.71% (HV side) & 98.74% (LV side) of through fault level of transformer which is not as per philosophy.

3. 400kV GIS Gumma

1. In high set over current & earth Fault protection for HV & LV side 400/220kV, 315 MVA T/F, the time setting is 100msec both side which is not as per philosophy.

Zelestra (Gorbea Solar Private Limited) (Internal 25-26)

1. Cross blocking is disabled in differential protection of transformer.

AGEL (internal 2025-26)

1. SBE_Wind to AGEL Hybrid 450 PSS

1. Power Swing is enabled. Should be kept blocked as per NRPC protection philosophy.
2. Zone reach has not been mentioned .
3. Backup relay operating time not mentioned.

2. AGEL to AGEL Wind PS

1. For **220 kV and above lines with Main-I & Main-II distance protection**, **No directional overcurrent (67) shall be enabled** as backup (only Earth Fault backup is permitted). Directional Over Current function is ON.
2. Broken Conductor Alarm time set as 60 sec. As per philosophy, it should be within 3-20 sec.

External 2025

SJVN (RHPS)

1. Zone-2 reach setting for 400 kV Nathpa Jhakri Rampur Double CKT & Rampur -Nalagarh Double ckt is Maximum of 120% of protected line and 100% of protected line + 50 % of shortest line from remote end while as per philosophy, 150% of line.
2. Zone-3 reach setting for 400 kV Nathpa Jhakri Double CKT & Rampur - Nalagarh Double ckt is 120 % of protected line length + 100% of remote end longest line while as per philosophy, Zone-3 should overreach the remote terminal of the longest adjacent line by an acceptable margin (typically 20% of highest impedance seen) for all fault conditions.
3. Under Voltage protection for Main-2 of 400 kV Nathpa Jhakri Rampur ckt-1 at 70%, 0 sec. delay which is not given in philosophy. (page 68)
4. For Generator Transformer differential protection, unrestrained operation level IdUnre is 10 while as per philosophy, Unrestrained differential current ≤ 1/(% impedance at nominal tap) (i.e. 1/.145=6.9).
5. For Generator Transformer REF protection, pick up current value is .01 instead of .1.

Annexure-A.IX

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

दिनांक: 30 जनवरी, 2026

सेवा में / To,

सूची के अनुसार (As per Addressee List attached)

Subject: Reminder for Nomination of nodal officer for providing protection related inputs for compliance of Protection Code of IEGC 2023-reg.

Ref: NRPC Secretariat letter dated 25.09.2025 on the subject above & MoM of 65th PSC meeting, issued vide letter dated 23rd January 2026 (enclosed)

Reference is invited to NRPC Secretariat letter dated 25.09.2025 vide which nominations were sought for providing protection related inputs for compliance of Protection Code of IEGC 2023.

The nominated officer shall collect data from concerned offices of their utility and send a compiled data to NRPC Secretariat. The nominated officer shall be in direct communication with NRPC Secretariat for reporting of various indices, reports and provide the other protection related inputs for compliance of Protection Code of IEGC 2023. The nominated officer shall also be responsible for communication with NRPC Secretariat for updating protection setting database.

However, nomination has not been received from your office as of now. The issue was discussed again in the 65th Protection Sub-Committee (PSC) meeting, held on 30th December 2025 wherein Utilities were also requested to expedite the nomination of nodal officers and decided that a letter may be issued for reminder.

In view of above, **it is reminded to send the nomination** of one officer (**strictly**) (at seo-nrpc@nic.in) within **one week.**

Encls: As above

DHARMENDER KUMAR MEENA
Digitally signed by DHARMENDER KUMAR MEENA
Date: 2026.02.02 17:01:08 +05'30'

(डी. के. मीना)
निदेशक (संरक्षण)

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

S. No.	NRPC Member Organization	Designation	Email-ID
1	PGCIL	CGM	kuleshwar@powergrid.in, ahmed.shafat@powergrid.in, pankajsharma@powergrid.in, spandey@powergrid.in
2	NTPC	DGM(OS-NR)	rameshsingh@ntpc.co.in
3	THDC	AGM (O&M) ,Tehri	ravindrasrana@thdc.co.in
4	SJVN	General Manager	sjvn.cso@sjvn.nic.in
5	NHPC	General Manager (O&M)	hod-om-co@nhpc.nic.in
6	NPCIL	Technical Services Superintendent (TSS)	tss.naps@npcil.co.in, rvoza@npcil.co.in, singhp@npcil.co.in
7	Delhi SLDC	General Manager	gmsldc@delhisldc.org
8	Haryana SLDC	Chief Engineer (SO&C)	cesocomml@hvpn.org.in
9	Rajasthan SLDC	Chief Engineer (LD)	ce.ld@rvpn.co.in
10	Uttar Pradesh SLDC	Superintending Engineer (R&A)	sera@upsldc.org
11	Uttarakhand SLDC	Chief Engineer	anupam_singh@ptcul.org
12	Punjab SLDC	Chief Engineer	ce-sldc@punjabsldc.org
13	Himachal Pradesh SLDC	Chief Engineer	cehpsldc@gmail.com
14	DTL	AGM-Protection	bharatgujardtl@gmail.com
15	PSTCL	Chief Engineer (P&M)	ce-pm@pstcl.org
16	HPGCL	SE/M&T RGTPP	semt.rgtpp@hpgcl.org.in
17	UJVNL	Managing Director	mdujvnl@ujvnl.com
18	PSPCL	Chief Engineer/GHTP	ce-ghtp@pspcl.in
19	HPSEB	Managing Director	md@hpseb.in
20	Prayagraj Power Generation Co. Ltd.	Head (Commercial & Regulatory), DGM - Elect	sanjay.bhargava@tatapower.com dhananjay.singh@ppgcl.co.in
21	Aravali Power Company Pvt. Ltd	CEO	brahmajig@ntpc.co.in
22	Apraava Energy Private Limited	GM-Electrical	navin.chaturvedi@apraava.com
23	Talwandi Sabo Power Ltd.	COO	Vibhav.Agarwal@vedanta.co.in
24	Nabha Power Limited	CEO	sk.narang@larsentoubro.com
25	Rosa Power Supply Company Ltd	GM-ELECTRICAL	Kesarinandan.pandey@reliancegroupindia.com
26	Adani Power Rajasthan Limited	GM	Ashish.Baviskar@adani.com
27	Transition Cleantech Services Private Limited	Deputy Manager	kswamidoss@evrenenergy.com
28	UT of J&K	MD, JKPTCL CE, JKPCL	mdjkptcl1@gmail.com, cejkpcl2@gmail.com
29	UT of Ladakh	Chief Engineer, LPDD	cepdladakh@gmail.com
30	UT of Chandigarh	Executive Engineer	elop2-chd@nic.in
31	Gurgaon Palwal Transmission Limited	Head Regulatory	Lokendra.Ranawat@indigrid.com
32	NTPC Green Energy Limited	CEO, Sr. Mgr	rajivgupta@ntpc.co.in, sandeepdahiya@ntpc.co.in
33	Azure Power India Pvt. Limited	CEO	sunil.gupta@azurepower.com
34	Avaada Energy Private Limited	CEO	kishor.nair@avaada.com

List of Members of Rnenewable Energy Sub-committee

S. No.	Members of RE Sub-committiee	Representative Email ID
1	ABC Renewable Pvt. Ltd	aman.chaturvedi@petronas.com; deepak.asopa@petronas.com; urvika.acharya@petronas.com
2	ACME Heeragarh powertech Pvt. Ltd	prachi.chauhan@acme.in; planthead.badisidd.solar@acme.in; ashutosh.singh@acme.in;
3	ACME Phalodi	
4	ACME Deogarh	
5	ACME Raisar	
6	ACME Dhaulpur	
7	ACME Sikar	
8	ACME Chittorgarh Solar Energy Pvt Ltd	sandeeptak@ayanapower.com; yogesh@ayanapower.com;
9	Altra Xergi Pvt. Ltd.	mahendra.kumar@O2power.in;
10	AMP Energy Green Four Pvt. Ltd.	vbhattacharya@ampenergyindia.com;
11	AMP Energy Green Five Pvt. Ltd.	
12	AMP Energy Green Six Pvt. Ltd.	
13	Avaada RJHN_240MW	alpesh.prajapati@avaada.com;
14	Avaada sunce energy Pvt limited	
15	Avaada Sunrays Pvt. Ltd.	
16	Avaada Sustainable RJ Pvt. Ltd.	
17	Ayana Renewable Power Three Private Limited	Venkatraman@ayanapower.com; rajeshshukla@ayanapower.com;
18	Ayaana Renewable Power One Pvt. Ltd.	
19	Azure Power Forty One Pvt limited	sourin.nandi@azurepower.com;
20	Azure Power Forty Three Pvt. Ltd._RSS	manohar.reddy@azurepower.com;
21	Azure Maple Pvt. Ltd.	sourin.nandi@azurepower.com;
22	AZURE POWER INDIA Pvt. Ltd., Bhadla	yogesh.kumar@adani.com;
23	Azure Power Thirty Four Pvt. Ltd.	manohar.reddy@azurepower.com;
24	Clean Solar Power (Jodhpur) Pvt. Ltd.	simhadri.kesapragada@herofutureenergies.com;
25	Clean Solar Power (Bhadla) Pvt. Ltd	atul.tomar@herofutureenergies.com; sushant.sinha@herofutureenergies.com;
26	Eden Renewable Cite Private Limited	dejendra.sharma@eden-re.com
27	Mahindra Renewable Private Limited	mehar.rahmatulla@mahindra.com; patil.saurabh2@mahindra.com;
28	Mega Surya Urja Pvt. Ltd. (MSUPL)	msupl_250mw_ists@mahindra.com; pankaj.vaidya@seit.co.in; niraj.shah@seit.co.in;
29	AURAIYA Solar	rajivgupta@ntpc.co.in;
30	DADRI SOLAR	
31	SINGRAULI SOLAR	
32	Anta Solar	
33	Unchahar Solar	
34	NTPC Devikot Solar plant_240MW	
35	NTPC Kolayat_400kV	
36	Nedan Solar NTPC	
37	NTPC Nokhra_300MW	
38	Solzen Urja Private Limited	Neeraj.Verma@energy-sel.com
39	ReNew Solar Urja Private Limited	anilbhai.chaudhari@indigrid.com, rohit.kashav@indigrid.com,
40	Renew Surya Ayaan Pvt. Ltd.	hiteshbhai.shiyal@indigrid.com
41	Rising Sun Energy-K Pvt. Ltd.	tushar.gahlot@risingsunenergy.in;
42	Serentica Renewables India 4 Private Limited	rajendra.gupta@serenticaglobal.com, regulatory@serenticaglobal.com,Serentica_Asset_NR@sterlitepower.com, kunal.kaistha@serenticaglobal.com, atul.pachauri@serenticaglobal.com,
43	Serentica Renewables India 5 Private Limited	

44	Khidrat Renewable energy Pvt ltd.	lalit.shukla@serenticaglobal.com, ashwary.sharma@serenticaglobal.com
45	Tata Power Green Energy Ltd. (TPGEL)	vinod.kumar@tatapower.com;
46	Tata Power Renewable Energy Ltd. (TPREL)	dhmahabale@tatapower.com; imran.khan@tatapower.com;
47	Thar Surya Pvt. Ltd.	vivek.reddy2@enel.com; mahendra.vishnoi2@enel.com
48	TP Surya Pvt. Ltd.	sivanarayana@tatapower.com; sagar.potdar@tatapower.com;
49	Banderwala Solar Plant TP Surya Ltd.	arun.sahoo@tatapower.com;
50	TRANSITION ENERGY SERVICES PRIVATE LIMITED	kak@evrenenergy.com;
51	Transition Green Energy Private Limited	
52	Transition Sustainable Energy Services Private Limited	
53	Gorbea Solar Pvt Ltd	richpal.singh@zelestra.energy kalpesh.umaretia@zelestra.energy

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	Lokendra.Ranawat@indigrid.com
2	NRSS-XXIX Transmission Ltd		
3	Parbati Koldam Transmission Company Limited		
4	Patran Transmission Company Ltd		
5	NRSS XXXVI Transmission Ltd	TATA POWER	rajnishmehrotra@tatapower.com
6	AD Hydro Power Limited	-	sumitgarg@lnjbhilwara.com
7	Aravali Power Company Private Limited		amit.hooda01@apcpl.co.in
8	POWERLINKS TRANSMISSION LIMITED (PTL)	-	sandeep.shukla@tatapower.com

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

दिनांक:21.01.2026

सेवा में

As per attached list of Members and Other invitees

विषय: संरक्षण उप-समिति की 65 वीं बैठक की कार्यवृत्त |

Subject: Minutes for 65th Protection Sub-Committee Meeting-reg

संरक्षण उप-समिति की **65 वीं बैठक, दिनांक 30.12.2025 को 11:00 बजे** से **एनआरपीसी सचिवालय, कटवारिया सराय, नई दिल्ली** में आयोजित की गयी थी | उक्त बैठक की कार्यवृत संलग्न है I यह उत्तर क्षेत्रीय विद्युत् समिति की वेबसाइट (**https://nrpc.gov.in/meetings/prsub.html**) पर भी उपलब्ध है |

The **65th meeting** of the Protection Sub-Committee was held on **30.12.2025** at **11:00 Hrs** at **NRPC Secretariat, Katwaria Sarai, New Delhi**. The minutes of the meeting is attached herewith. The same is also available on the NRPC website **(https://nrpc.gov.in/meetings/prsub.html).**

DHARMENDER KUMAR MEENA
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Date: 2026.01.23 12:39:47 +05'30'

(डी.के. मीना)

(D.K. Meena)

निदेशक (संरक्षण)

deliberation & consent from all concerned States & utilities.

A.10.4 In view of the above submission and considering the regional impact & operational dependencies, HVPNL has requested NRPC to convene a joint meeting of all the concerned stakeholders in order to finalise the configuration, consent for tripping of feeders and operational logic for the SPS scheme to resolve N-1 non-compliance of ICTs at 400 kV Substations, BBMB, Panipat as well as to enable enhancement of ATC/TTC for Haryana while ensuring system security under contingency conditions.

A.10.5 Haryana SLDC has also highlighted that matter is critical for the secure and economic operation of the grid and to address the enhancement of transfer capability for Haryana in the next summer season.

A.10.6 In the meeting, a representative from Haryana SLDC was absent. Accordingly, it was decided to take up the agenda on the availability of Haryana SLDC in the upcoming OCC/PSC.

Decision of the Forum:

Representative from Haryana SLDC was absent. Accordingly, it was decided to take up agenda on availability of Haryana SLDC in the upcoming OCC/PSC.

A.11. Updation of protection settings database (agenda by NRPC Secretariat)

A.11.1 AE, NRPC apprised that as per regulation 14 (3) of IEGC 2023:

RPCs shall maintain a centralized database and update the same on a periodic basis in respect of their respective region containing details of relay settings for grid elements connected to 220 kV and above (132 kV and above in NER). RLDCs shall also maintain such a database.

A.11.2 The agenda was discussed in the 62nd PSC meeting held on 26.08.2025. Accordingly, data available with the NRPC Secretariat has been placed in the Microsoft OneDrive link and has been shared with Nodal Officers for review. It was requested that if any element (line/ICT/etc) is missing, the same may be intimated to the NRPC Secretariat.

A.11.3 However, **NRPC Secretariat has not received any feedback from Nodal Officers**.

A.11.4 Further, some utilities have not nominated nodal officers as on date. Letter dated 25.09.2025 asking for nomination is attached as Annexure-VIII (of agenda) for reference. List of nodal officers received is attached as **Annexure-X.**

A.11.5 In the meeting, UPPTCL and HVPN representatives apprised that folders need updation as some elements' name is missing.

A.11.6 Utilities were requested to inform the NRPC Secretariat of the requirement for requirement of addition of elements in the folder. Accordingly, "edit" permission shall be granted for the updation of the database.

A.11.7 Utilities were also requested to expedite the nomination of nodal officers.

A.11.8 SE, NRPC stated to issue a reminder.

Decision of the Forum:

i. *Utilities were requested to inform the NRPC Secretariat for the addition of elements in the folder. Accordingly, "edit" permission shall be granted for updation of database.*

ii. *Nomination of Nodal Officers may be expedited. A letter may be issued for reminder.*

A.12. Higher 5Th order Harmonics at Rihand Dadri Terminals (Agenda by NR-3/PGCIL)

A.12.1 PGCIL, NR-3 apprised that tripping of Type-3 filters (5/27) Harmonic on overload protections at HVDC Rihand & Dadri terminals was discussed under 58th Protection Sub-Committee Meeting. There is total 03 nos. of Type 3 Filter Banks named Z13, Z23 & Z33 are installed at HVDC Rihand. It has been observed that whenever any of the Type-3 Filter Bank (5/27) is charged either from RPC or manually, filter banks got tripped on resistive or reactive overload protections due to higher 5th Order Harmonics coming from Grid.

A.12.2 **Decision of the 58th PSC Forum**: Forum decided that POWERGRID may issue a letter to NTPC, Hindalco and other utilities for arranging the measurement of power quality i.e. 5th Harmonics on HVAC network and submit the reports within 2 months from issuance of the letter.

A.12.3 In view of the forum decision, POWERGRID had served the letter to NTPC Rihand,

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Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

दिनांक: 25 सितम्बर, 2025

सेवा में / To,

सूची के अनुसार (As per Addressee List attached)

Subject: Nomination of nodal officer for reporting of protection performance indices & provide the other protection related inputs for compliance of Protection Code of IEGC 2023-reg.

Ref: MoM of 62nd Protection Sub-Committee (PSC) meeting, held on 26th August 2025 (enclosed)

Reference is invited to agenda A.3 of **62nd Protection Sub-Committee (PSC)** meeting, held on 26th August 2025 wherein it was observed that utilities are not reporting protection indices data completely and timely, accordingly, it was decided that an officer to be nominated by each utility for reporting of protection performance indices and provide the other protection related inputs.

The nominated officer shall be responsible for timely submission of protection performance indices along with reason and corrective action taken for indices less than unity to NRPC Secretariat. The nominated officer shall collect data from concerned offices of their utility and send a compiled data to NRPC Secretariat.

The nominated officer shall also be responsible for communication with NRPC Secretariat for updating protection setting database and submission of protection audit reports.

The nominated officer shall be in direct communication with NRPC Secretariat for reporting of various indices, reports and provide the other protection related inputs for compliance of Protection Code of IEGC 2023.

In view of above, it is requested to send the nomination of one officer (**strictly**) (at seo-nrpc@nic.in) with details as below within **one week**:

Name of officer	Designation	Mobile No.	E-mail Id	Present Posting location

Encls: As above

DHARMENDER KUMAR MEENA
Digitally signed by DHARMENDER KUMAR MEENA
Date: 2025.09.26 17:49:26 +05'30'

(डी. के. मीना)
निदेशक (संरक्षण)

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

S. No.	NRPC Member Organization	Designation	Email-ID
1	Member (GO&D), CEA	Director, NPC Division	skdotancea@nic.in
2	NTPC Vidyut Vyapar Nigam Ltd.	CEO	ceonvvn@ntpc.co.in
3	CTUIL	Sr.GM	schakraborty@powergrid.in
4	PGCIL	GM	gunjan.agrawal@powergrid.in
5	NLDC*	Executive Director	scsaxena@grid-india.in
6	NRLDC	CGM(SO)	somara.lakra@grid-india.in
7	NTPC	DGM(OS-NR)	rameshsingh@ntpc.co.in, asbhogal@ntpc.co.in
8	BBMB	Director (P&C)	dirpc@bbmb.nic.in
9	THDC*	AGM (O&M) ,Tehri	ravindrasrana@thdc.co.in
10	SJVN	General Manager	sjvn.cso@sjvn.nic.in
11	NHPC	General Manager (O&M)	hod-om-co@nhpc.nic.in
12	NPCIL*	Director (Finance), SO/F, TSU(E&I)	df@npcil.co.in rajeshsharma@npcil.co.in
13	Delhi SLDC	General Manager	gmsldc@delhisldc.org
14	Haryana SLDC	Chief Engineer (SO&C)	cesocomml@hvpn.org.in
15	Rajasthan SLDC	Chief Engineer (LD)	ce.ld@rvpn.co.in
16	Uttar Pradesh SLDC	Superintending Engineer (R&A)	sera@upsldc.org
17	Uttarakhand SLDC	Chief Engineer	anupam_singh@ptcul.org
18	Punjab SLDC	Chief Engineer	ce-sldc@punjabsldc.org
19	Himachal Pradesh SLDC	Chief Engineer	cehpsldc@gmail.com
20	DTL	AGM-Protection	bharatgujardtl@gmail.com
21	HVPNL	Chief Engineer (TS)	cetspkl@hvpn.org.in
22	RRVPNL	CE (M&P)	ce.mps@rvpn.co.in
23	UPPTCL*	Managing Director	md@upptcl.org
24	PTCUL	SE(T&C)	setandchld@gmail.com
25	PSTCL	Chief Engineer (P&M)	ce-pm@pstcl.org
26	HPPTCL*	Managing Director	md.tcl@hpmail.in
27	IPGCL	DGM (Protection)	arif.ipgcl@gmail.com
28	HPGCL	SE/M&T RGTPP	semt.rgtpp@hpgcl.org.in
29	RRVUNL*	CMD	cmd@rrvun.com
30	UPRVUNL	Chief Engineer, (L-2)	ce.ppmm@uprvunl.org
31	UJVNL*	Managing Director	mdujvnl@ujvnl.com
32	HPPCL*	Managing Director	md@hppcl.in
33	PSPCL	Chief Engineer/GHTP	ce-ghtp@pspcl.in
34	DHBVN	Chief Engineer	ctorapdrp@dhbvn.org.in semp@dhbvn.org.in
35	Ajmer Vidyut Vitran Nigam Ltd.	Managing Director	MD.AVVNL@RAJASTHAN.GOV.IN
36	Purvanchal Vidyut Vitaran Nigam Ltd.	Managing Director	md@puvvnl.in
37	UPCL*	Managing Director	md@upcl.org
38	HPSEB*	Managing Director	md@hpseb.in
39	Prayagraj Power Generation Co. Ltd.*	Head (Commercial & Regulatory), DGM - Elect	sanjay.bhargava@tatapower.com, dhananjay.singh@ppgcl.co.in
40	Aravali Power Company Pvt. Ltd*	CEO	brahmajig@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 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@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	jyotiprakash.panda@jsw.in
50	Transition Cleantech Services Private Limited*	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, Sr. Mgr	rajivgupta@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.*

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
5	Powergrid Corporation of India Ltd.	saroj.mishra@powergrid.in; yashpal@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;
8	Solar Energy Corporation of India	sanjaysharma@seci.co.in; vkumar@seci.co.in;
9	National Solar Energy Federation of India	ankur.kumar@nsefi.in; ceooffice@nsefi.in;
10	Indian Wind Power Association	secretarygeneral@indianwindpower.com;
11	ABC Renewable Pvt. Ltd	aman.chaturvedi@petronas.com; deepak.asopa@petronas.com; urvika.acharya@petronas.com
12	ACME Heeragarh powertech Pvt. Ltd	prachi.chauhan@acme.in; planthead.badisidd.solar@acme.in; ashutosh.singh@acme.in;
13	ACME Chittorgarh Solar Energy Pvt Ltd	sandeeptak@ayanapower.com; yogesh@ayanapower.com;
14	Adani Hybrid Energy Jaisalmer One Ltd.	
15	Adani Hybrid Energy Jaisalmer Two Ltd.	
16	Adani Hybrid Energy Jaisalmer Three Ltd.	
17	Adani Hybrid Energy Jaisalmer Four Ltd.	
18	Adani Renewable Energy (RJ) limited Rawara	
19	Adani Solar Energy Jaisalmer One Pvt. Ltd._450MW (Solar)	
20	Adani Solar Enegry Four Private Limited	
21	Adani Solar Energy Jaisalmer Two Private Limited	kailash.nagora@adani.com;
22	Adani Solar Energy Jaisalmer Two Private Limited Project Two	sanjay.bhatt@adani.com;
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)	
28	Adani Solar Energy RJ Two Pvt. Ltd. (Phalodi)	
29	Adani Green Energy 19 Limited	

30	Altra Xergi Pvt. Ltd.	mahendra.kumar@O2power.in;
31	AMP Energy Green Five Pvt. Ltd.	vbhattacharya@ampenergyindia.com;
32	AMP Energy Green Six Pvt. Ltd.	
33	Amplus Ages Private Limited	manish.tak@amplussolar.com;
34	Avaada RJHN_240MW	alpesh.prajapati@avaada.com;
35	Avaada sunce energy Pvt limited	
36	Avaada Sunrays Pvt. Ltd.	
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. Ltd._RSS	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;
46	Clean Solar Power (Bhadla) Pvt. Ltd	
47	Eden Renewable Cite Private Limited	dejendra.sharma@eden-re.com
48	Grian Energy private limited	mehul.sharma@amplussolar.com;
49	Mahindra Renewable Private Limited	mehar.rahmatulla@mahindra.com; patil.saurabh2@mahindra.com;
50	Mega Surya Urja Pvt. Ltd. (MSUPL)	msupl_250mw_ists@mahindra.com;
51	AURAIYA Solar	rajivgupta@ntpc.co.in;
52	DADRI SOLAR	
53	SINGRAULI SOLAR	
54	Anta Solar	
55	Unchahar Solar	
56	NTPC Devikot Solar plant_240MW	
57	NTPC Kolayat_400kV	
58	Nedan Solar NTPC	
59	NTPC Nokhra_300MW	
60	One Volt energy Pvt. Ltd.	amarjeet.thakur@amplussolar.com;
61	ReNew Solar Energy (Jharkhand Three) Private Limited	purnendu.chaubey@renew.com; kailash.pandey@renew.com;
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)	
66	Renew Surya Partap Pvt. Ltd.	
67	Renew Surya Ravi Pvt. Ltd.	
68	Renew Surya Roshni Pvt. Ltd.	
69	Renew Surya Vihan Pvt. Ltd.	
70	Renew Surya Ayaan Pvt. Ltd.	
71	RENEW SOLAR POWER Pvt. Ltd. Bikaner	

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;
75	Tata Power Renewable Energy Ltd. (TPREL)	dhmahabale@tatapower.com; 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	kak@evrenenergy.com;
80	Transition Green Energy Private Limited	
81	Transition Sustainable Energy Services Private Limited	

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

S.N.	TBCB/ Licensee Name	Owner Company	E-mail ID
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		

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

दिनांक:16.09.2025

सेवा में
As per attached list of Members and Other invitees

विषय: संरक्षण उप-समिति की 62 वीं बैठक की कार्यवृत्त |
Subject: Minutes for 62nd Protection Sub-Committee Meeting-reg

संरक्षण उप-समिति की **62 वीं बैठक, दिनांक 26.08.2025 को 10:30 बजे** से **एनआरपीसी सचिवालय, कटवारिया सराय, नई दिल्ली** में आयोजित की गयी थी | उक्त बैठक की कार्यवृत्त संलग्न है I यह उत्तर क्षेत्रीय विद्युत् समिति की वेबसाइट (http://164.100.60.165/) पर भी उपलब्ध है |

The **62nd meeting** of Protection Sub-Committee was held on **26.08.2025** at **10:30 Hrs** at **NRPC Secretariat, Katwaria Sarai, New Delhi**. The minutes of the meeting is attached herewith. The same is also available on NRPC website (http://164.100.60.165/).

DHARMENDER KUMAR MEENA
Digitally signed by DHARMENDER KUMAR MEENA
Date: 2025.09.16 16:30:40 +05'30'

(डी.के. मीना)
(D.K. Meena)
निदेशक (संरक्षण)

A.2. Status of action taken on decisions of 61st Protection Sub-Committee meeting (agenda by NRPC Secretariat)

A.2.1 The Status of action taken on the decisions of the 61st PSC meeting was informed to the Forum.

A.2.2 Concerned utilities submitted the status of action taken. Forum noted the same.

A.2.3 Updated status of action taken is attached as **Annexure-A.I**.

Decision of the Forum

Forum instructed utilities to take necessary action on pending issues.

A.3. Submission of protection performance indices along with reason and corrective action taken for indices less than unity to NRPC Secretariat for the month of June-July 2025 (agenda by NRPC Secretariat)

A.3.1 EE (P), NRPC apprised that as per clause 15 (6) of IEGC 2023;

- *Users shall submit the following protection performance indices of the previous month to their respective RPC and RLDC on a 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

Further, as per clause 15 (7) of IEGC 2023;

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

A.3.3 Accordingly, the status of the indices reported for the month of **June-July 2025** was presented before the Forum, as attached as **Annexure-A.II. Utilities from where the indices were pending were asked to submit on time in the future.**

A.3.4 The following issues were highlighted by EE (P):

i. Some Utilities have not submitted data.
ii. Utilities have submitted on date for some plants, but not all.
iii. Utilities have not mentioned corrective action taken for indices less than unity.
iv. Some utilities have sent data after the cut-off date of the 7th.

A.3.5 **Forum observed that the following utilities are non-compliant as indices (June-July-2025) have not been received in the NRPC Secretariat:**

i. **NTPC (Anta, Auriya, Koldam, Rihand, Singrauli)**
ii. **MEJA Urja Nigam Ltd.**
iii. **DTL**
iv. **UJVNL**
v. **APCPL**
vi. **MEIL Anpara Energy Ltd (Anpara-C)**
vii. **ACME Heeragarh powertech Pvt. Ltd**
viii. **ACME Chittorgarh Solar Energy Pvt Ltd**
ix. **Ayana Renewable Power Three Private Limited**
x. **Ayaana Renewable Power One Pvt. Ltd.**
xi. **Azure Power Forty One Pvt limited**
xii. **Azure Power Forty Three Pvt. Ltd._RSS**
xiii. **Azure Maple Pvt. Ltd.**
xiv. **AZURE POWER INDIA Pvt. Ltd., Bhadla**
xv. **Azure Power Thirty Four Pvt. Ltd.**
xvi. **SB Energy Six Private Limited, Bhadla**
xvii. **Clean Solar Power (Jodhpur) Pvt. Ltd.**
xviii. **Clean Solar Power (Bhadla) Pvt. Ltd**
xix. **Eden Renewable Cite Private Limited**
xx. **Mahindra Renewable Private Limited**
xxi. **Mega Surya Urja Pvt. Ltd. (MSUPL)**
xxii. **AURAIYA Solar**
xxiii. **DADRI SOLAR**
xxiv. **SINGRAULI SOLAR**
xxv. **Anta Solar**
xxvi. **Unchahar Solar**
xxvii. **ReNew Solar Urja Private Limited**
xxviii. **Rising Sun Energy-K Pvt. Ltd.**

xxix. **Serentica Renewables India 4 Private Limited**
xxx. **Thar Surya Pvt. Ltd.**
xxxi. **TP Surya Pvt. Ltd.**
xxxii. **TRANSITION ENERGY SERVICES PRIVATE LIMITED**
xxxiii. **Transition Green Energy Private Limited**
xxxiv. **Transition Sustainable Energy Services Private Limited**

A.3.6 Incidents, where indices were found less than one, were discussed (**Annexure-A.III.**). It was found that utilities have already taken corrective action except few. Utilities were directed to take corrective action wherever it was pending.

A.3.7 Subsequently, SE, NRPC requested RE Plants to comply with the IEGC with respect to the protection chapter added newly in the IEGC.

A.3.8 Further, it was also highlighted that IEGC 2023 has given responsibility to RPCs for receiving indices from all utilities; however, all utilities are not members of NRPC. SLDCs have been requested in earlier PSC meetings to follow up with concerned utilities of states that are not NRPC members and to send compiled indices to NRPC.

A.3.9 MS, NRPC stated that there shall be one nominated officer from each utility for reporting of indices.

Decision of the Forum:

Utilities were asked to submit the Protection performance indices timely by the 7th day of the month, element-wise, along with corrective action taken for indices less than unity. Non-compliant utilities were asked to take necessary action for reporting data. Utilities were also requested to nominate one officer for reporting of indices.

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

A.4.1 EE (P), NRPC apprised that as per clause 16 of IEGC 2023;

- *The users and SLDCs shall report about the operation of SPS immediately and a 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*

Nodal officer for reporting of protection performance indices & provide the other protection related inputs for compliance of Protection Code of IEGC 2023

Sr. No.	Organization	Name	Designation	Email	Present Posting Location
1	JSW KWHEP	Hunny Kalia	Manager	hunny.kalia@jsw.in	KWHEP
2	PTCUL	Er Asim Baig	Executive Engineer	asimisonet@gmail.com	Kashipur
3	BBMB	Rashmi Gautam	Deputy Director	ddtech@bbmb.nic.in	Chandigarh
4	LPGCL	Abhimanyu Upadhyay	AVP	aupadhyay.ltp@lpgcl.com	Lalitpur
5	UPPTCL	Mohammad Reza Ahmad	Chief Engineer	director_op@upptcl.org	Lucknow
6	IPGCL	Arif Rahman	D.G.M	arif.ipgcl@gmail.com	Bawana
7	RVUN	Raman Jain	Executive Engineer	raman_49559@rrvun.com	Kota
8	HPPTCL	Rajat Sharma	Sr. Manager	smprot1.tcl@hpmail.in	Hamripur
9	RVPN	Sh. R.R. Gupta	Assistant Engineer	se.prot.engg@rvpn.co.in	Jaipur
10	UPRVUNL	Shashank Chaudhary	Executive Engineer	cgm.to@uprvunl.org	Lucknow
11	HVPNL	Biresh Kumar Raghava	Superintending Engineer	sempccdelhi@hvpn.org.in	Delhi
12	HPPCL	Shikhar Mahajan	Senior Manager	shikhar.mahajan@hppcl.in	Shimla
13	NPCIL (RAP A)	Alok Saraswat	STE(E&I)	aloksaraswat@npcil.co.in	
	NPCIL (RAP B)	Deepak Swami	STE(E&I)	deepakswami@npcil.co.in	
	NPCIL (RAP C)	C.S. Gupta	STE(E&I)	csgupta@npcil.co.in	
	NPCIL (RAP D)	Pradeep Singh	STE(E&I)	singhp@npcil.co.in	
14	NHPC	Jagnath Pani	Sr. Mgr.	onmprotection@nhpc.nic.in	Faridabad
15	HPGCL	Subhash Garg	EE	xensyd.dcrtpp@hpgcl.org.in	Yamunnagar
16	NTPC	Ramesh Singh	DGM	rameshsingh.ntpc@co.in	Lucknow
17	DTL	Ramneet Chanana	Manager(Protection)	Chanana.ramneet@gmail.com	
18	HPSEBL	Rahul Sharma	EE	xen.pnt2020@gmail.com	solan
19	APCPL	Nirbhay Kumar		nirbhaymishra01@apcpl.co.in	
20	RPSCL	Kesarinandan Pandey	Asst. VP	Kesarinandan.Pandey@reliancegroupindia.com	
21	Alaknanda Hydro Electric Plant (GVK)	Bishwambar Bag	Manager-Operation	bishwambar.bag@gvk.com	Srinagar, Uttarakhand/ ALAI
22	MEIL	Mr. Raghavendra Singh	Dy. Manager	raghvendra.singh@meilanparapower.com	Anpara C TPS, Anpara, District - Sonebhadra UP
23	Meja	Vishal Kumar	Sr Manager	vishalkumar01@ntpc.co.in	MUNPL-Meja
24	WUPPTCL	Rajesh Kumar Yadav	AGM	wupptcl.ro@gmail.com	Indirapuram
25	SEUPPTCL	Prashant Chauhan	Manager	pchauhan@tatapower.com	765/400kV Substation Mainpuri
		Ashish Kumar Singh	Manager	ashishk@tatapower.com	400kV GIS REWA ROAD
26	AESL	Ritesh Gupta	Manager-Protection	Ritesh.gupta@adani.com	Ahmedabad
27	NRSS 31 B	Raminder Singh		raminder.singh@energy-sel.com	
		Rajender Kumar		rajender.thakur@energy-sel.com	
28	IndiGrid	Sushant Gaurav		sushant.gaurav@indigrid.com	
29	Gentari	Mehul Kumar Sharma	Manager	mehul.sharma@gentari.co.in	Bikaner
30	Renew	AASHISH BISSA	AGM	aashish.bissa@renew.com	Phalodi, Rajasthan
31	AGEL	Neerajchandra Patel	Associate General Manag	Neerajv.Patel@adani.com	Ahmedabad
32	Solzen Urja Pvt. Ltd.	Deepak Sisodiya		Deepak.Sisodiya@energy-sel.com	
		Dinesh Vyas		dinesh.vyas@energy-sel.com	
33	IndiGrid	Sushant Gaurav		sushant.gaurav@indigrid.com	
34	ACME	Shivam Gupta	Deputy Manager	dsm.onm@acme.in	Gurgaon
		Rajesh Pandey	Deputy General Manager	rajesh1.pandey@acme.in	Gurgaon
35	Serentica	Ruchir Sharma	CM		
		Lalit Shukla	AVP	lalit.shukla@serenticaglobal.com	

Annexure-A.XI

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED

[Corporate Identity Number (CIN): U40109RJ2000SGC016485]
Regd. Office: Vidyut Bhawan, Janpath, Jyoti Nagar, Jaipur-302005

RVPN
An ISO 9001:2015 Certified Company

OFFICE OF THE CHIEF ENGINEER (LD)

New Prasaran Bhawan, TCC Building, Heerapura, Jaipur Tel. No. 0141-2948293
E-mail: ce.ld@rvpn.co.in website: www.http://energy.rajasthan.gov.in/rvpnl

No.RVPN/CE(LD)/SE(SOLD)/XEN-III/A-2/F./D. 1757 dt. 18/1/26

The Member Secretary
NRPC, New Delhi

Sub: - Agenda for inclusion in the 66th PSC meeting scheduled on 28.1.2026 reg Installation of Auto Reclosure on 220 kV lines emanating from RAPP(A) nuclear power plant, Rawatbhatta

Ref : i. General Manager, NRLDC, letter dated 6.11.2025 and 6.1.2026
ii. NRPC letter dated 12.1.2026 reg. agenda item for 66th PSC meeting scheduled on 28.1.2026

On the above-captioned subject, it is intimated that the issue of frequent trippings of 220 kV lines emanating from RAPP(A) Nuclear Power Plant is being continuously raised in OCC and PSC meetings. In this regard, it is further informed that various measures have already been taken by RVPN to reduce the tripping of 220 kV lines emanating from RAPP(A). However, one of the major reason for the continued increase in tripping incidents is the non-installation of an Auto-Recloser Scheme on these 220 kV lines as per agreed & approved NR Protection Philosophy.

In view of the above, it is proposed that the RAPP9A) Nuclear Power Plant, Rawatbhatta may be advised to install an Auto-Recloser Scheme on the 220 kV lines emanating from RAPP(A) at the earliest to improve system security and reliability. Accordingly, an agenda item is enclosed herewith for inclusion of the above issue in the upcoming PSC meeting for discussion and approval.

Encl: As above

(Sudhir Jain)
Chief Engineer (LD)
RVPN, Jaipur

Validity unknownSignature valid
Digitally signed by Sudhir Jain
Designation : Chief Engineer
Date: 2026.01.18 10:10:33 IST
Reason: Approved

RajKaj Ref No.: 19987240

Copy submitted/ forwarded to the following for information and necessary action:

1. The Director (Operation/Tech), RVPN, Jaipur
2. The Chief Engineer (PP&D), RVPN, Jaipur
3. The Chief Engineer(T&C/MPT&S), RVPN, Jaipur/Ajmer.
4. The Chief Engineer(Procurement), RVPN, Jaipur. It is advised to ensure timely availability of material as per requirement of ZCE(T&C), RVPN, Ajmer.
5. The Superintending Engineer, TA to the MD, RVPN, for kind perusal of MD, RVPN, Jaipur
6. The Superintending Engineer (P&P), RVPN Jaipur
7. The Superintending Engineer (T&C/MPT&S), RVPN, Udaipur /Kota.
8. The Superintending Engineer (Prot. Engg.), RVPN, Jaipur.
9. Sh. Mitesh Mehta, Head Electrical Maintenance RAPP(A) Power Plant, Rawatbhatta. It is advised to install A/R on all 220 kV lines emanating from RAPP(A) power plant and provide the consent to activate A/R on both 220 kV lines at Sakatpura end of both 220 kV circuits between Skatpura and RAPP(A).
10. The Executive Engineer, Shift Incharge, SLDC, Control Room.

Encl:- As above

Chief Engineer (LD)

Copy also forwarded to the following for information:

1. The General Manager, NRLDC, 18A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110016 in reference to their letter dated 15.11.2025 and 15.1.2026
2. The Superintending Engineer (Opr.), NRPC, 18A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110016.

Encl:- As above

Chief Engineer (LD)

Validity unknownSignature valid

Digitally signed by S[illegible]ir Jain
Designation : Chief [illegible]gineer
Date: 2026.0[illegible].10:33 IST
Reason: Approv[illegible]

RajKaj Ref No.:
19987240

Agenda: Reg Installation of Auto Recloser on 220 kV lines emanating from RAPP(A) nuclear power plant, Rawatbhatta

Following transmission lines are emanating from RAPP(A) power plant (Unit#2 of 200 MW capacity):

i. 220 kV S/C RAPP(A)-Sakatpura line (Ckt-1): 39.77 km
ii. 220 kV RAPP(A)-Sakatpura line (Ckt-2): 42.5 km
iii. 220 kV S/C RAPP(A)-Debari line : 192 km
iv. 220 kV S/C RAPP(A)-RAPP(B) Tie line : 1.8 km

Issue of frequent tripping of 220 kV lines emanating from RAPP(A) nuclear power plant is being continuously raised in the OCC and PSC meetings. In this regard it is intimated that various measured have been taken by RVPN to reduce tripping of these 220 kV lines but on RVPN end on these lines auto reclosing scheme are installed but at RAPP end not installed and one of major reason to increase tripping of these 220 kV lines which is discussed hereunder :-

Frequent Tripping of 220 kV S/C RAPP(A)-Debari line

i. **Condition of the Line and Causes of Tripping:** The 220 kV Debari-RAPP (A) transmission line is approximately **200 km** long, commissioned in **1971**, and is now facing frequent tripping primarily due to aging disc insulators and adverse environmental conditions such as **bird droppings** and **foggy weather. Further,** Approx. 25-30 km section of this line is passing through Mukundara hills tiger reserve .

ii. **Refurbishment of Tower Stubs:** The line consists of **606 tower locations** and at several locations the **stub legs have weakened.** Accordingly, **Administrative & Financial Sanction (A&FS)** for refurbishment of the line has been issued vide letter dated **27.04.2025 (Annexure-1).** Although the bid for refurbishment work was initially affected due to **low / non-participation of bidders,** after continuous follow-up, some bidders participated and work order have been placed on 21.11.2025 for refurbishment 696 nos. legs with commissioning schedule of 06 months from arranging tower material by RVPN. Approx. 48 % tower material have been arranged & fabricated as per site condition and reach at the store at 220 kV GSS Debari and work will commence shortly after the collection and fabrication of sufficient material.

iii. **Replacement of Disc Insulator Suspension Strings:** Out of the 606 tower locations, the disc insulator suspension strings between **locations 300 to 450** were replaced in **2014**. Replacement of the remaining suspension strings covering **locations 01-300 and 451-606** (total **385 towers**) has already been planned. The **A&FS** for this work was issued vide letter dated **27.08.2023** (Annexure-2). This replacement work will be taken up **after completion of the stub-strengthening work.** Material requirements for the same have already been raised by the concerned field officer vide letter dated **13.10.2025** (Annexure-3).

iv. Routine patrolling, tree cutting, repair maintenance (R&M) are regularly performed on the line to reduce tripping incidents and improve reliability at identified problematic locations.

It is mentioned that on this line Debari end A/R is installed and activate but at RAPP end it is not installed. Therefore, under transient fault A/R is successfully operated at Debari end but tripped from RAPP end. Tripping reports of this line in the month of Nov-25 and Dec-25 are tabulated at Annexure-4 and abstracted hereunder :

Validity unknownSignature valid
Digitally signed by S[illegible]hir Jain
Designation : Chief [illegible]ngineer
Date: 2026.0[illegible]:09:53 IST
Reason: Approv[illegible]
RajKaj Ref No.: 19987239

Table-1 : Tripping of 220 kV S/C RAPP(A)-Debari line in the Month of Nov and Dec 2025

S. No.	OUTAGE DATE	OUTAGE TIME (hrs.)	RESTORATION DATE	RESTORATION TIME (hrs.)	TOTAL OUTAGE DURATION (hrs.)	REASON OF OUTAGE
1	02.11.2025	12:00	02.11.2025	12:59	0.98	Fault tripping. Line A/R successful operated from Debari End & tripped from RAPP"A" End. Line Tripping could be avoided if A/R is installed at Rapp A End
2	24.11.2025	02:55	24.11.2025	04:30	1.58	
3	04.12.2025	02:38	04.12.2025	03:37	0.98	
4	24.12.2025	01:02	24.12.2025	02:08	1.10	
5	25.12.2025	05:16	25.12.2025	06:21	1.08	
		Total(hrs)	5.73	5 hrs 44 minutes		

Frequent Tripping of two nos. 220 kV RAPP(A)-Sakatpura lines

i. The 220 KV Sakatpura-RAPP Ckt-1 was commissioned in 1977.
ii. The 220 KV Sakatpura-RAPP Ckt-2 was commissioned in 1971.
iii. The 220 KV S/C Sakatpura-RAPP Ckt-1 from location 9 to 89 and 220 KV Sakatpura-RAPP Ckt-2 from location 10 to 101 pass through a dense forest area and a vulture-prone area.
iv. Frequent tripping of the lines is mainly due to crossing a dense forest area and being in a vulture-prone area.
v. Routine patrolling, tree cutting, repair and maintenance (R&M) are regularly performed on the lines to reduce tripping incidents and improve reliability at identified problematic locations.
vi. In FY 2024-25 to reduce trippings disc insulators have been replaced at maximum locations and also bird guard installed at maximum locations on all 220 kV circuits between Sakatpura and RAPP Generation complex.

It is mentioned that on both 220 kV circuits between Sakatpura and RAPP(A), Sakatpura end A/R is installed (kept deactivate) but at RAPP end A/R is not installed. Tripping reports of 220 kV lines between RAPP(A) and Sakatpura lines in the month of Nov-25 and Dec-25 are tabulated at Annexure-5 and abstracted hereunder :

Validity unknownSignature valid
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Designation : Chief ngineer
Date: 2026.0 :09:53 IST
Reason: Approv
RajKaj Ref No.: 19987239

Table-2 : Tripping of 220 kV RAPP(A)-Sakatpura circuits in the Month of Nov and Dec 2025

S. No.	OUTAGE DATE	OUTAGE TIME	RESTORATION DATE	RESTORATION TIME	TOTAL OUTAGE DURATION	REASON OF OUTAGE
	220 KV Sakatpura- RAPP(A) CKT No.1					
1	09.11.2025	01:32	09.11.2025	02:28	0.93	Transient fault, therefore, if Auto-recloser installed line might be hold well
2	14.11.2025	05:33	14.11.2025	06:25	0.87	
3	18.12.2025	00:42	18.12.2025	01:50	1.13	
4	18.12.2025	03:16	18.12.2025	15:12	11.93	Earth wire broken
5	25.12.2025	02:57	25.12.2025	04:27	1.50	Transient fault, therefore, if Auto-recloser installed line might be hold well
		Total(hrs)	16.37	16 hrs. 22 minutes		
II	220 KV Sakatpura- RAPP(A) CKT No.2					
1	12.11.2025	0.25	12.11.2025	07:44	1.67	Transient fault, therefore, if Auto-recloser installed line might be hold well
2	26.11.2025	0.97	27.11.2025	00:43	1.35	
3	06.12.2025	01:08	06.12.2025	01:56	0.80	
		Total(hrs)	3.82	3 hrs. 49 minutes		

From table-1 and table-2 following are observed :-

1. From table-1 it is observed that if A/R on 220 kV S/C Debari-RAPP(A) line at RAPP end was installed, 5 hrs 44 minutes outage (All 05 outages) of this line could be avoided.
2. From table-2 it is observed that if A/R on 220 kV S/C Sakatpura-RAPP(A) Ckt-1 at RAPP end was installed, 4 hrs 25 minutes outage (04 outages of total 05) of this line could be avoided.
3. From table-2 it is also observed that if A/R on 220 kV S/C Sakatpura-RAPP(A) Ckt-2 at RAPP end was installed, 3 hrs 49 minutes outage (All 03 outages) of this line could be avoided.
4. It is pertinent to mentioned that availability of 220 kV S/C RAPP(A)-Debari line is critically required for reliable and secure supply of Udaipur District.
5. Further it is also intimated that 220 KV S/C Debari-RAPP(A) line and both 220 KV Debari-RAPP(A) lines are an important evacuating paths for RAPP(A) Nuclear generation. Frequent outage of these lines affects the security & reliability of RAPS Nuclear Generation complex. Any major contingencies may also lead to poisoning out of RAPS reactors.
6. Majority of faults on the 220 kV lines emanating from RAPP(A) power plant are transient in nature as these lines are passing through dense forest area, therefore, A/R are essential required to availability of the lines.
7. Auto Reclosing scheme shall be installed and activated on 220 kV and above lines as per approved NR Protection Philosophy, but Auto Reclosing scheme are not installed at RAPP(A) end on all 220 kV lines emanating from RAPP(A) power plant which is against agreed & approved NR Protection Philosophy.

Validity unknownSignature valid
Digitally signed by S[illegible]ir Jain
Designation : Chief [illegible]ngineer
Date: 2026.0[illegible]:09:53 IST
Reason: Approv[illegible]

RajKaj Ref No.:
19987239

In view of above,

i. The Nuclear Power Corporation of India Limited (NPCIL) may be advised to install Auto-Reclosure (A/R) schemes on all 220 kV lines emanating from RAPP(A) Nuclear Power Plant at the earliest, in line with the agreed and approved NR Protection Philosophy. This will help improve grid stability and reliability and strengthen the power evacuation system of the critical nuclear power plant. If required, refurbishment of the RAPP(A) switchyard may also be undertaken to facilitate installation of A/R schemes on the 220 kV lines.

ii. Further, RVPN may be permitted to activate Auto-Reclosure at the Sakatpura end on the 220 kV circuits between RAPP(A) and Sakatpura to reduce downtime of these 220 kV lines following fault occurrences. In this regard, it is noted that A/R at the Debari end of the 220 kV S/C Debari-RAPP(A) line is already operational and has proven effective, as in most cases the line remains charged from the Debari end after fault clearance.

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Digitally signed by S[illegible]hir Jain
Designation : Chief [illegible]gineer
Date: 2026.0[illegible]:09:53 IST
Reason: Approv[illegible]

RajKaj Ref No.:
19987239

ANNEXURE-1

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED.
[Corporate Identity Number (CIN):U40109RJ2000SGC016485]
(Regd. Office: Vidyut Bhawan, Jan Path, Jyoti Nagar, Jaipur - 302 005)
OFFICE OF THE SUPERINTENDING ENGINEER (P&P)
Room No. 336, Vidyut Bhawan, Jyoti Nagar, Jaipur Tel. No 0141-2740623
e-mail:se.pp @rvpn.co.in WEBSITE :https://energy.rajasthan.gov.in/rvpnl

RVPN
An ISO 9001:2015 Certified Company

The Zonal Chief Engineer (T&C),
RVPN, Ajmer.

Sub: Administrative and Financial Sanction for tower stub strengthening (Location 1-606) on 220 KV Debari - RAPP 'A' line at 220 KV GSS Debari under head "R&M of Line & Cable Network.

Ref.: (i) Your Rajkaj e-file No. XEN/220KV/GSS/DEBARI/F.23-24/RAPP A Ground Clearance-00092-Part File(1)-6520076 dt. 22.04.2025.

With the approval of the WTDs of RVPN ,dt. 21.04.2025, the Administrative and Financial Sanction, under DOP item No. 1(c), is hereby conveyed for tower stub strengthening (Location 1-606) on 220 KV Debari - RAPP 'A' line at 220 KV GSS Debari under head "R&M of Line & Cable Network, amounting to **Rs. 39,01,080.00/- (without OH charges),** as per the estimate sent with your case file dated 22.04.2025.

The above administrative & financial approval has been issued subjected to the budget availability in your jurisdiction. The expenditure of the above schemes shall be made from provisions made under the head **"Repair & Maintenance"** for which the budget shall be provided by the Sr. A.O. (B&R), RVPN, Jaipur.

The technical sanction of the above works may be issued at your end.

(S.C. Meena)
Chief Engineer (PP&D)

Copy to the following for information and necessary action:

1. The Chief Engineer (PP&D/Procurement), RVPN, Jaipur.
2. The Chief Controller of Accounts-I/II, RVPN, Jaipur.
3. The Superintending Engineer (NPP&RA/ Design/ QC. Insp. & Montg/Procurement-I/II), RVPN, Jaipur.
4. The Superintending Engineer (T&C), RVPN, Udaipur.
5. The Sr. Account Officer (B&R),RVPN, Jaipur.
6. The Accounts Officer (T&C), RVPN, Udaipur.
7. The Assistant Engineer-IV (P&P), RVPN, Jaipur.

Chief Engineer (PP&D)

Signature Not Verified

Digitally signed by Suresh Chand Meena
Designation : Chief Engineer
Date: 2025.04.27 16:15:40 IST
Reason: Approved

RajKaj Ref No.: 14935285

ANNEXURE-2

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED.
[Corporate Identity Number (CIN):U40109RJ2000SGC016485]
(Regd. Office: Vidyut Bhawan, Jan Path, Jyoti Nagar, Jaipur - 302 005)
OFFICE OF THE SUPERINTENDING ENGINEER (P&P)
Room No. 336, Vidyut Bhawan, Jyoti Nagar, Jaipur Tel. No 0141-2740623
e-mail:se.pp @rvpn.co.in WEBSITE :https://energy.rajasthan.gov.in/rvpn!

RVPN
An ISO 9001:2015 Certified Company

The Zonal Chief Engineer (T&C),
RVPN, Ajmer.

Sub: Administrative and Financial Sanction for replacement of balance suspension string by long rod insulator & fixing of vibration damper on 220KV S/C Debari-RAPP-(A) Line under the head of R&M.

Ref.: (i) Your Rajkaj e-file No. XEN/220KV/GSS/DEBARI/F.18-00044 dt. 07.07.2023

The Administrative and Financial Sanction of the WTDs of RVPN (approved on 20.8.2023) under DOP item No. 1(c), is hereby conveyed for replacement of balance suspension string by long rod insulator & fixing of vibration damper on 220KV S/C Debari-RAPP-(A) Line , amounting to Rs. 1,43,05,407.72 (without overhead charges) as per the estimate sent with your Rajkaj e-file No. XEN/220KV/GSS/DEBARI/F.18-00044 dt. 07.07.2023

The above administrative & financial approval has been issued subjected to the budget availability in your jurisdiction. The expenditure of the above schemes shall be made from provisions made under the head **"Repair & Maintenance"** for which the budget shall be provided by the Sr. A.O. (B&R), RVPN, Jaipur.

The technical sanction of the above works may be issued at your end

(V.A. Kale)
Superintending Engineer (P&P)

Copy to the following for information and necessary action:

1. The Chief Engineer (PP&D/Procurement), RVPN, Jaipur.
2. The Chief Controller of Accounts-I/II, RVPN, Jaipur.
3. The Superintending Engineer (NPP&RA/ Design/ QC, Insp. & Montg/Procurement-I/II), RVPN, Jaipur
4. The Superintending Engineer (T&C), RVPN, Udaipur.
5. The Sr. Account Officer (B&R),RVPN, Jaipur.
6. The Accounts Officer (T&C), RVPN, Udaipur.
7. The Assistant Engineer-IV (P&P), RVPN, Jaipur.
8. The JEN (P&P), RVPN, Jaipur

Superintending Engineer (P&P)

Signature valid
Digitally signed by Vishwas Anil Kale
Designation: Superintending Engineer
Date: 2023.08.27 13:53:50 IST
Reason: Approved

ANNEXURE-3

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED

(AN ISO 9001:2015 Certified Company)
Corporate Identity Number (CIN): U40109RJ2000SGC016485

OFFICE OF THE EXECUTIVE ENGINEER
220 KV GSS DEBARI (Udaipur)-313024

NO. RVPNL/XEN/220KV/GSS/DEBARI/F. ( )/D. Dated:13.10.2025

The Superintending Engineer (T&C),
RVPNL Udaipur (Raj)

Subject:- Urgent Material requirement at 220 KV GSS Debari.
Reference: - NO. RVPNL/XEN/220KV/GSS/DEBARI/F. ( )/D. 223 Dated:18.09.2025

On the subject & reference cited above It is kindly requested that the following items be urgently required at 220KV GSS Debari for Work of Replacement of Balance Suspension String & fixing of Vibration damper on 220KV S/C Debari-RAPP" A" Line from Loc No. 01 to 606.

S.No.	Item Name	Qty	A&FS approval No.
1.	70 KN 220 kV (Suspension) Long Rod Insulator 2000000095	1216 Nos.	A&FS has been issued vide Rajkaj Ref No. 4583073 Dt. 27.08.2023 By SE (P&P), Jaipur under the head of R&M
2.	S/S H/W for ZEBRA 9000000224	1119 SET	
3.	D/S H/W for ZEBRA 9000000223	36 SET	
4.	PA Rod for ZEBRA 9000000127	1155 SET	
5.	Vibration Damper 9000000176	2280 Nos.	

Submitted for needful.

Executive Engineer (220 KV GSS)
RRVPNL DEBARI

Copy to:-
1.The Zonal Chief Engineer (T&C-AZ) RRVPNL, Ajmer.
2. The Superintending Engineer (Proc-I) RRVPNL,Jaipur.

Executive Engineer (220 KV GSS)
RRVPNL DEBARI

Signature Not Verified

Digitally signed by Rajendra Kothari
Designation : Executive Engineer
Date: 2025.10.13 13:01:46 IST
Reason: Approved

RajKaj Ref No.: 18293816
eSign 1.0

Annexure-4

Tripping details of 198.2 km 220 kV S/C RAPP(A)-Debari line in the Month of Nov and Dec 2025

S. No.	OUTAGE DATE	OUTAGE TIME (Hr:mm)	RESTORATION DATE	RESTORATION TIME (Hr:mm)	TOTAL OUTAGE DURATION (hrs)	REASON OF OUTAGE	Remark
1	02.11.2025	12:00	02.11.2025	12:59	0.98	**Fault tripping:- A/R Operated at Debari End** **Debari End :- M-I, B-Ph, Z-I, D=131.1KM, II3=0.75KA, Carr recd, carr send** **M-II, B-Ph, Z-I, D=117.8KM, II3=0.79KA, Carr Send** **RAPP"A" End :- M-I, B-Ph, Z-I, D=99.8KM, If=1.809KA** **M-II, B-Ph, Z-I, D=161.3KM, If=549.6A** **Remark- Tripping at Rapp A End**	59 minutes line remain out of service due to non installation of Auto Reclosure scheme at Rapp end
2	24.11.2025	02:55	24.11.2025	04:30	1.58	**Fault tripping:- A/R Operated at Debari End** **Debari End :- M-I, Y-Ph, Z-I, D=15.1KM, II2=1.85KA, Carr recd, carr send** **M-II, Y-Ph, Z-I, D=13.6KM, II2=1.84KA, Carr Send** **RAPP"A" End :- M-I, B-Ph, Z-II, D=184.9KM, If=1.219KA** **M-II, B-Ph, Z-II, D=188.3KM, If=1.246KA** **Remark- Tripping at Rapp A End**	1 hour 35 minutes line remain out of service due to non installation of Auto Reclosure scheme at Rapp end
3	04.12.2025	02:38	04.12.2025	03:37	0.98	**Fault tripping:- A/R Operated at Debari End** **Debari End :- M-I, Y-Ph, Z-I, D=143KM, II2=0.79KA, Carr recd, carr send** **M-II, Y-Ph, Z-I, D=128.1KM, II2=0.79KA, Carr Send** **RAPP"A" End :- M-I, B-Ph, Z-I, D=67.44KM, If=2.53KA** **M-II, NIL** **Remark- No supply disturbance. Line A/R successful operated from Debari End & tripped from RAPP"A" End**	59 minutes line remain out of service due to non installation of Auto Reclosure scheme at Rapp end

S. No.	OUTAGE DATE	OUTAGE TIME (Hr:mm)	RESTORATION DATE	RESTORATION TIME (Hr:mm)	TOTAL OUTAGE DURATION (hrs)	REASON OF OUTAGE	Remark
4	24.12.2025	01:02	24.12.2025	02:08	1.10	**Fault tripping:- A/R Operated at Debari End** **Debari End :- M-I, Y-Ph, Z-I, D=166.3KM, Il2=0.67KA, Carr recd, carr send** **M-II, Y-Ph, Z-I, D=150.1KM, Il2=0.67KA, Carr Send** **RAPP"A" End :- M-I, Y-Ph, Z-I, D=38.29KM, If=4.02KA, 62/85XX-74UM** **M-II, Y-Ph, Z-I, D=38.65KM,If=3.939KA** **Remark- No supply disturbance. Line A/R successful operated from Debari End & tripped from RAPP"A" End**	1 hour 06 minutes line remain out of service due to non installation of Auto Reclosure scheme at Rapp end
5	25.12.2025	05:16	25.12.2025	06:21	1.08	**Fault tripping:- A/R Operated at Debari End** **Debari End :- M-I, Y-Ph, Z-I, D=142.6KM, Il2=0.77KA, Carr recd, carr send** **M-II, Y-Ph, Z-I, D=127.8KM, Il2=0.78KA, Carr Send** **RAPP"A" End :- M-I, Y-Ph, Z-I, D=64.46KM, If=2.543KA, 62/85XX-74UM** **M-II, Y-Ph, Z-I, D=64.8KM,If=2.54KA** **Remark- No supply disturbance. Line A/R successful operated from Debari End & tripped from RAPP"A" End**	1 hour 05 minutes line remain out of service due to non installation of Auto Reclosure scheme at Rapp end
				Total(hrs)	5.73		
					5 hrs 44 minutes		

Annexure-5

Tripping details of 220 kV S/C RAPP(A)-Sakatpura Ckt-1 &Ckt-2 in the Month of Nov and Dec 2025

S. No.	OUTAGE DATE	OUTAGE TIME (Hr:mm)	RESTORATION DATE	RESTORATION TIME (Hr:mm)	TOTAL OUTAGE DURATION (hrs)	INDICATION		REASON OF OUTAGE	Remark
						END-1	END-2		
I	220 KV Sakatpura- RAPP(A) CKT No.1								
1	09.11.2025	01:32	09.11.2025	02:28	0.93	Main 1: Phase -C (ABC) carr.rece.,carr.send, 21 Pickup CG, PU Time= 54 ms, Trip Time = 10 ms, Distance= 28.6Km, Ia= 0.38KA,Ib=0.23KA, Ic=5.40 KA, Rsec=1.78Ohm, Xsec=5.73Ohm, Rpri=3.57Ohm, Xpri=11.45Ohm.D%=65.8% Main 2: C- phase ,Z=1, Fault duration =60.05ms, Relay trip time=93.48ms,Fault Location-27.38KM,Fault Current IC=-5.4257 KA,IA=378A,IB=245.2A,VAN=130.1KV.VBN=1 32.2KV,VCN=103.0KV	Main=1,B Phase (RYB)Zone-1,Distance-12.81KM,IB-=7.655KA Main2- B pahse ,Z 1,Distance=12.83KM Fault Current=7.684 KA	Dist.Prot.	Transient fault, therefore, if Auto-recloser enabled line might be hold well
2	14.11.2025	05:33	14.11.2025	06:25	0.87	Main 1: Phase -A, carr.rece.,carr.send, 21 Pickup AG, PU Time= 57 ms, Trip Time = 0 ms, Distance= 13.0Km, Ia= 5.12KA,Ib=0.08KA, Ic=0.04 KA, Rsec=4.73Ohm, Xsec=2.59Ohm, Rpri=9.46Ohm, Xpri=5.18Ohm. Main 2: A- phase ,Z=1, Fault duration =58.27ms, Relay trip time=79.84ms,Fault Location-12.77KM,Fault Current Ia=6.155KA,VAN=120.0KV.VBN=133KV,VCN= 134.4KV,Fault resistance:-14.91 ohm	Main=1,A- Phase Zone-1,Distance-27.63KM,Ia-=2.78KA Fault resistance:36.46 ohm	Dist.Prot.	Transient fault, therefore, if Auto-recloser enabled line might be hold well
3	18.12.2025	00:42	18.12.2025	01:50	1.13	Main 1: Phase -A(ABC), 21 Pickup AG, 21 Trip ABC,definitive trip-ON, Distance= 16.3Km, Rsec=2.38Ohm, Xsec=3.26 Ohm, Rpri=4.76Ohm, Xpri=6.52 ohm .D(%)=37.5% Main 2: Phase A, Tripped Phase ABC, Earth Fault Start IN,Dist. Trip-Z1,Fault Dur-58.37ms, relay trip time=83.38ms,Fault Loc=15.35KM,Ia=7.822K A,Ib=140.1 A, Ic= 222.4A, VAN=103.7KV, VBN=132.2KV, VCN=133.1KV, Z1	Main=1,Phase=R (RYB).,Z1current=4.013KA , ,Fault loc=25.09KM Main2=,Phase=R.,Z1 Fault current=4.01A , ,Fault loc=24.92KM	Dist.Prot.	Transient fault if Auto-recloser enabled fault might be cleared
4	18.12.2025	03:16	18.12.2025	15:12	11.93	Main 1: Phase -A(ABC), 21 Pickup AG, 21 Trip ABC, Distance= 13.5Km, Rsec=2.64Ohm, Xsec=2.70 Ohm, Rpri=5.27Ohm, Xpri=5.41 ohm .D(%)=31.1% Main 2: Phase A, Tripped Phase ABC, Earth Fault Start IN,Dist. Trip-Z1,Fault Dur-60.0ms, relay trip time=84.98ms,Fault Loc=13.98KM,Ia=8.074K A,Ib=105.1 A, Ic=180.3A, VAN=107.5KV, VBN=133.2KV, VCN=134.4KV, Z1	Main=1,Phase=R (RYB).,Z1,Fault current=3.671KA, Fault loc=26.34KM Main2=,Phase=R.,Z1 Fault current=3.644 KA ,Fault loc=26.26KM	Dist.Prot.	loc. No. 41 to 47 earth wire broken

S. No.	OUTAGE DATE	OUTAGE TIME (Hr:mm)	RESTORATION DATE	RESTORATION TIME (Hr:mm)	TOTAL OUTAGE DURATION (hrs)	INDICATION		REASON OF OUTAGE	Remark
5	25.12.2025	02:57	25.12.2025	04:27	1.50	Main 1: Phase -A, carr.rece.,carr.send, 21 Pickup AG, PU Time=55ms, Trip Time = 1ms, Distance=23.3Km, Ia=1.49KA, Rsec=26.59Ohm, Xsec=4.67Ohm, Rpri=53.19 Ohm, Xpri=9.34Ohm.D%=53.7% Main 2:- A=Phase,carr.rece. ,Z=1, Fault duration =46.68ms, Relay trip time=80.01ms,Fault loc.=13.98Km, Ia=8.074KA,Ib=105.1A, Ic=180.3A, VAN=107.5KV, VBN=133.2KV, VCN=133.2KV, Fault resistance=7.396ohm	Main=1 PHASE =A,ZONE- 1 , DIST.=19.45KM, Ia=1.744kA Fault Res-50.06 Ohm Main=2 Phase-A,Dist.-19.66 KM,IA-1.06 KA	Dist.Prot.	Transient fault, therefore, if Auto-recloser enabled line might be hold well
				Total(hrs)	16.37				
II	220 KV Sakatpura- RAPP(A) CKT No.2								
1	12.11.2025	0.25	12.11.2025	07:44	1.67	Main 1: A=Phase(ABC),carr.rece., 21 Pickup AG, PU Time=49 ms, Trip Time = 0 ms, Distance= 8.5 Km,Ia=10.42Ka ,Ib=0.04Ka,Ic=0.01Ka,Rsec=1.78 ohm,Xsec=1.71 ohm,Rpri=3.56 ohm,Xpri=3.41ohm, d%=19.6 Main 2:-A -ph,Z-1,fault duration=58.39ms,RTT=79.90 ms,Fault location= 9.824KM,Ia=11.05KA,Ib=24.16A,Ic=5.728A,VAN=101.7KV,VBN=124.3KV,VCN=129.7KV,FR=4.867Ohm,	Main1:- R=Ph(RYB),Z=1,Dist.=36.8Km,IL1=3.08Ka,FR=19.49Ohm, M2:- R=Ph,Z=1,Dist.=32.89Km,IL1=3.104Ka	Dist.Prot.	Transient fault, therefore, if Auto-recloser enabled line might be hold well
2	26.11.2025	0.97	27.11.2025	00:43	1.35	Main 1:A =phase(ABC),Carr. rec. PU Time=49 ms, Trip Time = 1 ms, Distance= 13.0Km,Ia=8.16Ka ,Ib=0.07 Ka,Ic=0.11KA, R sec=1.54 ohm,X sec=2.60 ohm,R pri=3.08 ohm, X pri=5.19 ohm, D %=29.8 % Main =2 A =phase, tripped A,B,C , phase=,Z1, Dist=14.51 Km ,Ia=9.295KA, Ib=46.30A, Ic=71.27A,VAN=102.2KV,VBN=127KV,VCN=128.9KV ,FR=3.073 Ohm	R=phase (RYB),Z1, Dist=25.44Km and IR=4.407 KA, Main=2 R=phase, Z1, Dist=25.62Km and Ir=4.1947Ka	Dist.Prot.	Transient fault, therefore, if Auto-recloser enabled line might be hold well
3	06.12.2025	01:08	06.12.2025	01:56	0.80	Main 1: Phase -A(ABC), carr.rece.,21 Pickup AG, PU Time= 47ms,Trip Time=1ms, Dist.=13.3 Km,Ia= 8.17KA,Ib=0.15KA,Ic=0.03KA,Rsec=1.53Ohm ,Xsec=2.67Ohm,Rpri=3.06Ohm,Xpri=5.34 Ohm,D%=30.7% Main 2: A- phase,Z=1, Fault duration =51.65ms, Relay trip time=79.89ms,Fault loc.=14.75Km, Ia=5.473KA,Ib=32.55A, Ic=19.39A, VAN=109.5KV, VBN=127.9KV, VCN=128.6KV, Fault resistance=3.074ohm	Main:-1 Phase=R (RYB) Z=1, Dist.=25.25KM, Fault current=4.803KA	Dist.Prot.	C
				Total(hrs)	3.82				

RVPN
An ISO 9001:2015 Certified Company

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED
[Corporate Identity Number (CIN): U40109RJ2000SGC016485]
Regd. Office: Vidyut Bhawan, Janpath, Jyoti Nagar, Jaipur-302005

OFFICE OF THE CHIEF ENGINEER (LD)
New Prasaran Bhawan, TCC Building, Heerapura, Jaipur Tel. No. 0141-2948293
E-mail: ce.ld@rvpn.co.in website: www.http://energy.rajasthan.gov.in/rvpnl

No.RVPN/CE(LD)/SE(SOLD)/XEN-III/A-1/F./D. 1745 dt. 16/01/2026

The Member Secretary
NRPC, New Delhi

Sub: - Agenda for inclusion in the 66th PSC meeting scheduled on 28.1.2026- Revised 220 kV lines and transformers for Installation of Special Protection Scheme (SPS) on 400/220 kV transformers at PGCIL 400/220 kV Substations in Rajasthan Control area

Ref : i. This office letter no. 1336 dated 11.11.2025
ii. 237th OCC meeting held on 17.11.2025-MoM item B.10
iii.64th PSC meeting held on 21.11.2025-MoM item B.5.7
iv. NRPC letter dated 12.1.2026 reg agenda item for 66th PSC meeting scheduled on 28.1.2026

On the above captioned subject, it is submitted that 220 kV lines and transformers for Installation of Special Protection Scheme (SPS) on 400/220 kV transformers at PGCIL 400 kV Substations in Rajasthan Control area at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG) was approved by the OCC in its 237th meeting held on 17.11.2025 and further SPS logic was approved in the 64th PSC meeting held on 21.11.2025.

In this regard it is intimated that in ongoing high demand Rabi Season power flow pattern on the transmission lines emanating from PGCIL 400 kV GSS and at RVPN's 220 kV GSS has been changed, therefore, after detail discussions and deliberations in the joint meeting of SLDC, RVPN and PGCIL on 12.1.2026 at Vidyut Bhawan, Jaipur, revised 220 kV lines & transformers for installation of SPS at the PGCIL 400 kV substations at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG) has been identified and attached at Annexure-1 for discussions and approvals of NRPC.

So, in view of above an Agenda Item is enclosed herewith for including the above issue in upcoming PSC Meeting for discussion and approval.

Encl: As above

(Sudhir Jain)
Chief Engineer (LD)
RVPN, Jaipur

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Designation : Chief gineer
Date: 2026.0 :45:55 IST
Reason: Approv

RajKaj Ref No.: 19954886

Copy submitted/ forwarded to the following for information and necessary action:

1. The Director (Operation/Tech), RVPN, Jaipur
2. The Chief Engineer (PP&D/Communication), RVPN, Jaipur
3. The Chief Engineer(T&C/MPT&S), RVPN, Jaipur/Ajmer/Jodhpur
4. The Superintending Engineer, TA to the MD, RVPN, for kind perusal of MD, RVPN, Jaipur
5. The Superintending Engineer (P&P), RVPN Jaipur
6. The Superintending Engineer (T&C), RVPN, Jaipur Rural/Udaipur /Bhilwara /Bharatpur /Alwar /Sikar /Babai/Ratangarh/Swaimadhopur/Ratangarh/Hindaun
7. The Superintending Engineer (MPT&S), RVPN, Jaipur/Ajmer/Udaipur /Kota/Bikaner/Jodhpur.
8. The Superintending Engineer (Communication), RVPN, Jaipur/Ajmer/Jodhpur.
9. The Superintending Engineer (Prot. Engg.), RVPN, Jaipur.
10. Sh. Yashpal Choudhary, DGM, PGCIL, Bikaner. It is advised to please complete the requisite survey work for installation of the SPS at the earliest, in coordination with RVPN officers so that the scheme may be apprised to the PSC forum in the upcoming PSC meeting scheduled on 28.01.2026 at New Delhi.
11. The Executive Engineer, Shift Incharge, SLDC, Control Room.

Encl:- As above

Chief Engineer (LD)

Copy also forwarded to the following for information:

1. The General Manager, NRLDC, 18A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110016. It is submitted that simulated PSSE files has been mailed on 16.1.2026 (copy enclosed). It is requested to please examine the proposal and if required a joint meeting of NRLDC, PGCIL and SLDC may be convened by the NRLDC to finalize the SPS proposal for discussions and deliberations in the PSC meeting scheduled on 28.1.2026.
2. The Superintending Engineer (Opr.), NRPC, 18A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110016.

Encl:- As above

Chief Engineer (LD)

Validity unknownSignature valid

Digitally signed by S[illegible]ir Jain
Designation : Chief[illegible]gineer
Date: 2026.0[illegible]:45:55 IST
Reason: Approv[illegible]

RajKaj Ref No.:
19954886

Agenda: Revised 220 kV lines and transformers for Installation of Special Protection Scheme (SPS) on 400/220 kV transformers at PGCIL 400/220 kV Substations in Rajasthan Control area

220 kV lines and transformers for Installation of Special Protection Scheme (SPS) on 400/220 kV transformers at PGCIL 400 kV Substations in Rajasthan Control area at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG) was approved by the OCC in its 237th meeting held on 17.11.2025 and further SPS logic was approved in the 64th PSC meeting held on 21.11.2025.

In this regard it is submitted that in ongoing high demand Rabi Season power flow pattern on the transmission lines emanating from PGCIL 400 kV GSS and also at RVPN's 220 kV GSS has been changed, therefore, after detail discussions and deliberations in the joint meeting of RVPN and PGCIL held on 12.1.2026 at Vidyut Bhawan, Jaipur, revised 220 kV lines & transformers for installation of SPS at the PGCIL 400 kV substations at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG) has been identified and attached at Annexure-1 and abstracted hereunder:-

Table-1: List of 220 kV lines/transformers for installation of SPS on PGCIL 400 kV GSS

S. No.	Name of 400 kV GSS	400/220 kV transformers capacity (MVA)	Proposed SPS Feeders	
			Stage-1 SPS 220 kV Transmission Lines /220 kV Transformers	Stage-2 SPS 220 kV Transmission Lines /220 kV Transformers
1	Kankroli	3x315 MVA	160 MVA, 220/132 kV transformer at 220 kV GSS Bamantukda	220 kV S/C Kankroli(PG)-Bhilwara line
2	Bassi	2x315+500 MVA	2x100 MVA, 220/132 kv transformers at 220 kV GSS Sikrai	2x100 MVA, 220/132 kv transformers at 220 kV GSS Bagru
3	Kotputli	2x315 MVA	2x100 MVA, 220/132 kv transformers at 220 kV GSS Manoharpur	132 kV S/C Kotputli-Narehada line
4	Neemrana	500+315 MVA	160 MVA, 220/132 kV transformer at 220 kV GSS Behrore	132 kV S/C Neemrana-Shahjanpur line
5	Bhiwadi	3x315 MVA	2x160 MVA, 220/132 kV transformer at 220 kV GSS Kishangarh Bas	220 kV D/C Bhiwadi(PG)-Rewari line
6	Sikar	2x315+500 MVA	2x100 MVA, 220/132 kV transformers at 220 kV GSS Dhod	220 kV D/C Sikar(PG)-Ratangarh line
7	Jaipur (South)	2x500 MVA	220 kV D/C Jaipur(South-PG)-Vatika line	132 kV S/C Chaksu-Newai line

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Designation : Chief [illegible]ngineer
Date: 2026.0[illegible]:20:51 IST
Reason: Approv[illegible]
RajKaj Ref No.: 19954881

PSSE simulation studies for a system load of 19,243 MW indicating power flow in Base Case, After Stage-1 and After Stage-2 SPS operations are attached at Exhibit-1 to Exhibit-7 and also tabulated at Annexure-1.

Following SPS logic is proposed for implementation of SPS at the PGCIL 400kV substations :-

1. SPS logic for Stage-1 operation : Trip commands for stage-1 SPS shall be generated at time delay of 0.5 second IDMT at 115 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS .
2. SPS logic for Stage-2 operation : Trip commands for stage-2 SPS shall be generated at time delay of 0.5 second IDMT at 120 % over loading of any phase of any one 400/220 kV transformer at concern PGCIL 400 kV GSS

It is also requested to kindly further optimize the SPS over load tripping settings and time delay on the basis of the specification of the 400 kV transformers at PGCIL 400 kV GSS and also considering approved protection philosophy of NR to avoid un necessary SPS operation and optimum utilization of the transformers. Further it is also requested that different SPS settings for Summer and Winter period may be approved and considered in view of low temperature in the winter.

It is also submitted that additional 500 MVA transformers are under installation each at the PGCIL 400/220 kV Substations at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG). In the 237th OCC meeting held on 17.11.2025, PGCIL intimated that 500 MVA, 400 kV ICTs at 400 kV GSS Bassi, Kotputli & Kankroli would be commissioned by Dec 2025, but till now these have not been commissioned, therefore, PGCIL may be advised to expedite installation of the approved 400 kV transformers at the PGCIL substations.

In the joint meeting of SLDC, RVPN, and PGCIL held on 12.01.2026 at Vidyut Bhawan, Jaipur, it was advised to appoint Coordinating officers from RVPN and PGCIL for the timely implementation of the proposed SPS. Accordingly, the list of Coordinating Officers from RVPN and PGCIL is placed at Annexure-2.

PSC forum is requested to consider and approve revised Special Protection Scheme (SPS) for Installation on 400/220 kV transformers at PGCIL 400 kV Substations in Rajasthan Control area at Kankroli(PG), Bassi(PG), Kotputli(PG), Neemrana(PG), Bhiwadi(PG), Sikar(PG) and Jaipur(South-PG).

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Designation : Chief [illegible]ngineer
Date: 2026.0[illegible]:20:51 IST
Reason: Approv[illegible]

RajKaj Ref No.:
19954881

Annexure-1

List of 220 kV lines/transformers for installation of Special Protection Scheme (SPS) to avoid over loading tripping of 400/220 kV transformers at PGCIL 400 kV GSS in Rajasthan Control area

S. No.	Name of 400 kV GSS	400/220 kV transformers capacity(MVA)	Proposed SPS Scheme		PSSE RESULTS						
					Power flow at Concern PGCIL 400 kV GSS on 400/220 kV transformers(MW)						
			Stage-1 SPS 220 kV Transmission Lines /220 kV Transformers	Stage-2 SPS 220 kV Transmission Lines /220 kV Transformers	Base Case	After Stage1 SPS operation	Load relief on the 400/220 kV Transformers after Stage-1 SPS operation	After Stage2 SPS operation	After Stage2 SPS operation	Total load relief after SPS operation of Stage-1 and Stage-2	PSSE LFS Plot reference
1	Kankroli(PG)	3x315 MVA	160 MVA, 220/132 kV transformer at 220 kV GSS Bamantukda (220 kV Trf load : 51 MW)	i. 220 kV S/C Kankroli(PG)-Bhilwara line : 69 MW	3x247 MW	3x237 MW	30	3x218 MW	57	87	Base Case:Exhibit-1 Stage-1 : Exhibit-1A Stage-2 : Exhibit-1B
2	Bassi(PG)	2x315+500 MVA	i. 2x100 MVA, 220/132 kv transformers at 220 kV GSS Sikrai (220 kV Trf load : 82 MW)	i. 2x100 MVA, 220/132 kv transformers at 220 kV GSS Bagru (220 kV Trf load : 104 MW)	2x244+424 MW	2x232+403 MW	45	2x221+383 MW	42	87	Base Case:Exhibit-2 Stage-1 : Exhibit-2A Stage-2 : Exhibit-2B
3	Kotputli(PG)	2x315 MVA	i. 2x100 MVA, 220/132 kv transformers at 220 kV GSS Manoharpur (220 kV Trf load : 138 MW)	132 kV S/C Kotputli-Narehada line (94 MW)	2x281 MW	2x247 MW	68	2x228MW	38	106	Base Case:Exhibit-3 Stage-1 : Exhibit-3A Stage-2 : Exhibit-3B
4	Neemrana(PG)	500+315 MVA	160 MVA, 220/132 kV transformer at 220 kV GSS Behrore (220 kV Trf load : 138 MW)	132 kV S/C Neemrana-Shahjanpur line(87 MW)	355+222 MW	304+190 MW	83	277+173 MW	44	127	Base Case:Exhibit-4 Stage-1 : Exhibit-4A Stage-2 : Exhibit-4B
5	Bhiwadi(PG)	3x315 MVA	2x160 MVA, 220/132 kV transformer at 220 kV GSS Kishangarh Bas (220 kV Trf load : 143 MW)	220 kV D/C Bhiwadi(PG)-Rewari line (260 MW)	3x265 MW	3x248 MW	51	3x209 MW	117	168	Base Case:Exhibit-5 Stage-1 : Exhibit-5A Stage-2 : Exhibit-5B
6	Sikar(PG)	2x315+500 MVA	2x100 MVA, 220/132 kV transformers at 220 kV GSS Dhod (220 kV Trf load : 132 MW)	220 kV D/C Sikar(PG)-Ratangarh line (226 MW)	2x267+426 MW	2x248+395 MW	69	2x191+304 MW	204	273	Base Case:Exhibit-6 Stage-1 : Exhibit-6A Stage-2 : Exhibit-6B
7	Jaipur(South-PG)	2x500 MVA	i. 220 kV D/C Jaipur(South-PG)-Vatika line (100 MW)	132 kV S/C Chaksu Newai line (98 MW)	2x240 MW	2x220 MW	40	2x202 MW	36	76	Base Case:Exhibit-7 Stage-1 : Exhibit-7A Stage-2 : Exhibit-7B

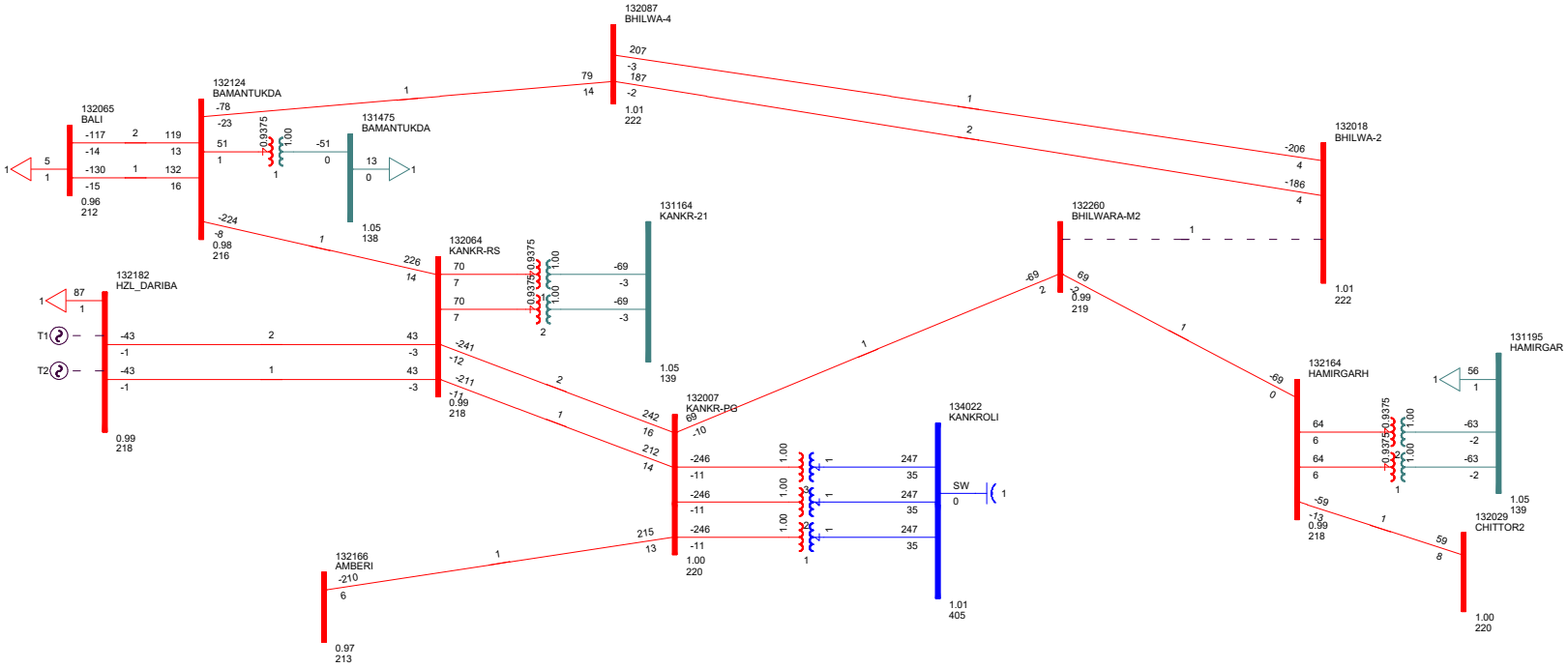
Annexure-2

LIST OF RVPN OFFICERS FOR COORDINATION WITH PGCIL FOR IMPLEMENTATION OF SPS AT PGCIL 400 KV GSS IN RAJASTHAN CONTROL AREA

S.No.	Name of RVPN Officer	Designation	Contact No.	Associated PGCIL GSS	Mail ID
	SLDC				
1	Dr. M. P. Sharma	Executive Engineer (SOLD)	9413382617		se.sold@rvpn.co.in
2	Sh. V.K. Gupta	Assistant Engineer (SOLD)	9413383201		se.sold@rvpn.co.in
3	Sh. Rohit Kumar Jain	Assistant Engineer (SOLD)	9414014773		se.sold@rvpn.co.in
	ZCE(T&C), Jaipur				
4	Sh. Maipal Singh Yadav	SE(T&C), Alwar	9413391302	Bhiwadi, Neemrana	se.tnc.alwar@rvpn.co.in
5	Sh. Rajeshwar Meena	SE(T&C), Jaipur Rural	9413392974	Kotputli, Bassi, Jaipur(South)	se.tnc.jprrural@rvpn.co.in
6	Sh. Vimal Kishor Mathur	Executive Engineer TA to ZCE(T&C), Jai	9413382667		zce.jpr@rvpn.co.in
	ZCE(T&C), Ajmer				
7	Sh. A. R. Quershi	SE(T&C), Udaipur	9414061109	Kankroli	se.tnc.udaipur@rvpn.co.in
8	Sh. Vijendra Singh	SE(T&C), Sikar	9414061099	Sikar	se.tnc.sikar@rvpn.co.in
9	Sh. Kishore Singh Bhagela	Aen O/o ZCE(T&C), Ajmer	9413392928		zce.ajmer@rvpn.co.in
	ZCE (T&C), Jodhpur				
10	Sh. Sunil Saini	SE(T&C), Ratangarh	9413382475		se.tnc.ratangarh@rvpn.co.in
	CE(MPT&S), Jaipur				
11	Sh. J. P. Meena	SE(MPT&S), Jaipur	9414079114	Bhiwadi, Neemrana,Kotputli, Bassi, Jaipur(South)	se.prot@rvpn.co.in
12	Sh. V.P. Yadav	Xen(MPT&S), Alwar	9414061407		xen.prot.alwar@rvpn.co.in
13	Sh. D.S. Singh Rathore	AEn TA to XEN (MPT&S), Jaipur	9413349195		AEN.XENMPTS.JPR@RVPN.CO.IN
	CE(MPT&S), Ajmer				
14	Sh. Harsh Gupta	SE(MPTS), RVPN, Udaipur	9414061483	Kankroli	se.mpts.udr@rvpn.co.in
15	Sh. Suja Ram Megwal	SE(MPTS), RVPN, AJMER	9414061082	Sikar	se.mpts.ajmer@rvpn.co.in
16	Sh. Raghvendra Tiwari	TA TO CE(MPTS), Ajmer	9414082035		ce.mpts.ajmer@rvpn.co.in
	CE(MPT&S),Jodhpur				
17	Sh. Neeraj Bhatia	Executive Engineer (MPT&S) , Bikaner	9414061381		xen.mpts.bkn@rvpn.co.in
	COMMUNICATION WING				
18	Smt. Gayatri Bokariya	SE (Comm.)RVPN, Jaipur	9414061056	Bhiwadi, Neemrana,Kotputli, Bassi, Jaipur(South)	se.comm.jpr@rvpn.co.in
19	Sh. R. P. Meena	SE (Comm.)RVPN, Ajmer	9413383220	Kankroli, Sikar	se.comm.ajmer@rvpn.co.in
20	Sh. Sandeep Bansal	Aen (Comm.), RVPN	9413383245		ace.comm@rvpn.co.in
	PGCIL				
1	Sh. Yashpal Choudhary	D.G.M., Bikaner-AM.	9001894219	Overall Coordinator (for Bassi, Kankroli, Sikar, Jaipur South)	yashpal@powergrid.in
2	Sh. Pankaj Kumar Jha	Chief Manager, Faridabad-AM.	9634440125	Overall Coordinator (for Neemrana, Bhiwadi, Kotputli)	pankaj.jha@powergrid.in
3	Sh. Ankit Bhargava	Manager, Faridabad-AM.	9889164193	support for Neemrana, Bhiwadi, Kotputli	ram.ankit05@powergrid.in
4	Sh. Sunil Jalutharia	Deputy Manager, Bikaner-AM.	7062319931	Support for Bassi, Kankroli, Sikar, Jaipur South	jsunil@powergrid.in
5	Sh. Hukumichand Maneria	D.G.M., 400kV Sikar Substation.	9001890952	Sikar	hukmichandmenaria@powergrid.in
6	Sh. Mukesh Poonia	Deputy Manager, 400kV Sikar Substation.	8279201627	Sikar	mukeshpoonia1997@powergrid.in
7	Sh. Rakesh Kumar Agrawal	D.G.M., 400kV Bassi Substation.	9001894223	Bassi	rkagrawal83@powergrid.in
8	Sh. Uttam Kumar	Assistant Manager, 400kV Bassi Substation.	7728040678	Bassi	uttamkumaryadav047@powergrid.in
9	Sh. Asheesh Meena	Manager, 400kV Kankroli Substation.	7252031110	Kankroli	asheeshmeena25@powergrid.in
10	Sh. Chandrpal Singh,	Manager, 400kV Jaipur South Substation.	9882606301	Jaipur South	cps228@powergrid.in
11	Sh. Rajnish	Chief Manager, 400kV Neemrana Substation.	8739907164	Neemrana	rajnish@powergrid.in
12	Sh. Vipin Kumar Patel	Assistant Manager, 400kV Neemrana Substation.	9584030340	Neemrana	vipin.patel@powergrid.in
13	Sh. Anil Kumar Sharma	DGM, 400kV Bhiwadi Substation.	9560797691	Bhiwadi	anil.sharma@powergrid.in
14	Sh. Jay Kumar Jain	Manager, 400kV Bhiwadi Substation.	8826926414	Bhiwadi	jayjain@powergrid.in
15	Sh. Rakesh Kumar Bharti	Manager, 400kV Kotputli Substation.	8318804746	Kotputli	rkbharti@powergrid.in

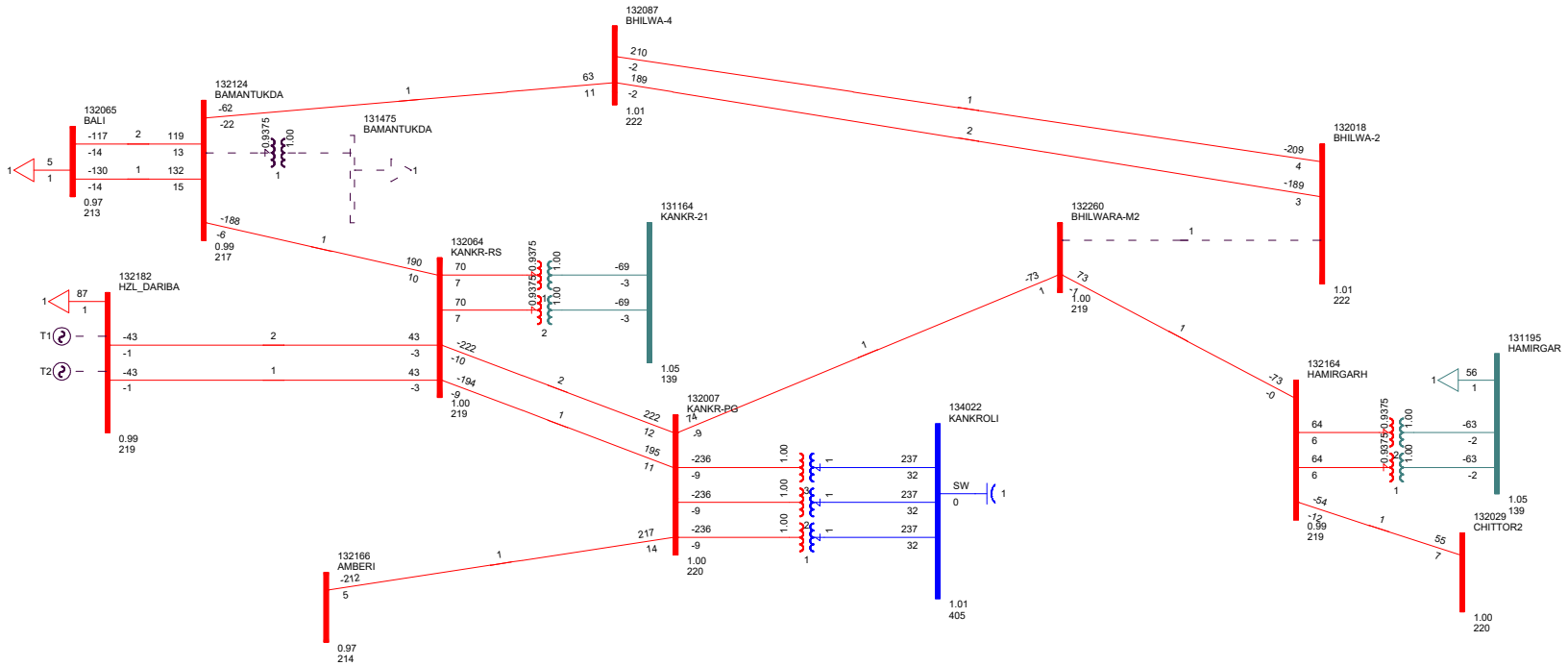
BASE CASE: : LOAD FLOW STUDY FOR SPS OF 400/220 KV TRANSFORMERS AT 400 KV GSS KANKROLI (PG)

EXHIBIT-1



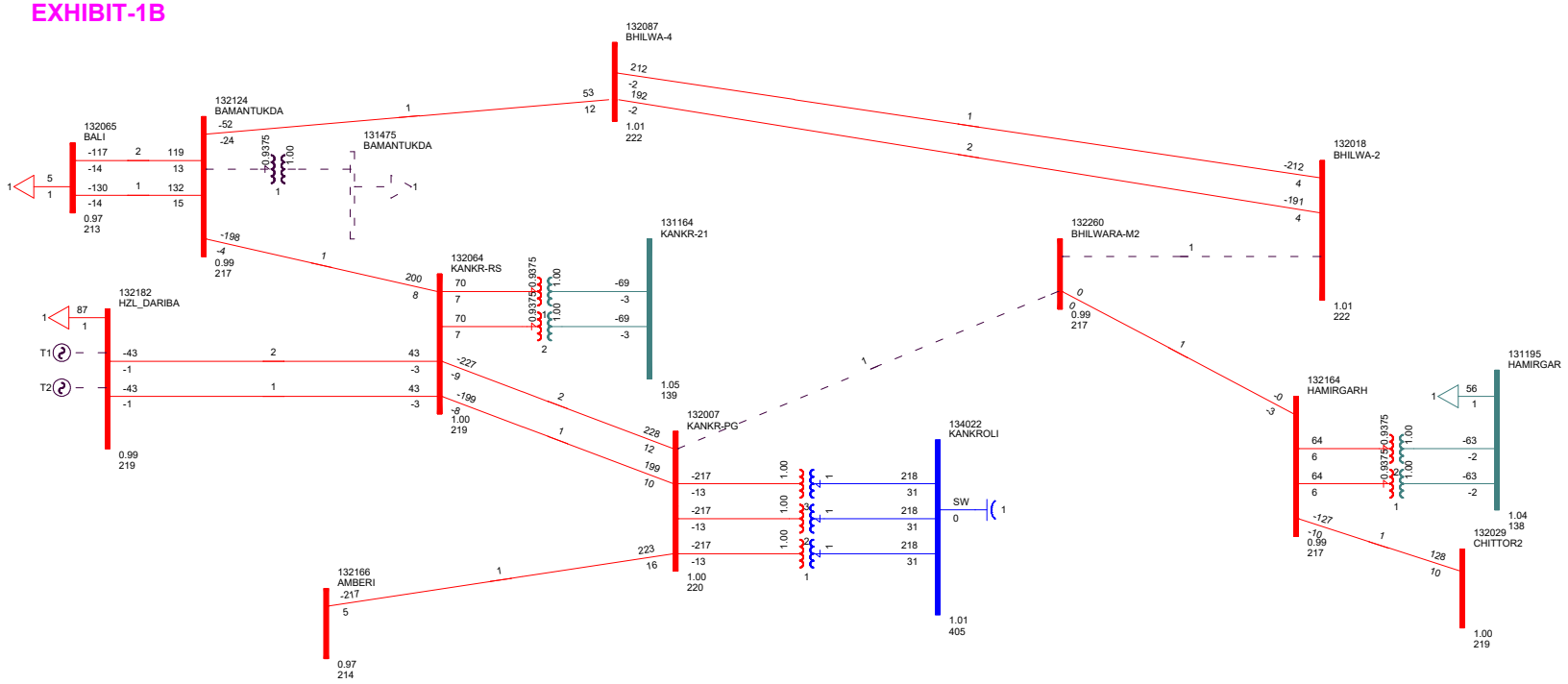
Stage-1 SPS Operation : Tripping of 160 MVA, 220/132 kv transformers at 220 kV GSS Bamantukda

EXHIBIT-1A



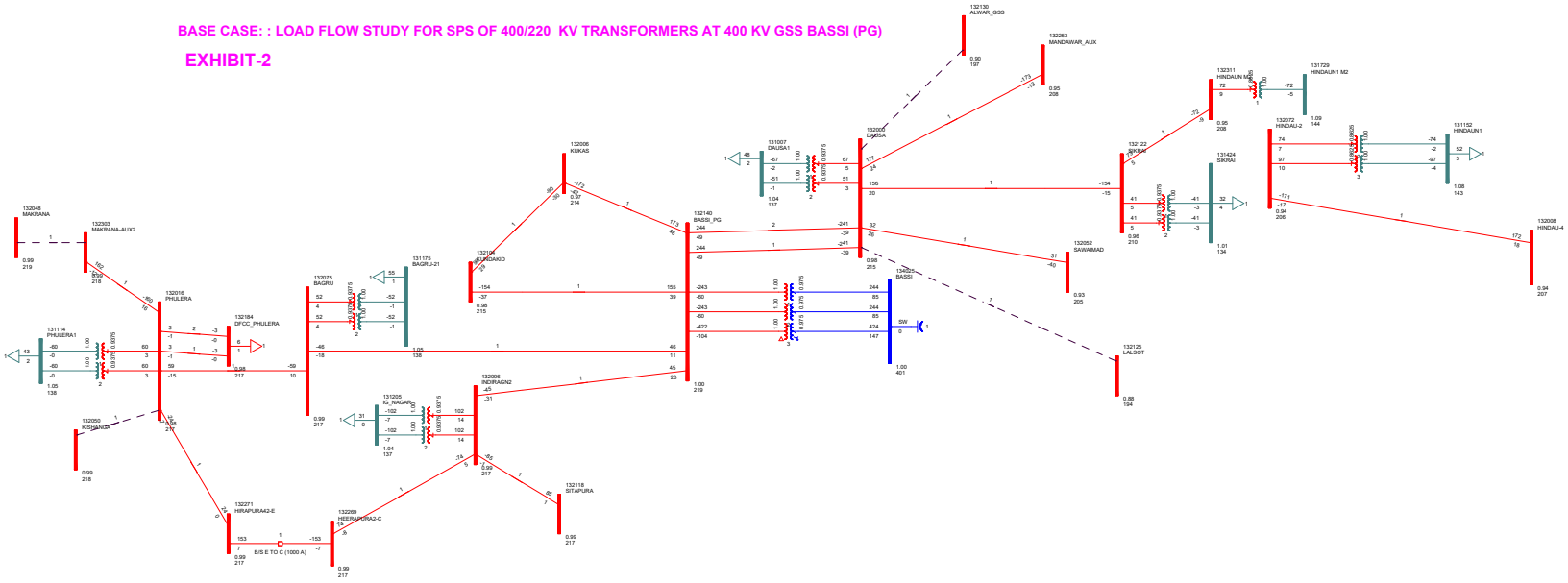
Stage-2 SPS Operation : Tripping of 220 kV S/C Kankroli(PG)-Bhilwara line

EXHIBIT-1B



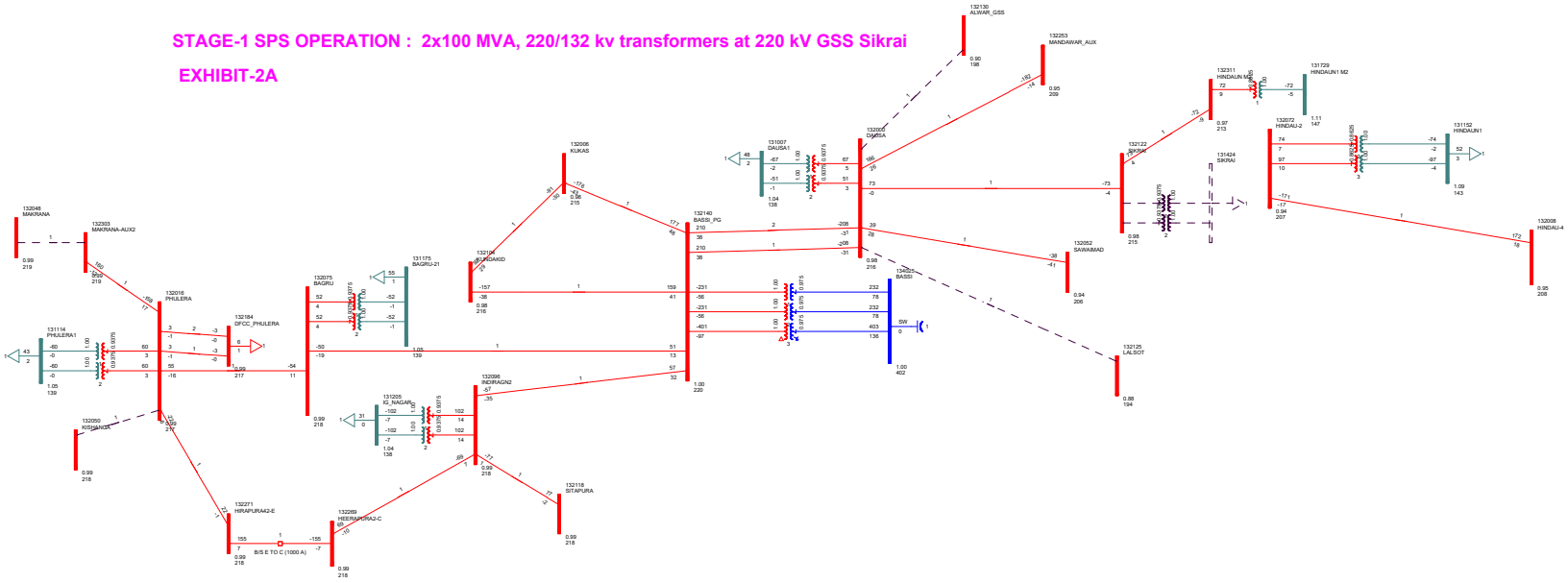
BASE CASE: : LOAD FLOW STUDY FOR SPS OF 400/220 KV TRANSFORMERS AT 400 KV GSS BASSI (PG)

EXHIBIT-2



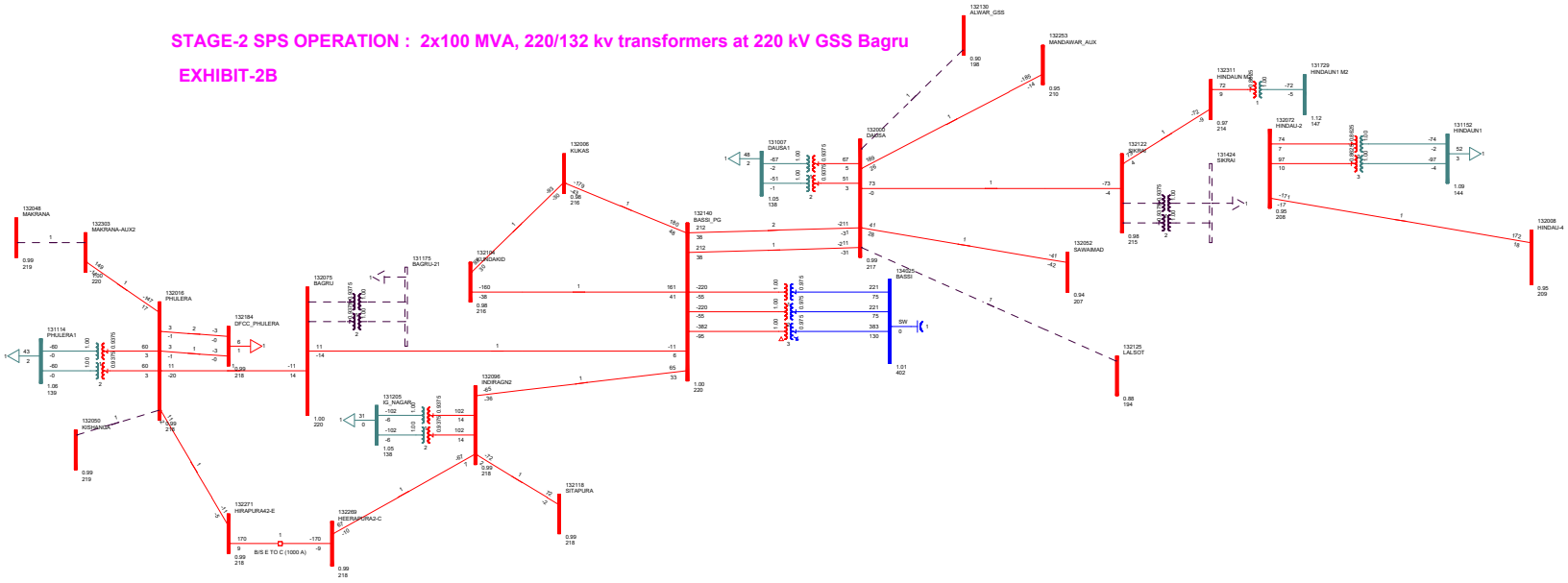
STAGE-1 SPS OPERATION : 2x100 MVA, 220/132 kv transformers at 220 kV GSS Sikrai

EXHIBIT-2A



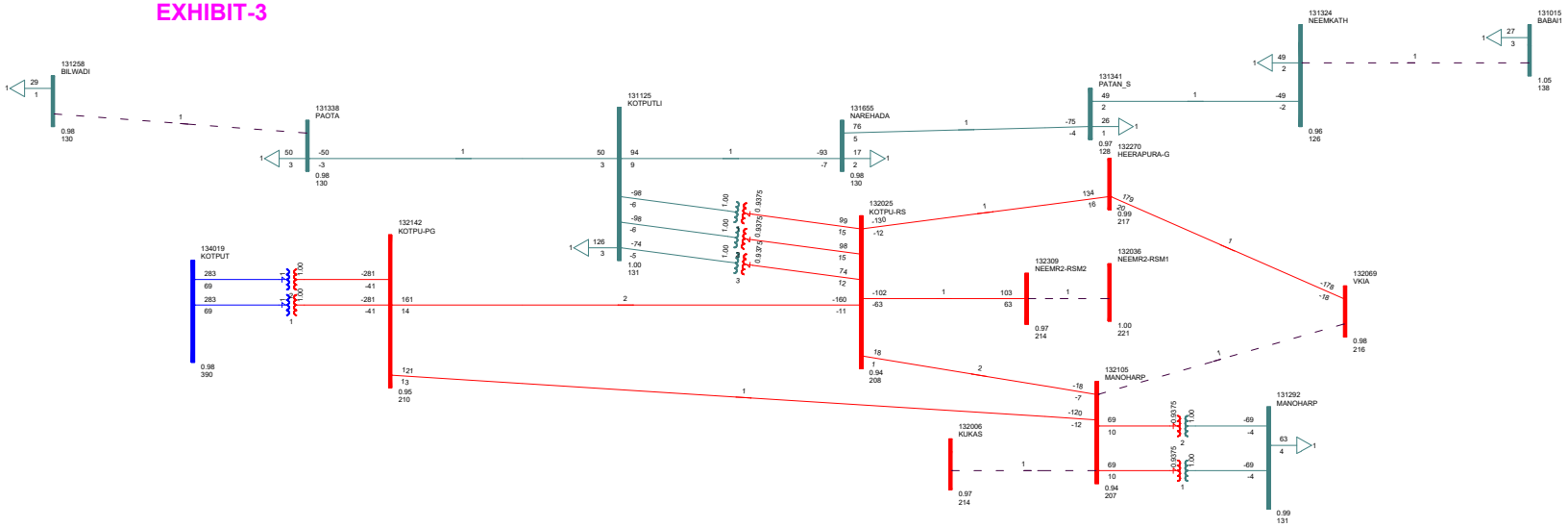
STAGE-2 SPS OPERATION : 2x100 MVA, 220/132 kv transformers at 220 kV GSS Bagru

EXHIBIT-2B



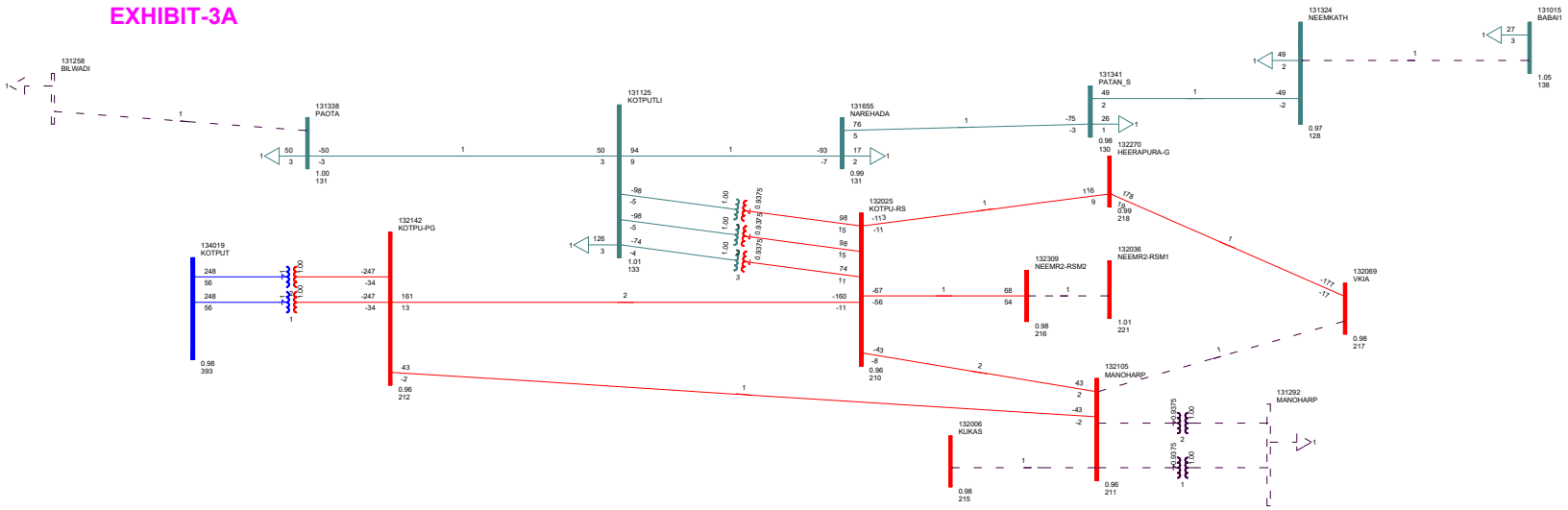
BASE CASE: : LOAD FLOW STUDY FOR SPS OF 400/220 KV TRANSFORMERS AT 400 KV GSS KOTPUTLI (PG)

EXHIBIT-3



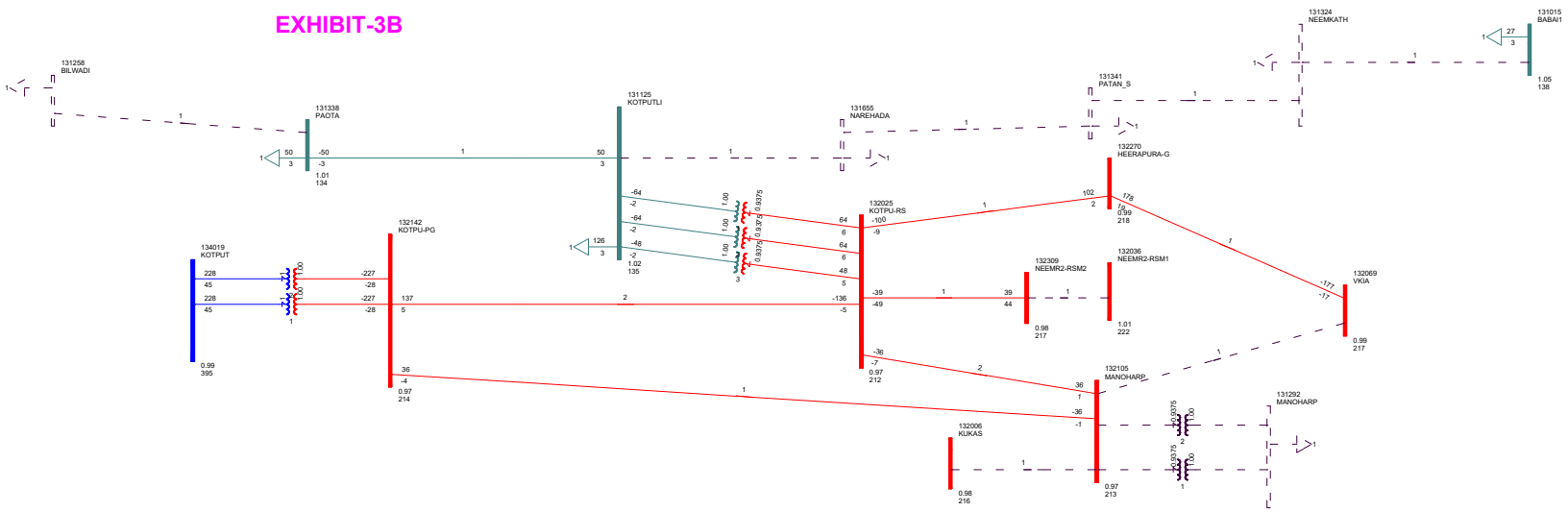
STAGE-1 SPS OPERATION : 2x100 MVA, 220/132 kv transformers at 220 kV GSS Manoharpur

EXHIBIT-3A



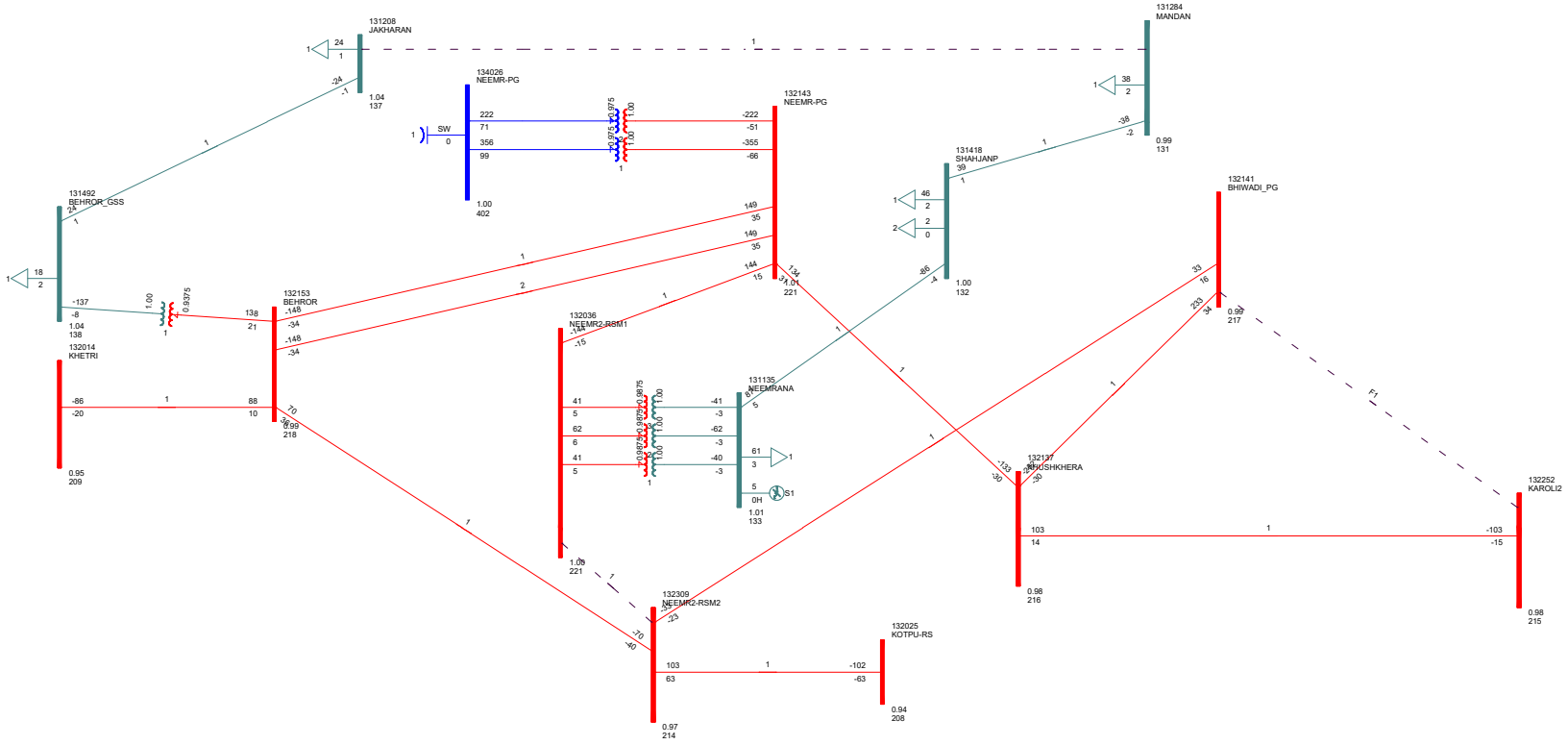
STAGE-2 SPS OPERATION : 132 kV S/C Kotputli-Narehada line

EXHIBIT-3B



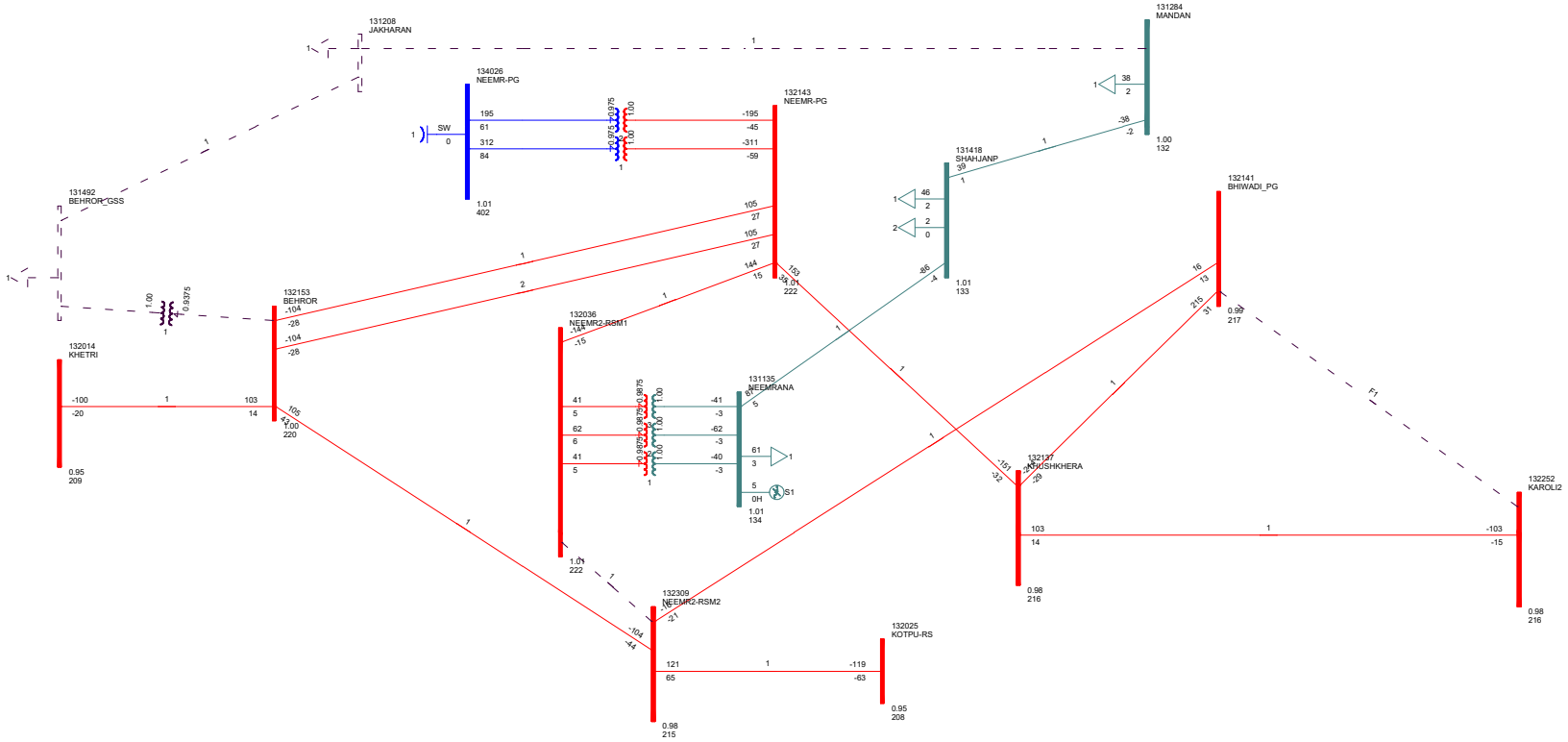
BASE CASE: : LOAD FLOW STUDY FOR SPS OF 400/220 KV TRANSFORMERS AT 400 KV GSS NEEMRANA (PG)

EXHIBIT-4



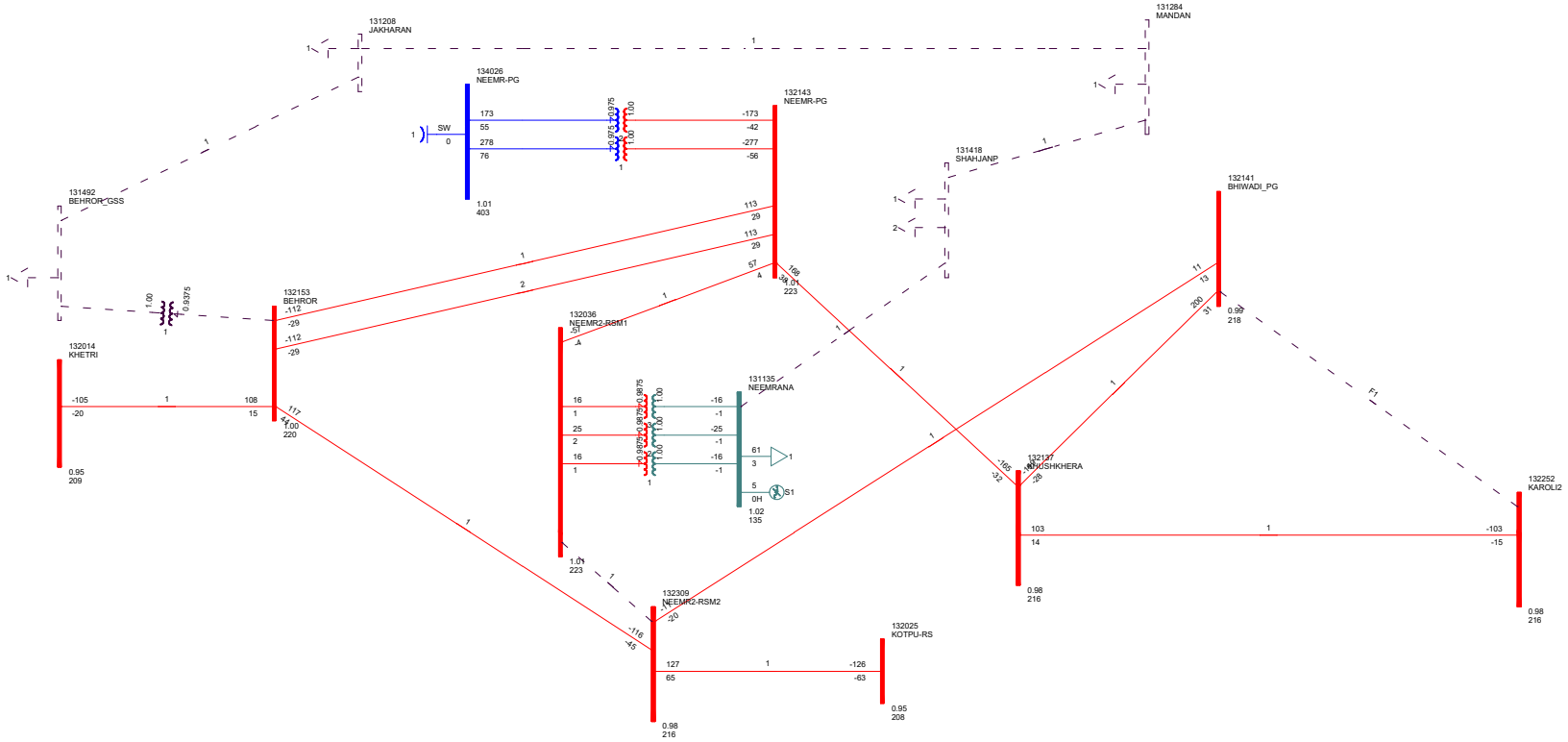
STAGE1 SPS OPERATION : 160 MVA, 220/132 kV transformer at 220 kV GSS Behrore

EXHIBIT-4A



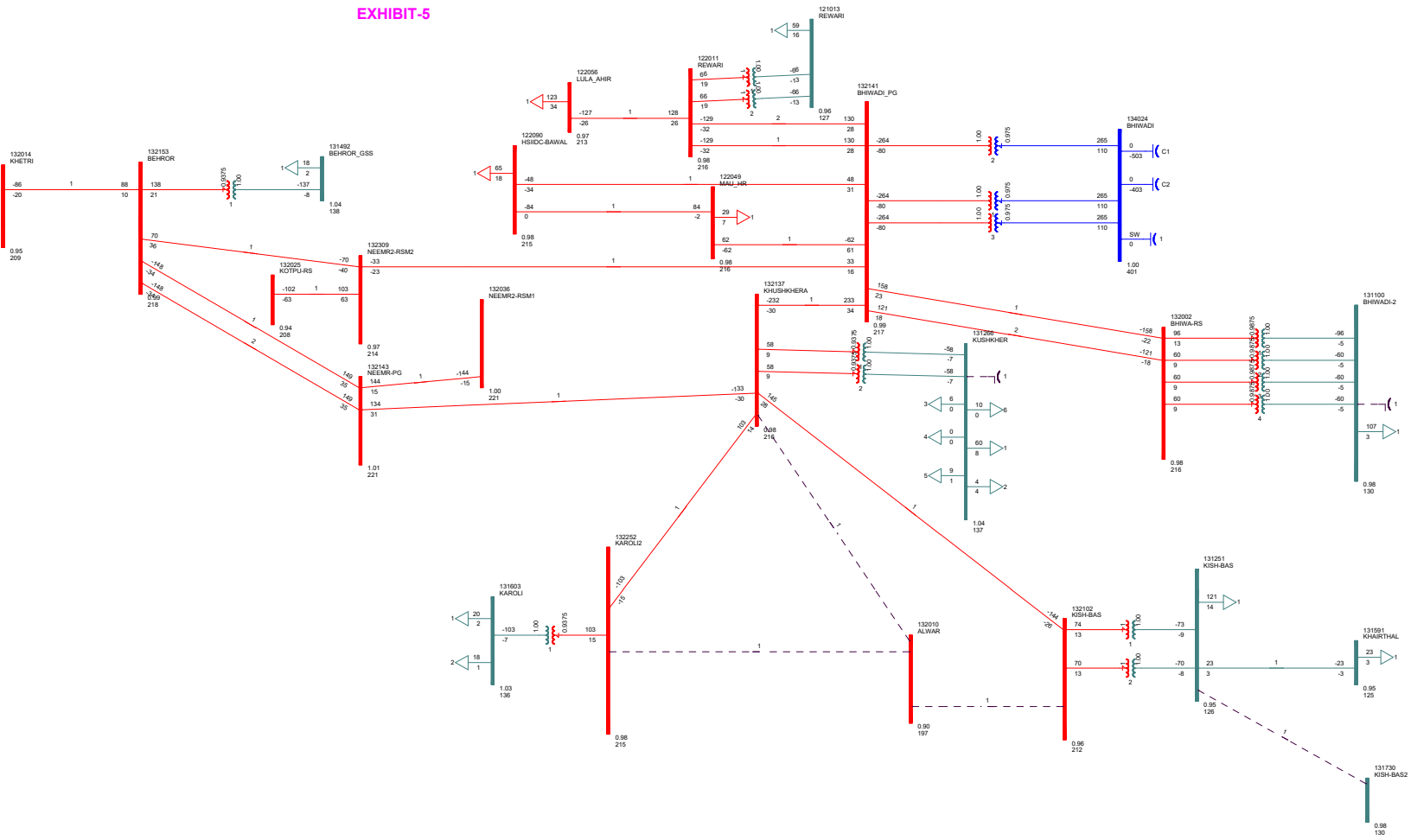
STAGE2 SPS OPERATION : 132 kV S/C Neemrana-Shahjanpur line

EXHIBIT-4B



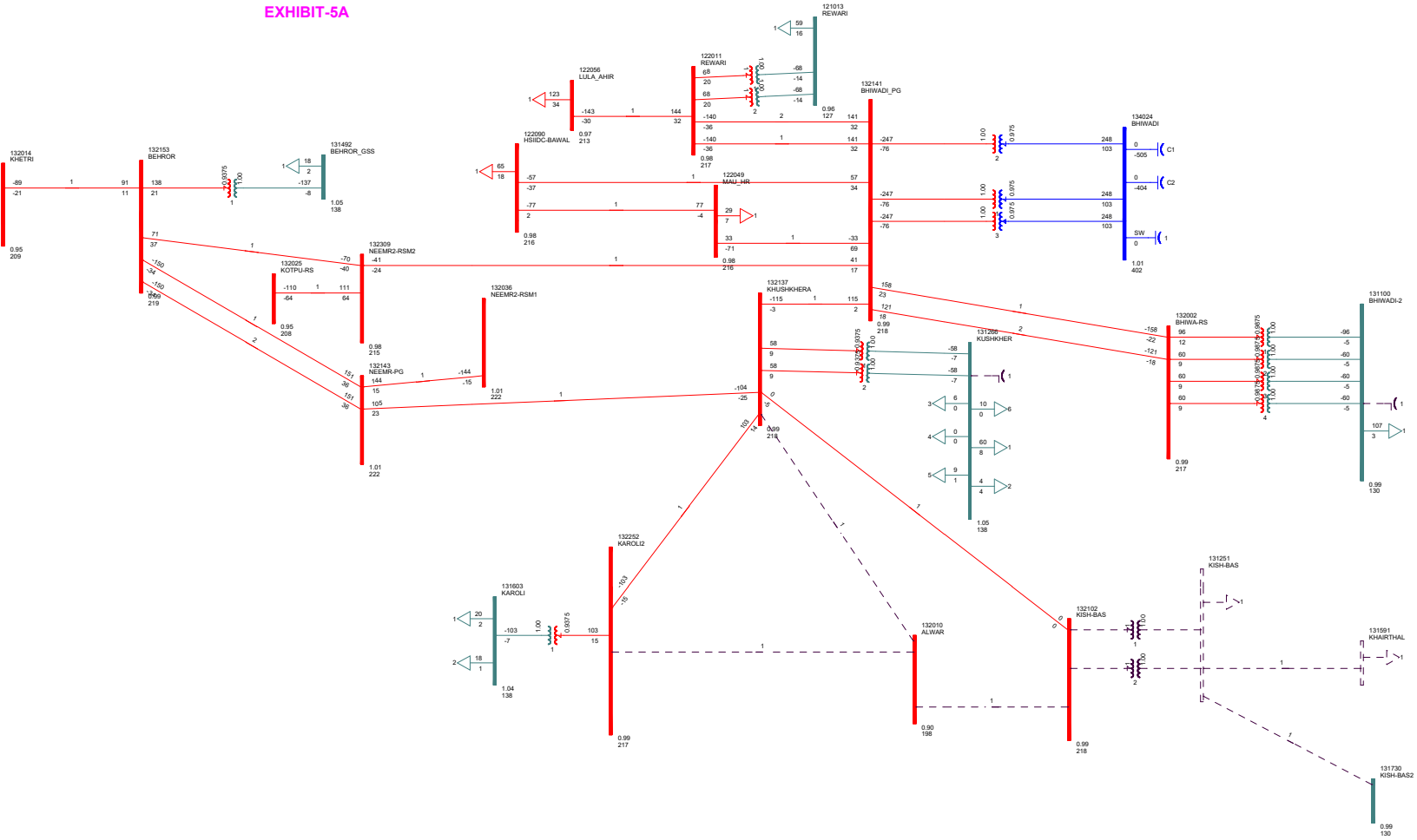
BASE CASE: : LOAD FLOW STUDY FOR SPS OF 400/220 KV TRANSFORMERS AT 400 KV GSS BHIWADI (PG)

EXHIBIT-5



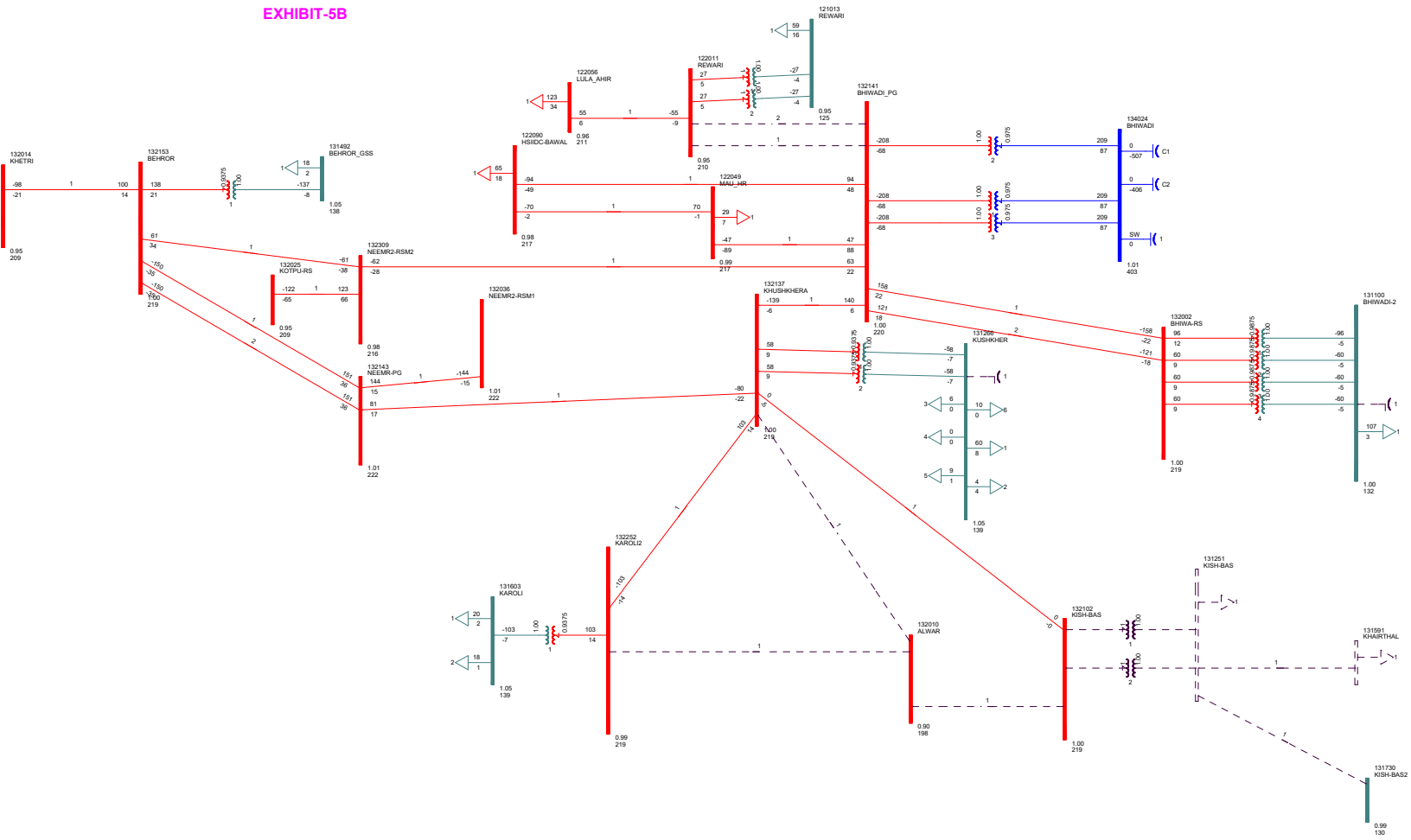
STAGE-1 SPS OPERATION :Tripping of 2x160 MVA, 220/132 kV transformer at 220 kV GSS Kishangarh Bas

EXHIBIT-5A



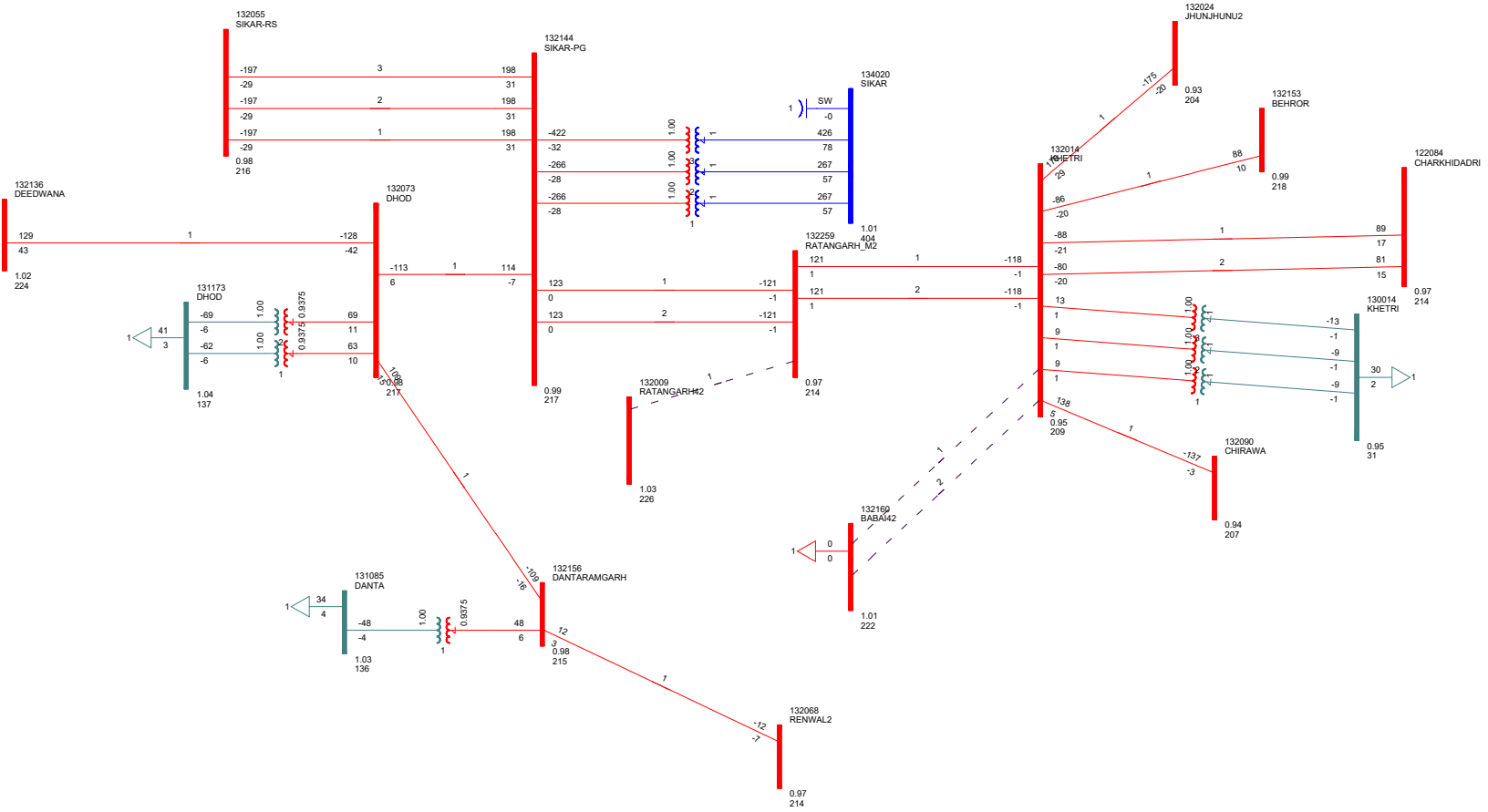
STAGE-2 SPS OPERATION :Tripping of220 kV D/C Bhiwadi(PG)-Rewari line

EXHIBIT-5B



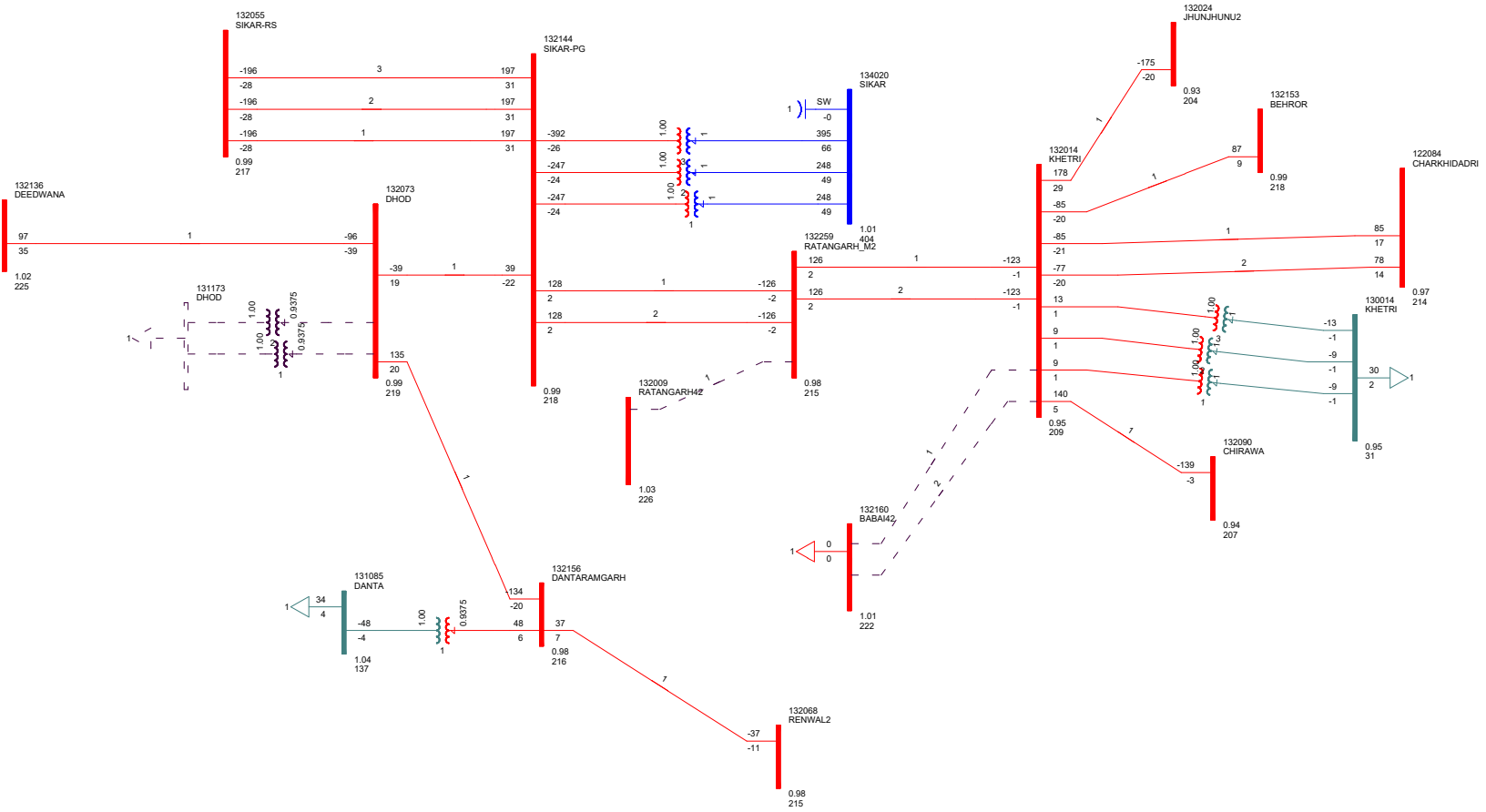
BASE CASE: : LOAD FLOW STUDY FOR SPS OF 400/220 KV TRANSFORMERS AT 400 KV GSS SIKAR (PG)

EXHIBIT-6



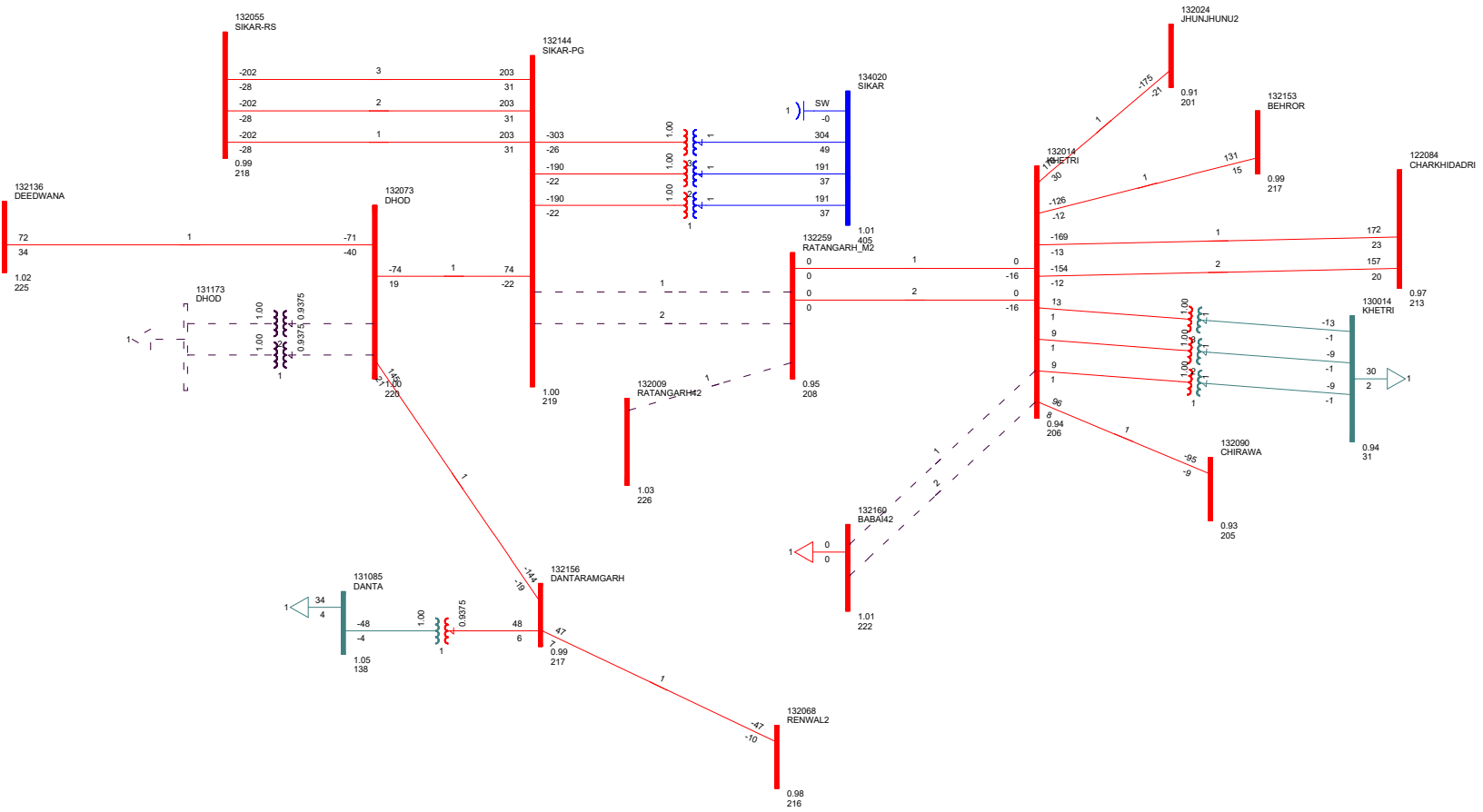
STAGE-1 : 2x100 MVA, 220/132 kV transformers at 220 kV GSS Dhod

EXHIBIT-6A



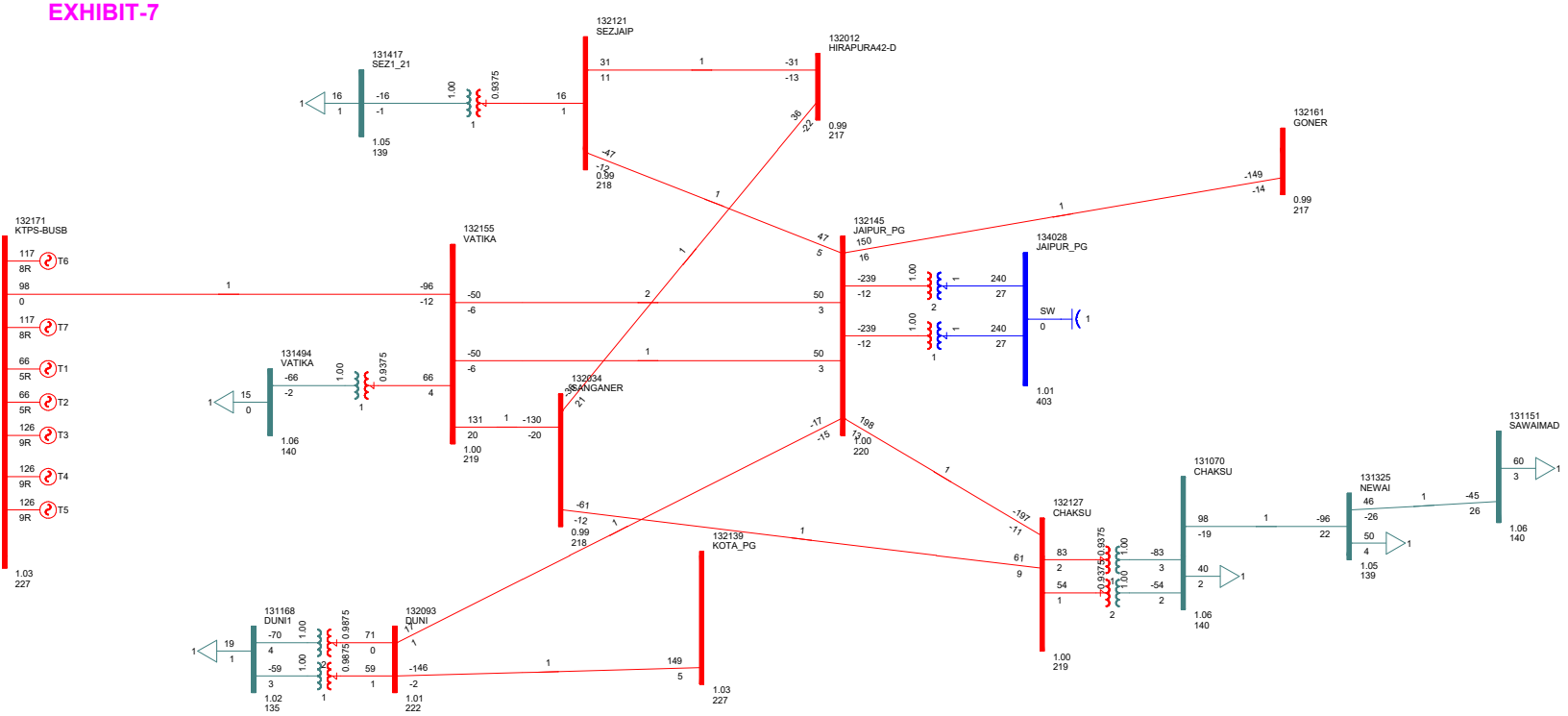
STAGE-2 SPS OPERATION : 220 KV D/C SIKAR(PG)-RTANGARH LINE

EXHIBIT-6B



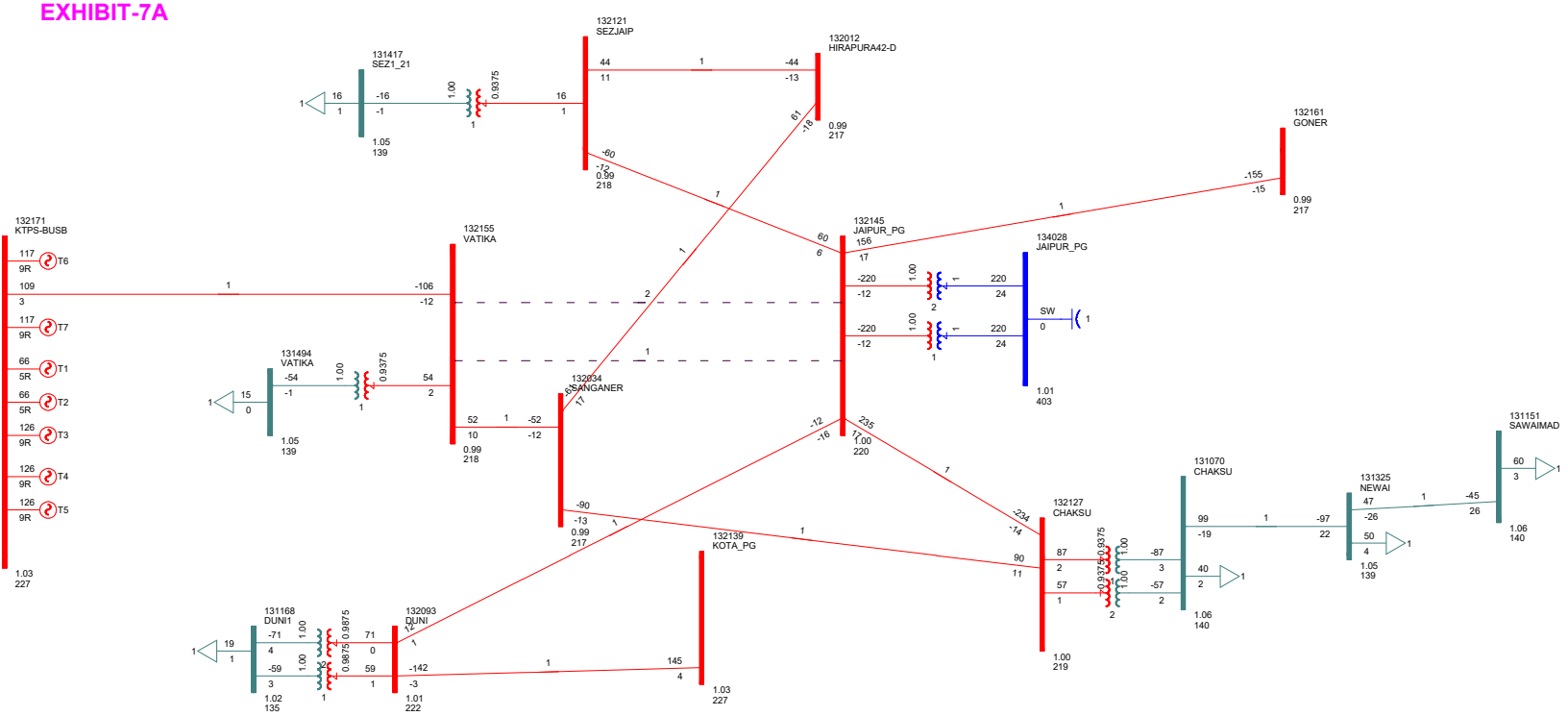
BASE CASE: : LOAD FLOW STUDY FOR SPS OF 400/220 KV TRANSFORMERS AT 400 KV GSS JAIPUR (SOUTH-PG)

EXHIBIT-7



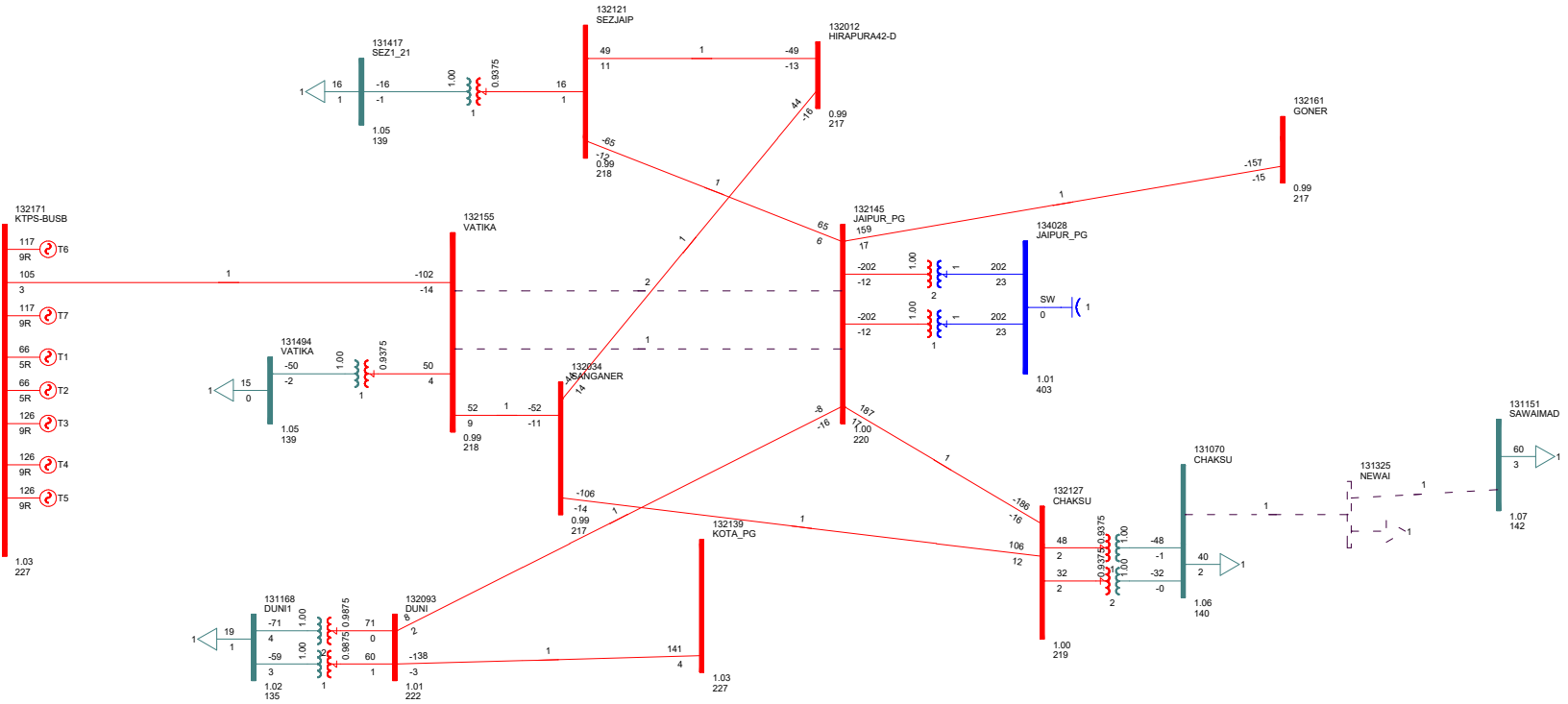
STAGE-1 SPS OPERATION : 220 kV D/C Jaipur(South-PG)-Vatika line

EXHIBIT-7A



STAGE-2 SPS OPERATION : 132 kV S/C Chaksu Newai line

EXHIBIT-7B



RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED

[Corporate Identity No. (CIN): L40109RJ2000SGC016485]

GSTIN:- 08AABCR8312A1ZT

Regd. Office: VidyutBhawan, Jan path, Jyoti Nagar, Jaipur-302005

OFFICE OF THE CHIEF ENGINEER (LD)

New Prasaran Building, Ajmer Road, Heerapura, Jaipur – 302024

Tel.: +91-141-2250403; Fax: +91-141-2250073; E-Mail ce.ld@rvpn.co.in

No.RVPN/CE(LD)/SE(SOLD)/XEN-III/A-I/F. /D. 1818 Jaipur Date 27.01.26

The Chief General Manager,
Northern Regional Load Despatch Centre
18-A, Shaheed Jeet Singh Sansanwal Marg, Katwaria Sarai,
New Delhi -110016

Sub:- Point-wise Reply to NRLDC Observations on SPS Scheme for PGCIL 400 kV GSSs in Rajasthan Control Area

Ref:-1. Mom item No. B.3 of 232nd OCC meeting held on 17.6.2025
2. This office letter no. 1745 dated 16.1.2026
3. NRLDC email dated 22.1.2026

This has reference to NRLDC email dated 22.01.2026, wherein comments on the SPS scheme submitted vide this office letter no. 1745 dated 16.01.2026 for PGCIL 400 kV GSSs at Kankroli, Bhiwadi, Neemrana, Jaipur (South), Bassi, Kotputli and Sikar have been intimated. The observations of NRLDC and the point-wise reply thereto are furnished below for kind consideration:

I. **Observation 1:** SPS proposals at Kankroli, Neemrana, and Bhiwadi are found to be adequate to meet the required load relief under N-1 contingency conditions. For Jaipur (South), no load relief is technically required from an N-1 ICT loading perspective; however, SPS operation leads to unnecessary load relief and hence is not considered appropriate.

Reply: In the 232nd OCC meeting held on 17.06.2025 (Appendix-A), NRLDC intimated to the OCC forum that PGCIL's 400 kV GSSs at Kankroli, Bhiwadi, Neemrana, Jaipur (South), Bassi, Kotputli and Sikar are N-1 non-compliant and requested Rajasthan SLDC to identify SPS feeders. Further, in subsequent OCC and PSC meetings, NRLDC has consistently advised Rajasthan SLDC to submit SPS feeders along with simulation studies to finalize the SPS for 400/220 kV transformers at the above-mentioned GSSs.

In view of the above, NRLDC is requested to clarify and take a decision regarding the requirement of SPS at 400 kV GSS Jaipur (South-PG). If SPS is considered necessary, the SPS proposal submitted vide this office letter no. 1745 dated 16.01.2026 may kindly be considered.

II. **Observation 2:** For Bassi, Kotputli and Sikar, the total load relief envisaged through SPS is insufficient compared to the load relief required, and hence the proposals are not feasible in the present form.

Reply: In line with the observations of NRLDC, Rajasthan SLDC has identified additional EHV lines/transformers for inclusion under Stage-3 and Stage-4 SPS operation at Bassi, Kotputli and Sikar in order to achieve the load relief as proposed by NRLDC. The detailed simulation studies are enclosed at Exhibit-2, Exhibit-3 and Exhibit-6 and are tabulated at Annexure-1, Annexure-2 and Annexure-3 and a summary of the same is also provided hereunder for ready reference.

Validity unknownSignature valid
Digitally signed by S[illegible]ir Jain
Designation :Chief Engineer
Date: 2026.0[illegible].24:56 IST
Reason: Approved

RajKaj Ref No.: 20130373
eSign 1.0

Table-1: List of lines/transformers proposed to be tripped on SPS

S. No.	Name of 400 kV GSS	Stage-1	Stage-2	Stage-3	Stage-4
1	Bassi	2x100 MVA, 220/132 kv transformers at 220 kV GSS Sikrai	2x100 MVA, 220/132 kv transformers at 220 kV GSS Bagru	i. 220 kV S/C Dausa-Mandawar line ii. 220 kV S/C Dausa-Sikrai line	i. 132 kV S/C Dausa-Lawan line ii. 40/50+30/50 MVA, 132/33 kV transformers at 220 kV GSS Dausa
2	Kotputli	2x100 MVA, 220/132 kV transformers at 220 kV GSS Mancharpur	132 kV S/C Kotputli-Narehada line	3x40/50 MVA, 132/33 kV Transformers at 220 kV GSS Kotputli	i. 220 kV S/C Kotputli-Neemrana line ii. 40/50+20/25 MVA, 132/33 kV transformers at 220 kV GSS Bansur iii. 132 kV 2xS/C Bansur(220 kV GSS)-Bansur(132 kV GSS) lines iv. 132 kV 2xS/C Bansur(220 kV GSS)-Narainpur line
3	Sikar	2x100 MVA, 220/132 kV transformers at 220 kV GSS Dhod	220 kV D/C Sikar(PG)-Ratangarh line	132 kV S/C Reengus-Srimadhopur line	132 kV D/C Reengus-RIICO Reengus line

Table-2: Load relief on 400/220 kV transformers after operation of Stage-1, Stage-2, Stgae-3 & Stage-4 SPS operation

S. No.	Name of 400 kV GSS	Capacity of 400/220 kV Transformers (MVA)	Load relief					Required Load relief intimated by NRLDC vide email dated 22.1.2026
			after Stage-1 SPS operation	after Stage-2 SPS operation	after Stage-3 SPS operation	after Stage-4 SPS operation	Total load relief	
1	2	3	4	5	6	7	8(4+5+6+7)	9
1	Bassi	2x315+500 MVA	45	42	145	52	284	267
2	Kotputli	2x315 MVA	68	38	54	124	284	271
3	Sikar	2x315+500 MVA	69	205	28	55	357	332

It is requested to kindly convey your comments to NRPC so that the same may be discussed and approved in the 66th PSC meeting scheduled on 28.01.2026, in order to avoid any further delay. It is also intimated that the relevant simulated PSS®E files along with substation-wise single line diagrams (SLDs) shall be shared with NRLDC/NRPC separately through email for their examination.

Enclosed : As above.

(Sudhir Jain)
Chief Engineer(LD)

Copy submitted/ forwarded to the following for information and necessary action:

1. The Director (Operation/Tech), RVPN, Jaipur
2. The Chief Engineer (PP&D/Communication), RVPN, Jaipur
3. The Chief Engineer(T&C/MPT&S), RVPN, Jaipur/Ajmer/Jodhpur
4. The Superintending Engineer, TA to the MD, RVPN, for kind perusal of MD, RVPN, Jaipur

5. The Superintending Engineer (P&P), RVPN Jaipur
6. The Superintending Engineer (T&C), RVPN, Jaipur Rural/Udaipur /Bhilwara /Bharatpur /Alwar /Sikar /Babai/Ratangarh/Swaimadhopur/Ratangarh/Hindaun
7. The Superintending Engineer (MPT&S), RVPN, Jaipur/Ajmer/Udaipur /Kota/Bikaner/Jodhpur.
8. The Superintending Engineer (Communication), RVPN, Jaipur/Ajmer/Jodhpur.
9. The Superintending Engineer (Prot. Engg.), RVPN, Jaipur.
10. Sh. Yashpal Choudhary, DGM, PGCIL, Bikaner.
11. The Executive Engineer, Shift Incharge, SLDC, Control Room.

Encl:- As above

Chief Engineer (LD)

Validity unknown Signature valid
Digitally signed by Sudhir Jain
Designation : Chief Engineer
Date: 2026.01.[illegible]:24:56 IST
Reason: Approved

RajKaj Ref No.:
20130373
eSign 1.0

Copy also forwarded to the following for information:

1. The Member Secretary, Northern Regional Power Committee18-A, Qutab Institutional Area, Shaheed Jeet Singh Marg, KatwariaSarai, New Delhi-110 016
2. The Superintending Engineer (Opr.), Northern Regional Power Committee18-A, Qutab Institutional Area, Shaheed Jeet Singh Marg, KatwariaSarai, New Delhi-110 016.

Encl:- As above

Chief Engineer (LD)

Validity unknownSignature valid

Digitally signed by S[illegible]ir Jain
Designation : Chief Engineer
Date: 2026.0[illegible].24:56 IST
Reason: Approv[illegible]

RajKaj Ref No.:
20130373

eSign 1.0

Annexure-1

List of lines/transformers for installation of Special Protection Scheme (SPS) to avoid over load and N-1 tripping of 400/220 kV transformers at PGCIL 400 kV GSS at Bassi, Kotputli and Sikar in Rajasthan Control area

S. No.	Name of 400 kV GSS	400/220 kV transformers capacity(MVA)	Proposed SPS Transmission Lines /Transformers				
			Stage-1	Stage-2	Stage-3	Stage-4	PSSE LFS Plot reference
1	Bassi(PG)	2x315+500 MVA	2x100 MVA, 220/132 kv transformers at 220 kV GSS Sikrai (220 kV Trf load : 82 MW)	2x100 MVA, 220/132 kv transformers at 220 kV GSS Bagru (220 kV Trf load : 104 MW)	i. 220 kV S/C Dausa-Mandawar line ii. 220 kV S/C Dausa-Sikrai line (73 MW)	i. 132 kV S/C Dausa-Lawan line(39 MW) ii. 40/50+30/50 MVA, 132/33 kV transformers at 220 kV GSS Dausa (48 MW)	Base Case:Exhibit-2 Stage-1 : Exhibit-2A Stage-2 : Exhibit-2B Stage-3 : Exhibit-2C Stage-4 : Exhibit-2D
2	Kotputli(PG)	2x315 MVA	2x100 MVA, 220/132 kv transformers at 220 kV GSS Manoharpur (220 kV Trf load : 138 MW)	132 kV S/C Kotputli-Narehada line (94 MW)	3x40/50 MVA, 132/33 kV Transformers at 220 kV GSS Kotputli (126 MW)	i. 220 kV S/C Kotputli-Neemrana line ii. 40/50+20/25 MVA, 132/33 kV transformers at 220 kV GSS Bansur (40 MW) iii. 132 kV 2xS/C Bansur(220 kV GSS)-Bansur(132 kV GSS) lines iv. 132 kV 2xS/C Bansur(220 kV GSS)-Narainpur line(84 MW)	Base Case:Exhibit-3 Stage-1 : Exhibit-3A Stage-2 : Exhibit-3B Stage-3 : Exhibit-3C Stage-4 : Exhibit-3D
3	Sikar(PG)	2x315+500 MVA	2x100 MVA, 220/132 kV transformers at 220 kV GSS Dhod (220 kV Trf load : 132 MW)	220 kV D/C Sikar(PG)-Ratangarh line (226 MW)	132 kV S/C Reengus-Srimadhopur line (49 MW)	132 kV D/C Reengus-RIICO Reengus line (80 MW)	Base Case:Exhibit-6 Stage-1 : Exhibit-6A Stage-2 : Exhibit-6B Stage-3 : Exhibit-6C Stage-4 : Exhibit-6D

Annexure-2

Load flow study results Base Case and after SPS operation of Stage-1, Stage-2, Stgae-3 & Stage-4

S. No.	Name of 400 kV GSS	Capacity of 400/220 kV Transformers (MVA)	Load on 400/220 kV transformers(MW)					
			Base Case	After Stage1 SPS operation	After Stage2 SPS operation	After Stage3 SPS operation	After Stage4 SPS operation	PSSE Load Flow results reference
1	Bassi(PG)	2x315+500 MVA	2x244+424 MW	2x232+403 MW	2x221+383 MW	2x182+316 MW	2x168+292 MW	Base Case:Exhibit-2 Stage-1 : Exhibit-2A Stage-2 : Exhibit-2B Stage-3 : Exhibit-2C Stage-4 : Exhibit-2D
2	Kotputli(PG)	2x315 MVA	2x281 MW	2x247 MW	2x228MW	2x201 MW	2x139 MW	Base Case:Exhibit-3 Stage-1 : Exhibit-3A Stage-2 : Exhibit-3B Stage-3 : Exhibit-3C Stage-4 : Exhibit-3D
3	Sikar(PG)	2x315+500 MVA	2x267+426 MW	2x248+395 MW	2x191+304 MW	2x183+292 MW	2x168+267 MW	Base Case:Exhibit-6 Stage-1 : Exhibit-6A Stage-2 : Exhibit-6B Stage-3 : Exhibit-6C Stage-4 : Exhibit-6D

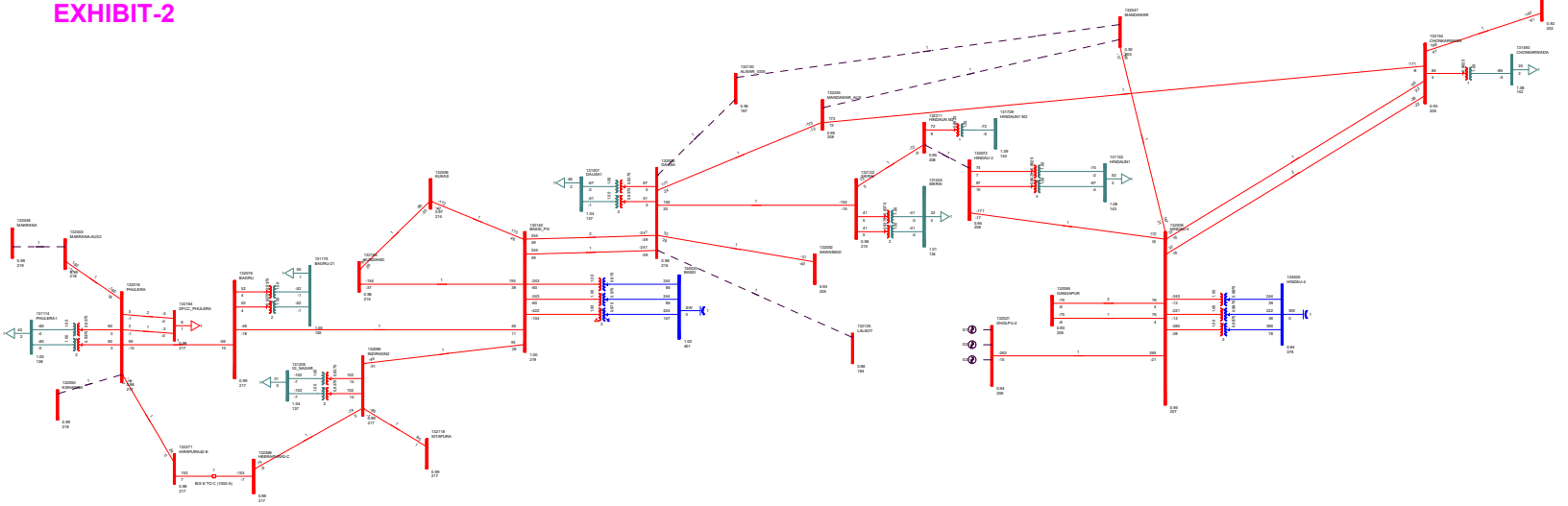
Annexure-3

Load relief after operation of Stage-1, Stage-2, Stgae-3 & Stage-4 SPS

S. No.	Name of 400 kV GSS	Capacity of 400/220 kV Transformers (MVA)	Load relief on 400/220 kV transformers(MW)							
			Base Case	Load relief on the 400/220 kV Transformers after Stage-1 SPS operation	Further Load relief on the 400/220 kV Transformers after Stage-2 SPS operation	Further Load relief on the 400/220 kV Transformers after Stage-3 SPS operation	Further Load relief on the 400/220 kV Transformers after Stage-4 SPS operation	Total load relief after SPS operation of Stage-1 , Stage-2, Stage-3 and Stage-4	Required Load relief intimated by NRLDC vide email dated 22.1.2026	PSSE Load Flow results reference
1	Bassi(PG)	2x315+500 MVA	2x244+424 MW	45	42	145	52	284	267	Base Case:Exhibit-2 Stage-1 : Exhibit-2A Stage-2 : Exhibit-2B Stage-3 : Exhibit-2C Stage-4 : Exhibit-2D
2	Kotputli(PG)	2x315 MVA	2x281 MW	68	38	54	124	284	271	Base Case:Exhibit-3 Stage-1 : Exhibit-3A Stage-2 : Exhibit-3B Stage-3 : Exhibit-3C Stage-4 : Exhibit-3D
3	Sikar(PG)	2x315+500 MVA	2x267+426 MW	69	205	28	55	357	332	Base Case:Exhibit-6 Stage-1 : Exhibit-6A Stage-2 : Exhibit-6B Stage-3 : Exhibit-6C Stage-4 : Exhibit-6D

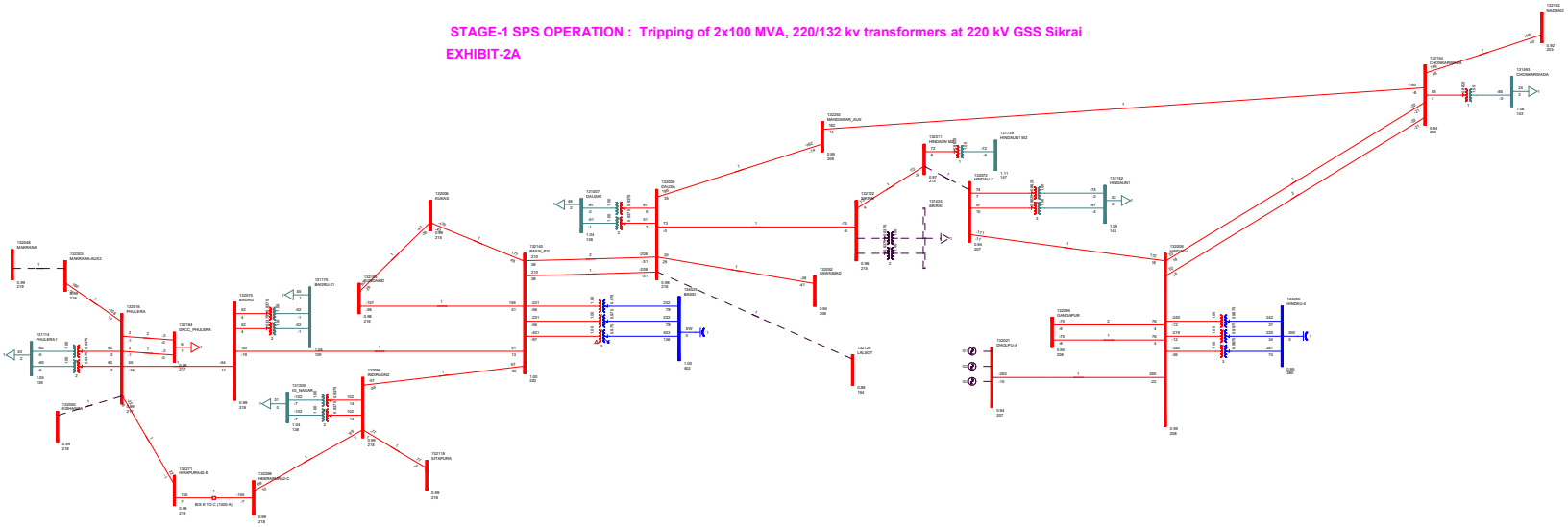
BASE CASE : LOAD FLOW STUDY IN BASE CASE FOR DESIGN OF SPS SCHEME OF 400/220 KV TRANSFORMERS AT 400 KV GSS BASSI(PG)

EXHIBIT-2



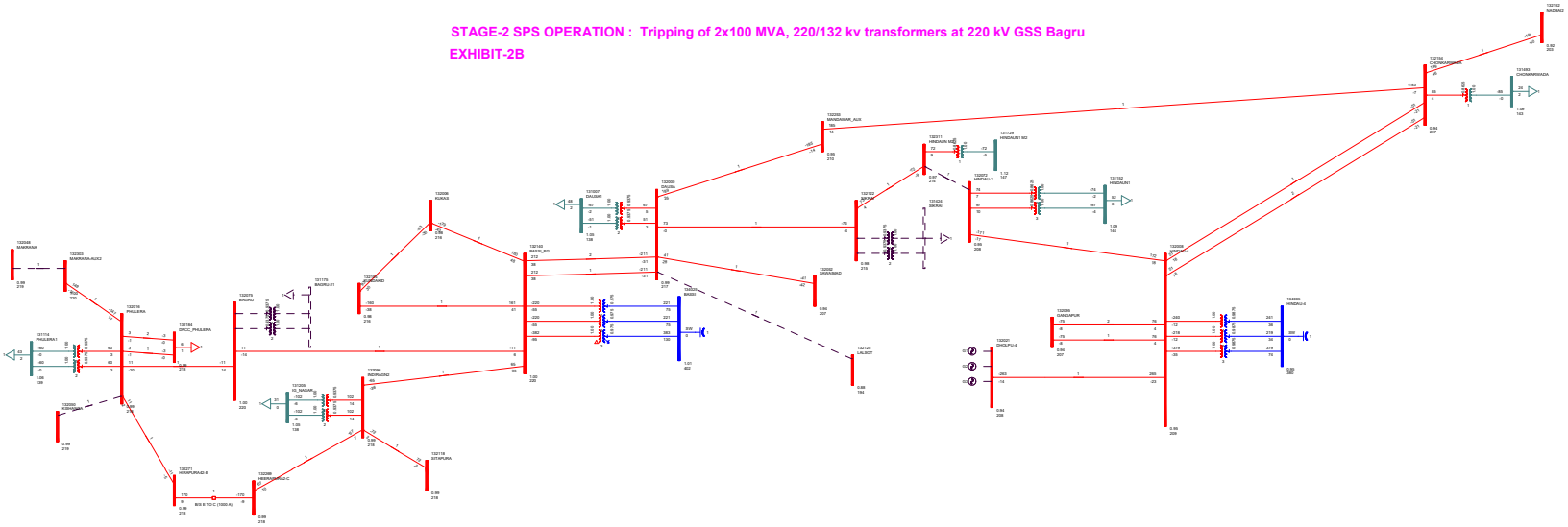
STAGE-1 SPS OPERATION : Tripping of 2x100 MVA, 220/132 kv transformers at 220 kV GSS Sikrai

EXHIBIT-2A



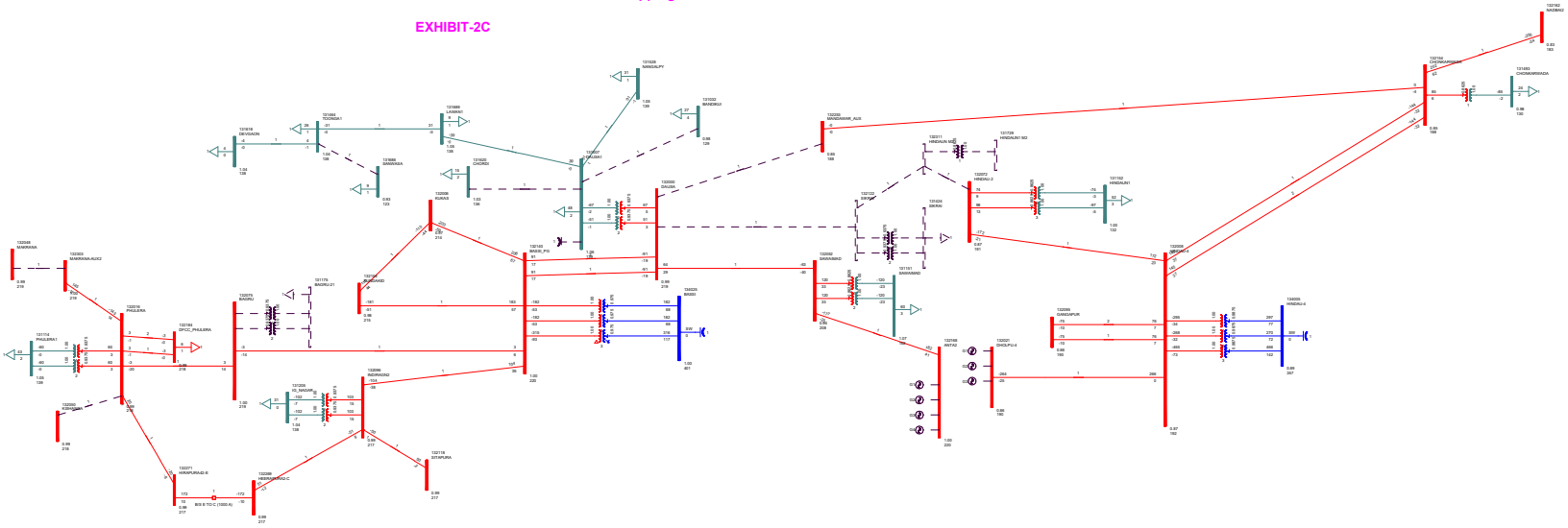
STAGE-2 SPS OPERATION : Tripping of 2x100 MVA, 220/132 kv transformers at 220 kV GSS Bagru

EXHIBIT-2B



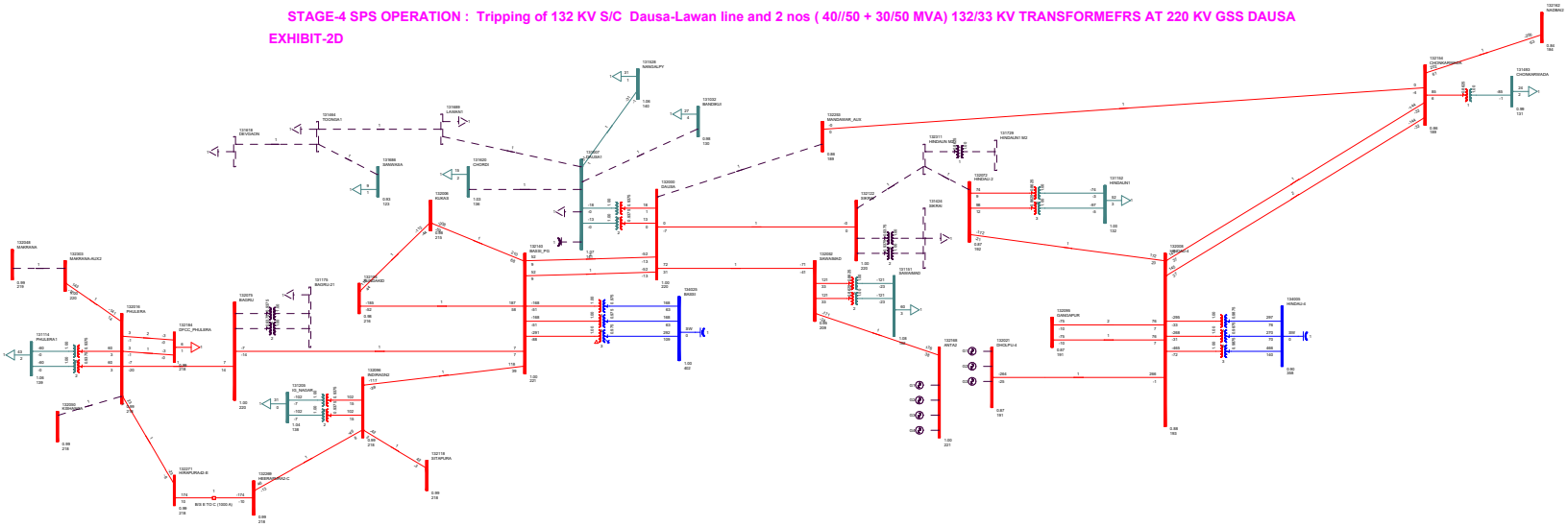
STAGE-3 SPS OPERATION : Tripping of 220 kV S/C Dausa-Mandawar line and 220kV S/C Sikrai-Hindaun line

EXHIBIT-2C



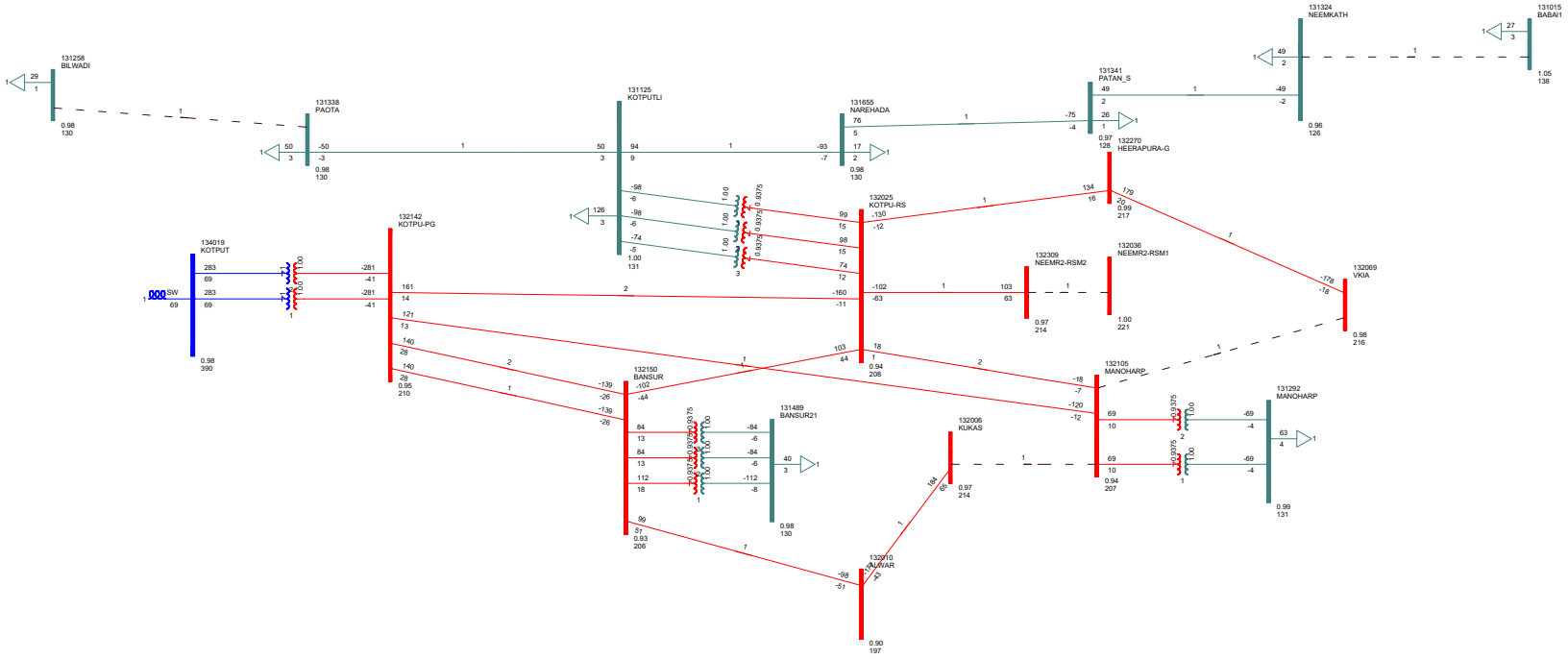
STAGE-4 SPS OPERATION : Tripping of 132 KV S/C Dausa-Lawan line and 2 nos (40//50 + 30/50 MVA) 132/33 KV TRANSFORMEFRS AT 220 KV GSS DAUSA

EXHIBIT-2D



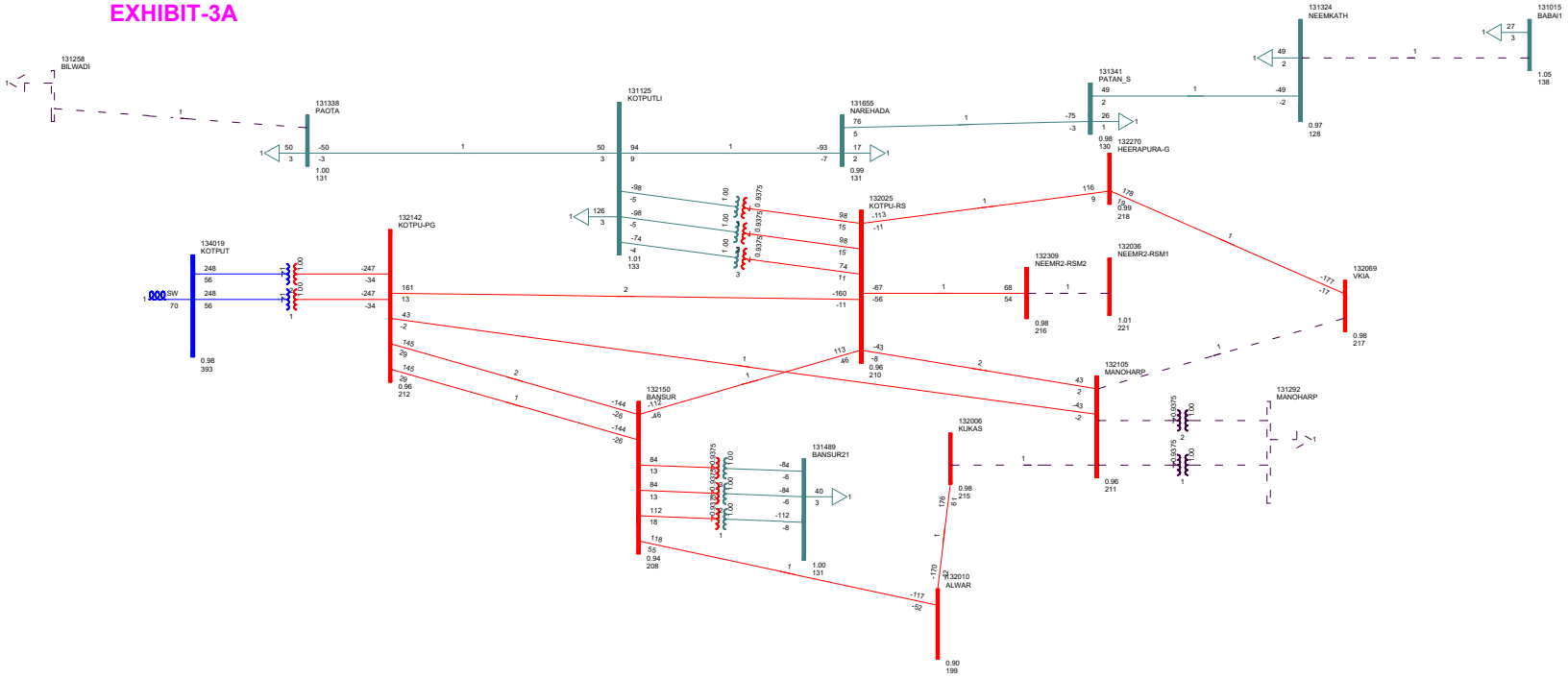
BASE CASE : LOAD FLOW STUDY IN BASE CASE FOR DESIGN OF SPS SCHEME OF 400/220 KV TRANSFORMERS AT 400 KV GSS KOTPUTLI(PG)

EXHIBIT-3



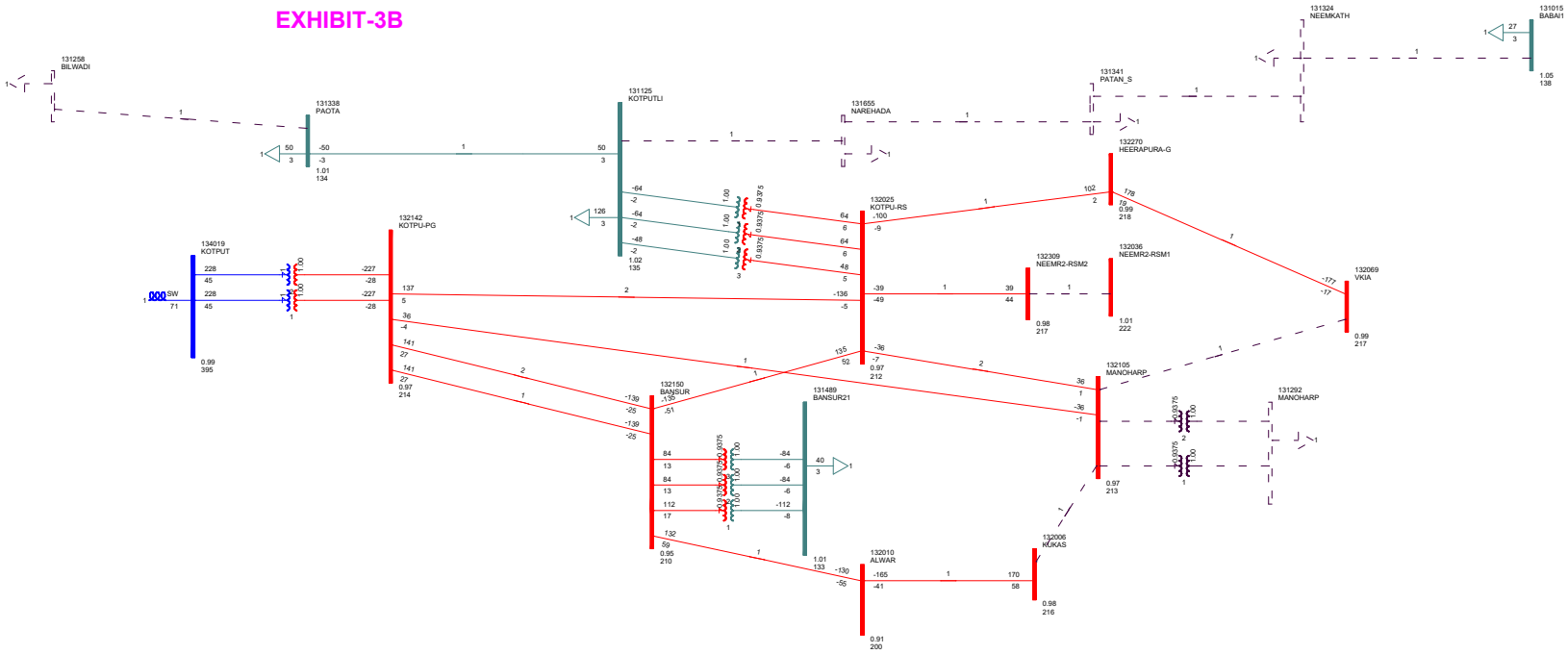
STAGE-1 SPS OPERATION : 2x100 MVA, 220/132 kv transformers at 220 kV GSS Manoharpur

EXHIBIT-3A



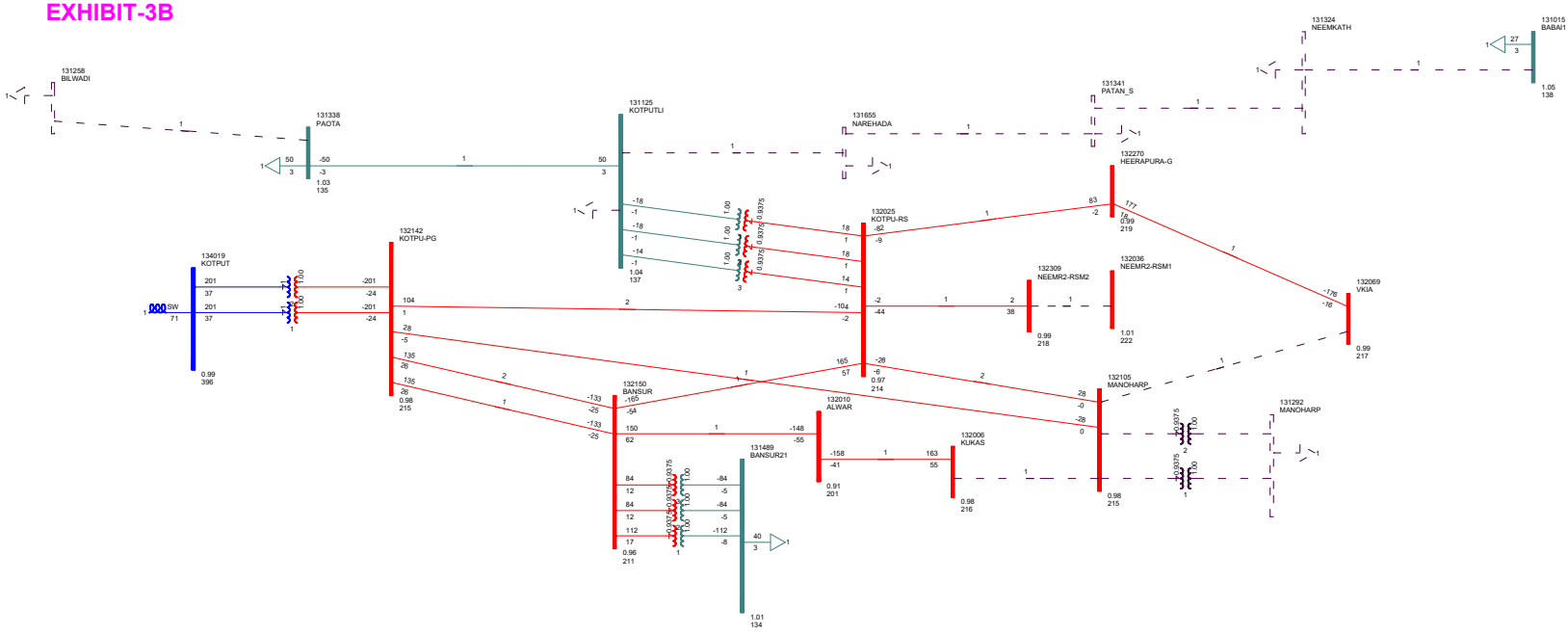
STAGE-2 SPS OPERATION : 132 kV S/C Kotputli-Narehada line

EXHIBIT-3B



STAGE-3 SPS OPERATION : Tripping of 3x40/50 MVA, 132/33 kV transfrormers at 220 kV GSS Kotputli

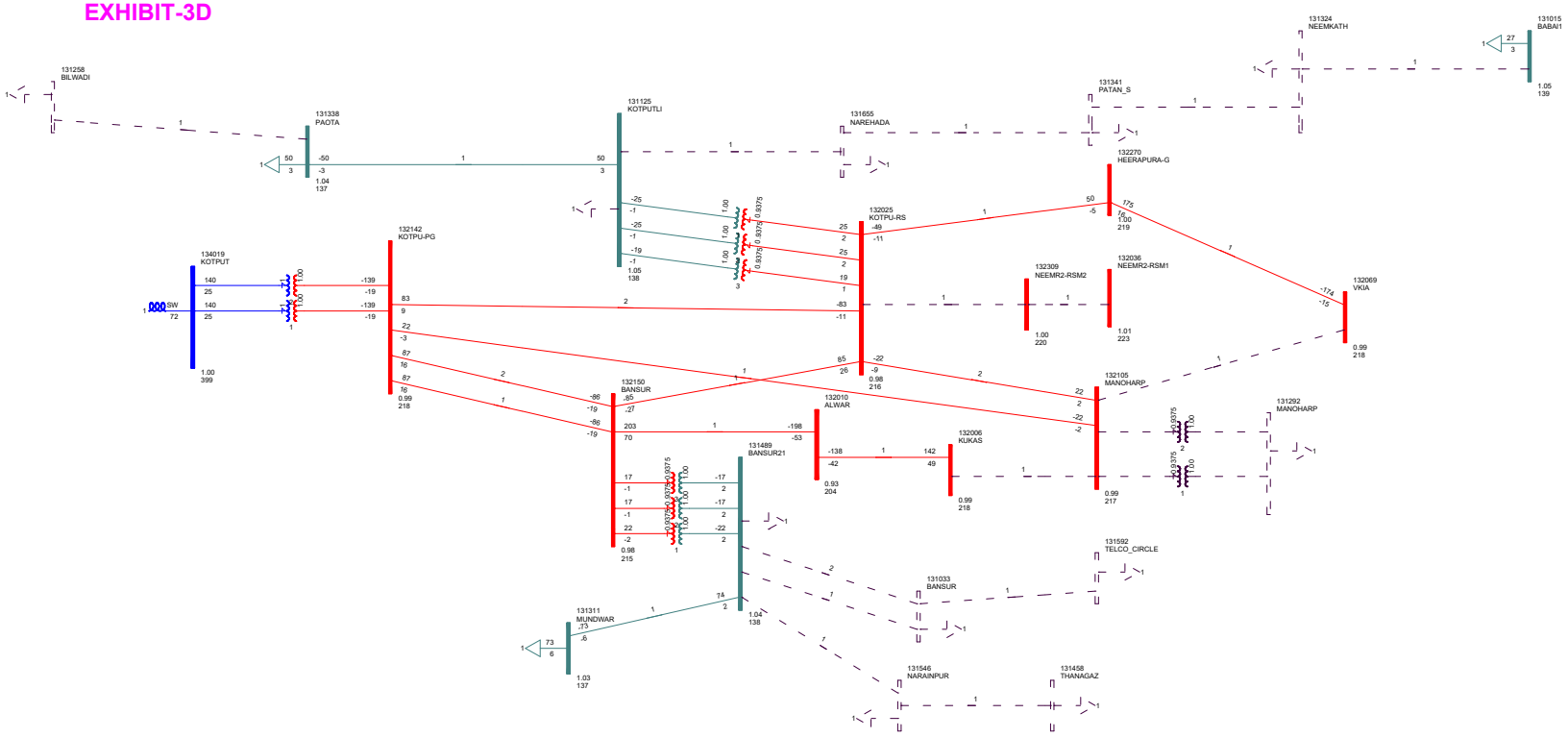
EXHIBIT-3B



STAGE-4 SPS OPERATION : 220 kV S/C Kotputli-Neemrana line, 40/50+20/25 MVA, 132/33 kV transformers at 220 kV GSS Bansur

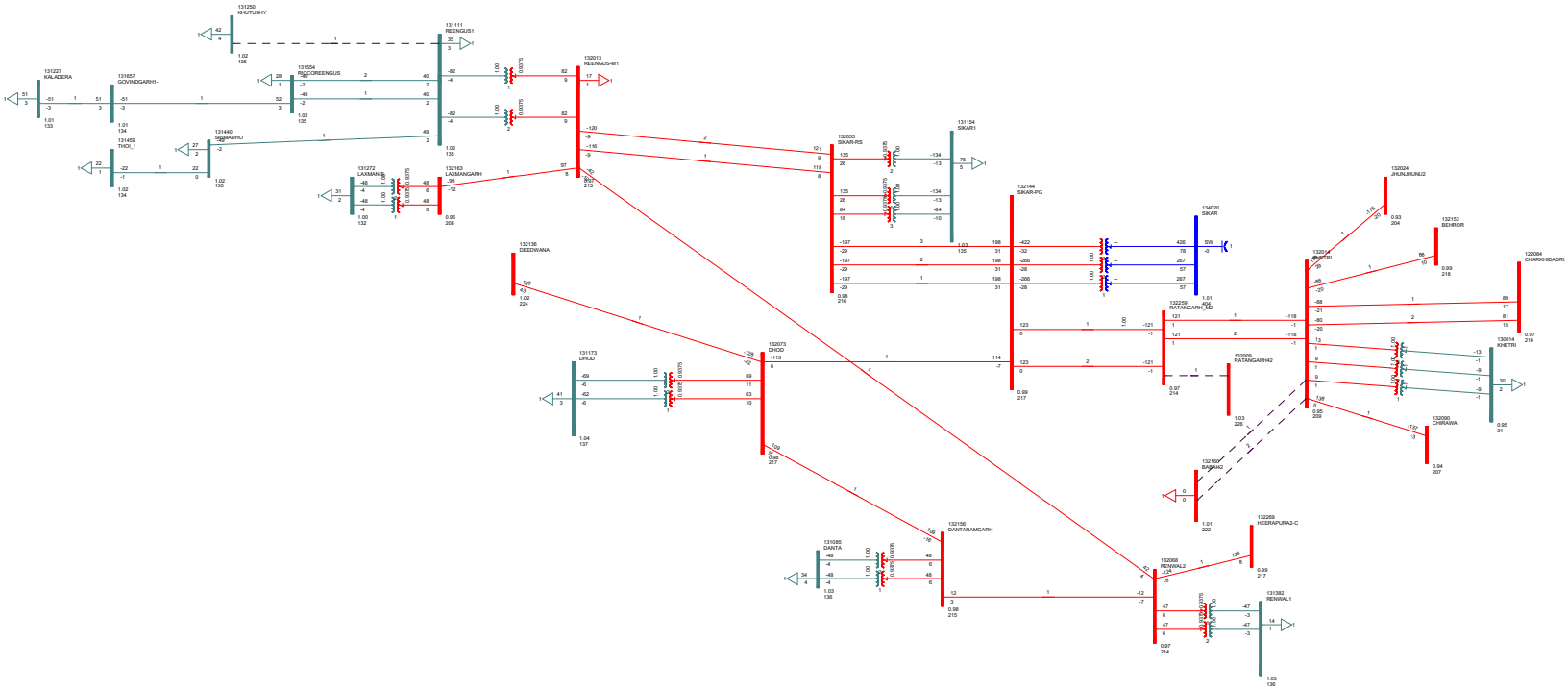
132 kV 2xS/C Bansur(220 kV GSS)-Bansur(132 kV GSS) line and 132 kV 2xS/C Bansur(220 kV GSS)-Narainpur line

EXHIBIT-3D



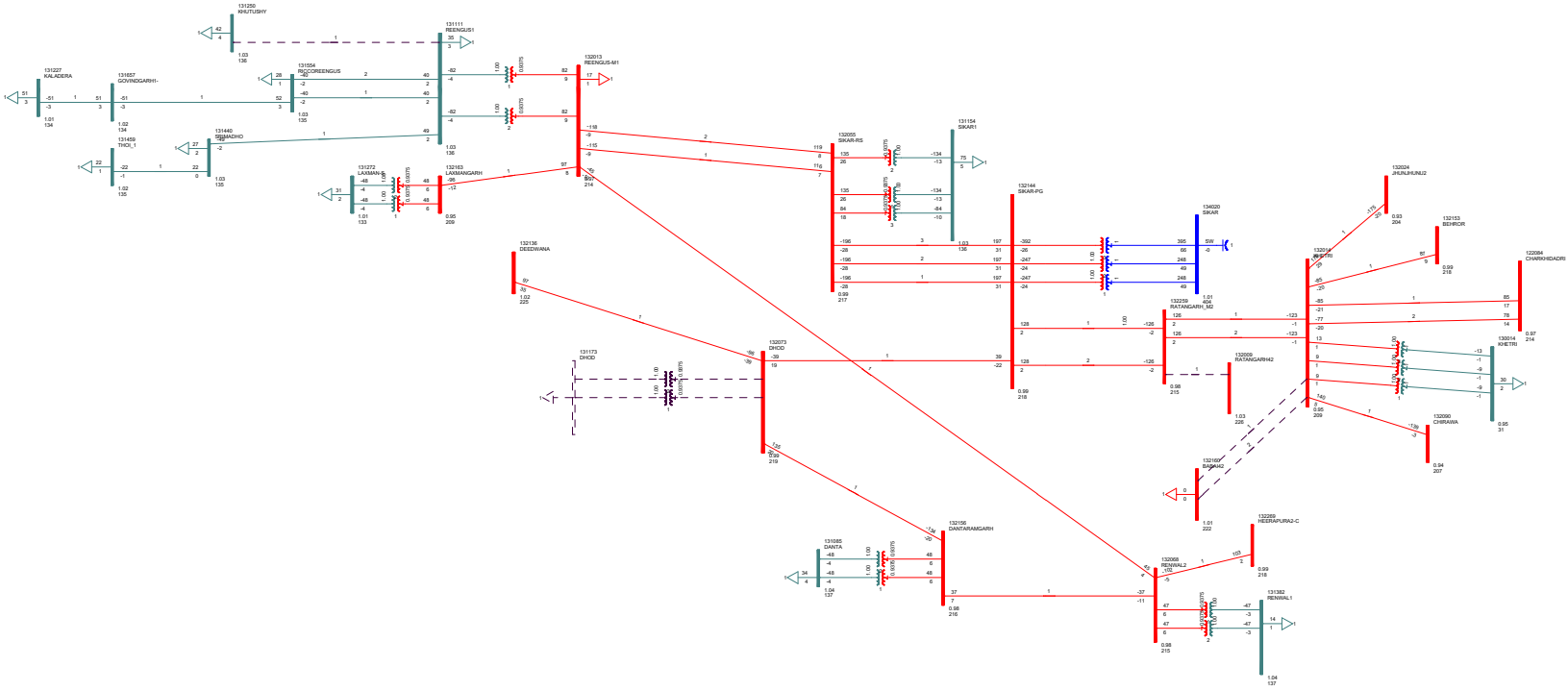
BASE CASE : LOAD FLOW STUDY IN BASE CASE FOR DESIGN OF SPS SCHEME OF 400/220 KV TRANSFORMERS AT 400 KV GSS SIKAR(PG)

EXHIBIT-6

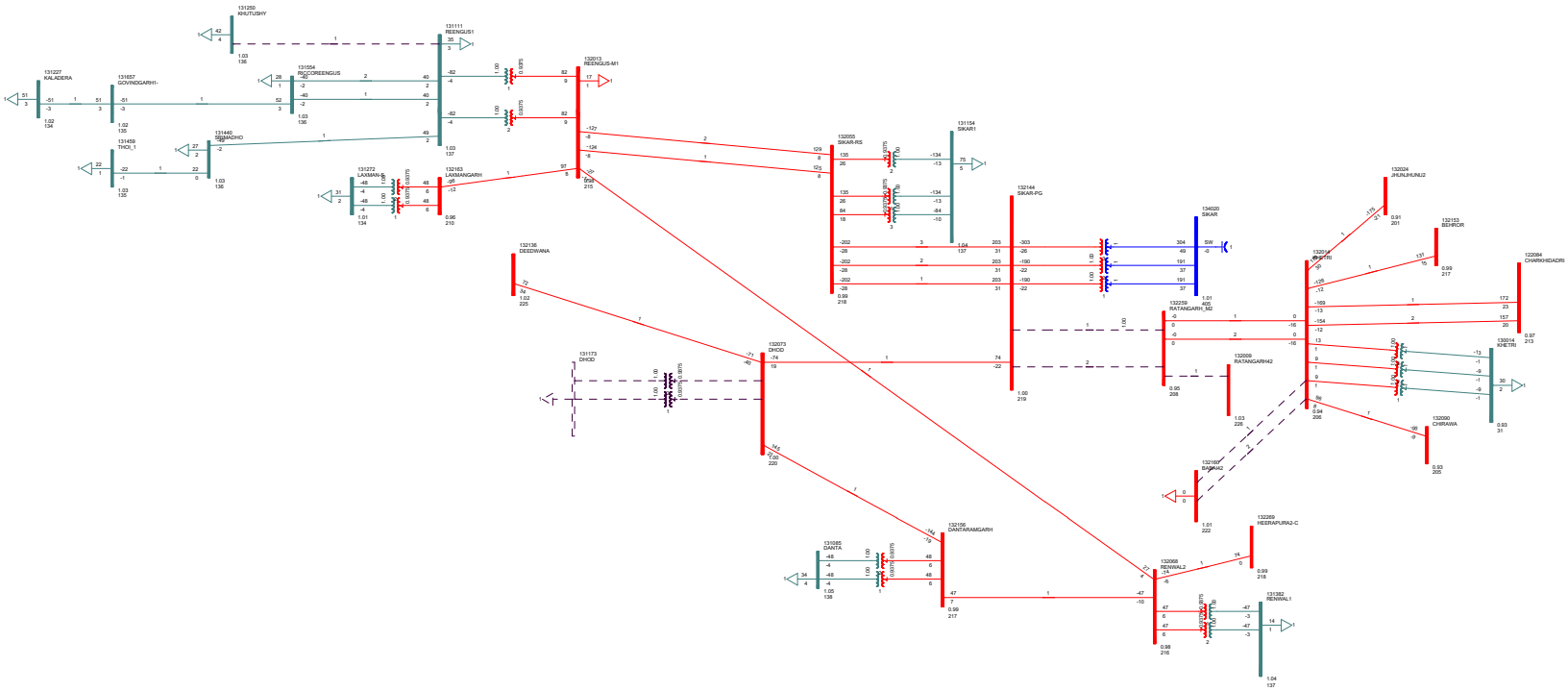


STAGE-1 : SPS TRIPPING OF 2X100 MVA TRanformers at 220 kV GSS Dhod

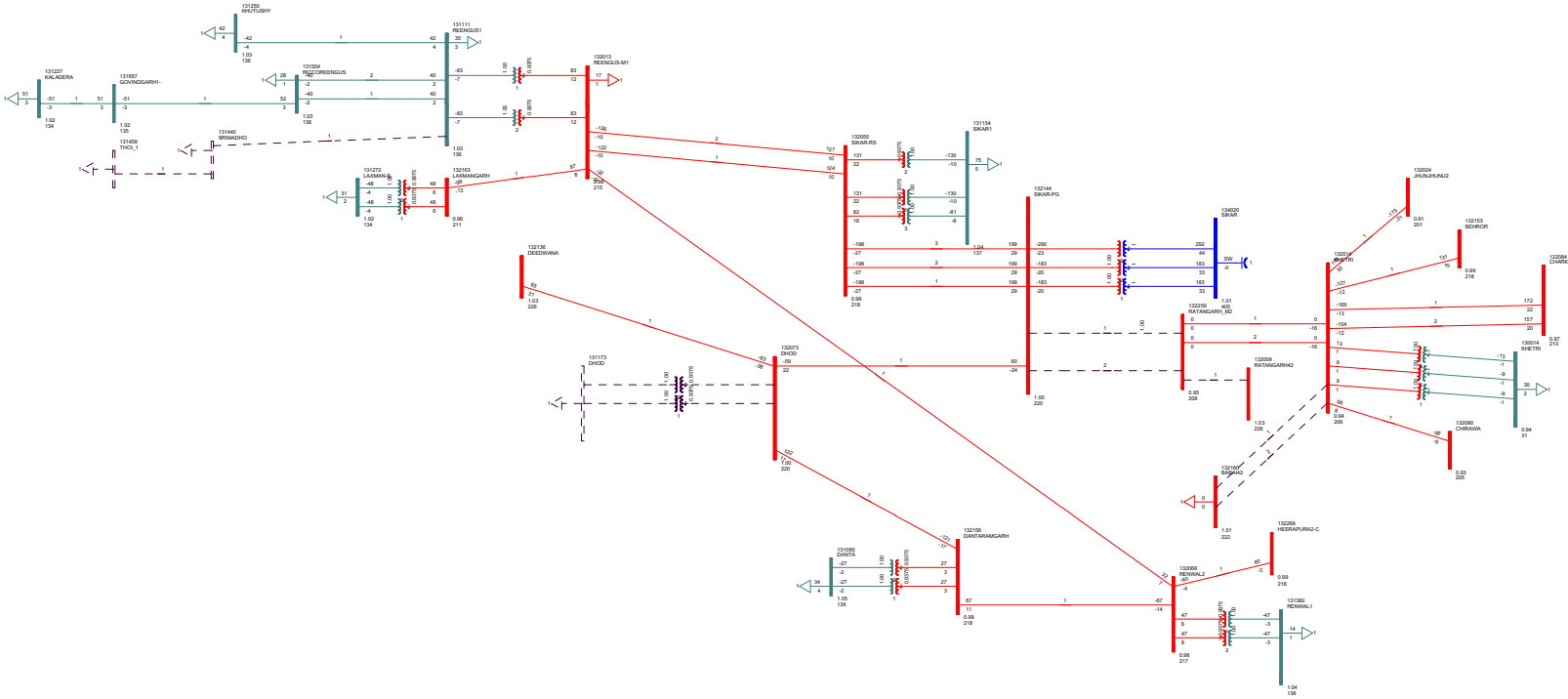
EXHIBIT-6A



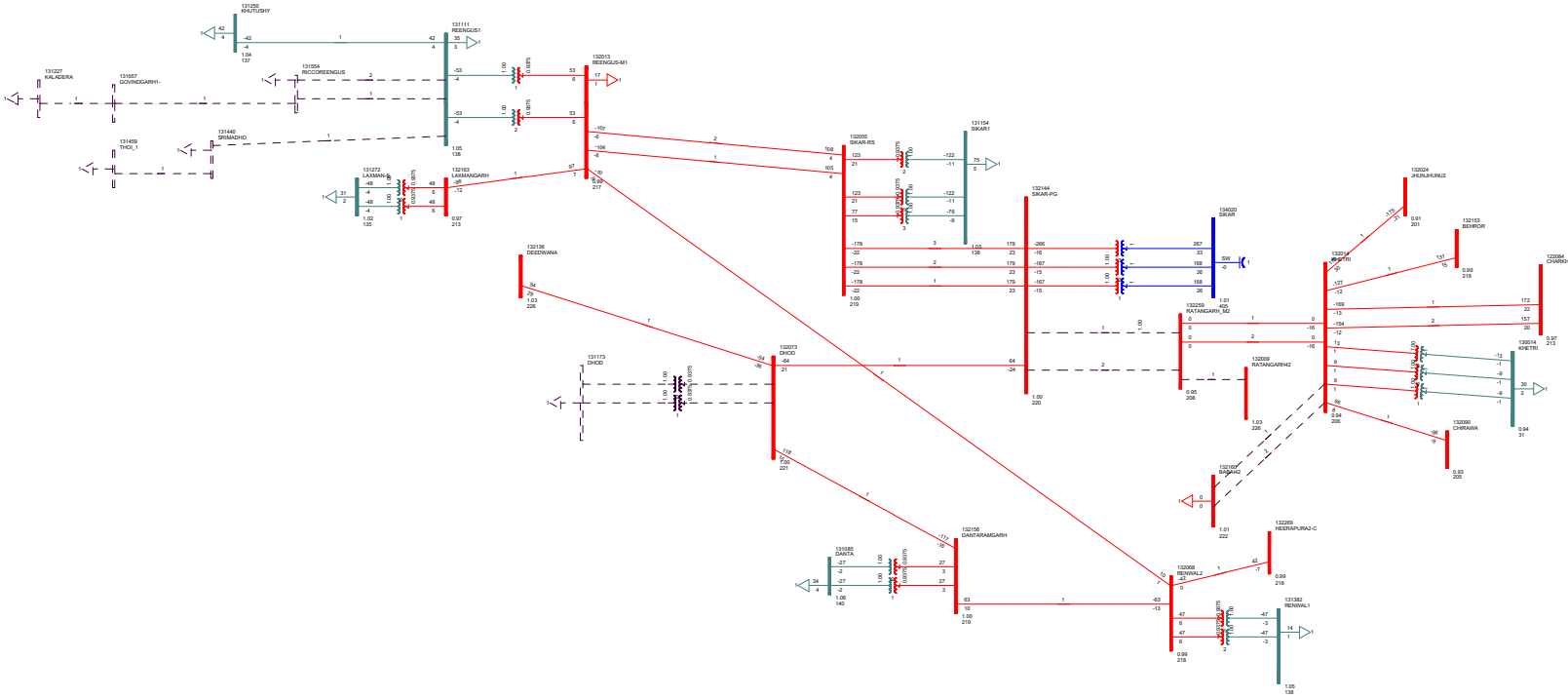
STAGE-2 SPS OPERATION : 220 KV D/C SIKAR(PG)-RATANGARH LINE
EXHIBIT-6B



STAGE-3 : 132 kV S/C Reengus-Srimadhopur line
EXHIBIT-6C



STAGE-4 : 132 kV D/C Reengus-RIICO Reengus line
EXHIBIT-6D



ANNEXURE-A

सत्यमेव जयते

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

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की **232**वीं बैठक का कार्यवृत |

Subject: Minutes of the **232**nd OCC meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप-समिति की **232**वीं बैठक दिनांक 17.06.2025 को आयोजित की गयी थी। उक्त बैठक का कार्यवृत्त उत्तर क्षेत्रीय विद्युत समिति की वेबसाइट http://164.100.60.165 पर उपलब्ध है। यदि कार्यवृत पर कोई टिप्पणी हो तो कार्यवृत जारी करने के एक सप्ताह के अन्दर इस कार्यालय को भेजें |

The **232**nd meeting of the Operation Co-ordination Sub-Committee (OCC) of NRPC was held on 17.06.2025. The Minutes of this meeting has been uploaded on the NRPC website http://164.100.60.165. Any comments on the minutes may kindly be submitted within a week of issuance of the minutes.

संलग्नक:यथोपरि।

(डी. के. मीना) 08/7/25
अधीक्षण अभियंता (प्रचालन)

सेवा में,

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

Further, it may be noted that CERC vide their order dated 29.09.2023 has granted approval of "'Detailed Procedure for Allocation of Transmission Corridor for Scheduling of General Network Access and Temporary General Network Access under Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations, 2022" which requires SLDCs to submit network data as well as PSSE basecases on M-12, M-6, M-1 basis. The monitoring of submission of these data by SLDCs is being done in OCC meetings on monthly basis where response of some of the states needs improvement.

January 2025 Mails

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

February 2025 Mails

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

March 2025 Mails

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

April 2025 Mails

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

Submitted with one month delay

May 2025 Mails

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

June 2025 Mails

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

Haryana, HP, Rajasthan, Delhi and Uttarakhand SLDCs were requested to submit the basecase as per CERC approved procedure.

ATC/TTC limits of states for the month of July 2025 are attached as Annexure-B.I of agenda. All states were requested to go through these limits and share any comments with NRLDC at the earliest.

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

B.3 Expediting SPS implementation before summer 2025:

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

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

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

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

As per NRLDC, SPS at following substations need to be commissioned before summer 2025 so as to avoid major contingency in case of outage of one or more transmission element.

Haryana

Haryana SLDC to provide feeder details to be wired under SPS

- 765/400kV 2*1000MVA Bhiwani ICTs (two ICT section)
- 400/220kV 450+500MVA Panipat ICTs (BBMB)
- 400/220kV 2*315MVA Kabulpur ICTs
- 400/220kV 3*315MVA Hissar ICTs

It was discussed that Haryana SLDC representatives had visited NRLDC on 13.05.2025 for discussion on SPS proposal at different HVPNL substations. Following was discussed in the meeting:

- 765/400kV 2*1000MVA Bhiwani ICTs (two ICT section): Required load relief is not observed with feeders proposal from HVPNL. HVPNL was asked to review the same.
- 400/220kV 450+500MVA Panipat ICTs (BBMB): Feeders identified by HVPNL are also supplying power to DTL. HVPNL and DTL to jointly discuss and converge.
- 400/220kV 3*315MVA Hissar ICTs: Feeders identified by HVPNL are also supplying power to Rajasthan and Punjab. HVPNL to discuss the feeders with RRVPNL and PSTCL also.
- 400/220kV 2*315MVA Kabulpur ICTs: Load will be shifted to 400/220kV Sonepat after LILO of Mohana-Samalkha line at Sonepat(PG). 1no. 315MVA ICT under long outage since Aug 2024. Remaining single 315MVA ICT will radially feed load.

Haryana SLDC was asked to discuss with concerned states for SPS at 400/220kV Panipat(BBMB) and Hissar ICTs. Further, additional feeders need to be identified for 765/400kV 2*1000MVA Bhiwani ICTs. NRLDC representative suggested that Haryana may bilaterally discuss with concerned states first, thereafter NRLDC may also be intimated.

It was discussed that separate meeting will be convened by NRPC as it involves Punjab, Rajasthan and BBMB also.

Rajasthan

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

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

NRLDC representative stated that details of feeders to be wired under SPS is yet to be received from Rajasthan SLDC.

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

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

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

NRPC and NRLDC representatives expressed concern on the slow progress for feeder identification exercise by Rajasthan SLDC and asked to expedite the same.

Delhi

POWERGRID representative confirmed SPS implementation at 765/400kV Jhatikara for both sections and agreed to share mock testing report of SPS before upcoming PSC meeting of NRPC.

Parbati-II evacuation related

NRLDC had received letter from NHPC side regarding evacuation of power from Parbati-II HEP through deemed T-GNA till commissioning of 400/200kV 500MVA ICT-4 at Nallagarh(PG).

Subsequently, NRLDC carried out simulation studies and following are inputs:

Major Impact on Line and ICT Loadings:

- 765/400kV ICTs at Moga: Decrease in loading by ~75 MW per ICT.
- 400kV Amritsar – Banala: Increase in loading by ~175 MW.
- 400kV Koldam – Ludhiana: Increase in loading by ~145 MW.
- 400kV Koldam – Ropar: Increase in loading by ~195 MW.
- 765/400kV ICTs at Bhiwani: Decrease in loading by ~95 MW per ICT (2 ICT section).
- 400kV Rampur – Nallagarh: Decrease in loading by ~95 MW per circuit.
- 400kV KWHEP – Wangtoo: Increase in loading by ~58 MW per circuit.

Critical Observation at Nallagarh ICTs:

The loading of 400/220kV ICTs at Nallagarh is expected to increase by approximately 33 MW per ICT.

- Considering the last year's maximum loading of ~245-250 MW per ICT, the loading is projected to reach around 280-285 MW per ICT.
- The N-1 loading of the ICTs is estimated to be around 255 MW, which indicates that the ICTs will be significantly stressed post-commissioning of Parbati-II generation.
- To mitigate potential overloading risks, implementation of a SPS is needed.

Annexure-B.I

Status of actions points recommended during previous PSC meetings

S. No	Agenda	Remdial actions recommended during PSC meeting	Status of remdial action taken	
			65th PSC (30.12.2025)	66th PSC (28.01.2026)
1	Frequent multiple elements tripping at 220kV Kunihar, Baddi, Upperla Nangal complex and load loss event in HP control area	**51 PSC:** PSC Forum requested HP to complete the protection audit as per mentioned timelines (protection audit of 220kV Kunihar has been awarded and it would be completed within next 15-20 days. In next phase, by 15th September, protection audit of substations in downstream and upstream of 220kV Kunihar S/s would be completed.) and resolve the protection related issues. HP was also requested to share the reports of protection audit to NRPC & NRLDC after completion of audits.	HPSEBL stated that case was forwarded again for funding with curtailed budget of 638.47 lakhs (previously 1605 lakhs). *PSC forum suggested to resolve protection related issues at the earliest and requested HPSEBL to submit the compliance report mentioning details of action taken and planned to be taken with tentative temiline. Further, these stations to be kept under observation and necessary actions need to be taken to minimise the tripping incidents.*	No repsonse received from HPSEBL in this regard during this discussion in the meeting. *PSC forum suggested to resolve protection related issues at the earliest and requested HPSEBL to submit the compliance report mentioning details of action taken and planned to be taken with tentative temiline. Further, these stations to be kept under observation and necessary actions need to be taken to minimise the tripping incidents.*
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 status is same and tender is in approval stage. *PSC forum raised concern over long pending action and requested HVPNL to expedite the process of implementation of differential protection in short lines and also share the expected timeline.*	No representative from HVPNL was present during this discussion in the meeting.
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 stated that OPGW work will be completed by Jan'26 due to delay from INDIGRID. HPPCL representative stated that PLCC card was received on 7th Dec'25 and will be installed by 14th Dec'25. *PSC forum recommended NHPC & HPPCL to take expeditious action at their end and ensure healthiness of protection system.*	NHPC representative stated that OPGW laying has not yet been completed. NHPC has taken up the issue in 239th OCC meeting, however, no update/confirmation on completion of OPGW was given due to absence of INDIGRID representative. Due to the non-availability of OPGW, the AGC system is also awaiting commissioning, although the material has already reached the site. INDIGRID representative stated that work is delayed due to non-availability of vendors. Now, contract has been placed and work is expected to be completed by March'26. HPPCL representative stated that there was issue in PLCC card received and same will be installed by Feb'26. *PSC forum recommended NHPC, INDIGRID & HPPCL to take expeditious action at their end and ensure healthiness of protection system.*
4	Multiple elements tripping at 400kV Koteshwar(PG) on 17th May 2024, 17:21 hrs	**51 PSC:** a) In view of short line length of 400KV Koteshwar(PG)-Tehri D/C, POWERGRID shall plan for the differential protection in the line on priority in near future to avoid overreach of distance protection.	POWERGRID(NR-1) representative stated that PO couldn't be placed as only 2 bidders were there and minimum bidder requiremnt was 3. PO will be placed after 2nd Jan'26. *PSC forum requested POWERGRID(NR-1) to expedite the process of implementation of differential protection at Koteshwar HEP.*	POWERGRID(NR-1) representative stated that PO was already placed on 10th Jan'26. Work is expected to get completed within 6 months. *PSC forum requested POWERGRID(NR-1) to expedite the process of implementation of differential protection at Koteshwar HEP.*
5	Multiple elements tripping at 220kV Sarna (PS) on 04th May 2024, 07:10 hrs	**51 PSC:** a) Punjab shall expedite the commissioning of new bus scheme. B) POWERGRID shall revise the Z-4 time delay setting of Kishenpur lines at Sarna (PS) end as 160msec till bus bar get operational.	PSTCL representative informed that new panel for busbar scheme will be installed at Sarna, Moga and Laltokalan. Budget approval for the same is expected by Jan'26. *PSC forum requested PSTCL to expedite the work related to implementation of bus bar protection at Sarna S/s.*	PSTCL representative informed that budget is approved and new panel for busbar scheme (Hitachi make) was already drawn from store. The same will be installed by Mar'26. *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 representative stated that status is same. *PSC forum requested KTPS to expedite the process.*	No representative from RVUNL was present during the meeting.
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 PO was issued and work will start from Jan'26 and is expected to be completed by Mar'26. *PSC forum requested RVPNL to expedite the actions at their end.*	RVPNL representative informed that work started and is expected to be completed by Apr'26. *PSC forum requested RVPNL to expedite the actions at their end.*
8	Frequent tripping of 220 KV Khara(UP)-Saharanpur(PG) (UP) Ckt-1	**52 & 53 PSC:** UP was requested to expedite the process of relay replacement at Khara end. POWERGRID shall review and ensure the A/R operation at their end.	SLDC UP informed that Unit-2 replacement work was done. Unit -3 work will be completed by this winter. *PSC forum requested UPPTCL to expedite the replacement of relays at Khara(UP) end.*	SLDC UP informed that status is same and Unit -3 relay replacement work will be completed by Feb'26. *PSC forum requested UPPTCL to expedite the replacement of relays at Khara(UP) end.*
9	Multiple elements tripping at 220kV Khodri HEP & Chibro HEP on 5th, 11th & 19th September 2024; 15th & 20th July 2025, 17th August 2025 and 02nd &18th October 2025	**53 & 62 PSC:** a)Timely submission of disturbance recorder (DR) and event logger (EL) files need to be ensured. 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. **63 PSC:** a) UJVNL shall review and share the complete protection settings of Khodri HEP to NRLDC/NRPC within a week. b) HPSEBL in coordination with UJVNL shall review the protection setting of 220kV Khodri-Majri line-II and Majri S/s **64 PSC:** a) Zone-2 settings of 220 KV Saharanpur(UP)- Saharanpur(PG) Ckt need to be reviewed	HPSEB stated that there are panel related issues which was previously installed by UJVUNL. UJVUNL stated that relay replacement work need to be addressed by HPSEB as the owner of the same. PSC forum suggested that relay replacement work will be done by HPSEB by Feb'26 and UJVUNL will resolve panel related isues by Feb'26. HPSEB and UJVUNL both agreed for the same. UPPTCL stated that Zone 2 settings of 220kV Saharanpur- Saharanpur (PG) line checked at UPPTCL end and found in order.	HPSEB stated that relay replacement work will be done by Feb'26 and UJVUNL will support in case of any panel issues during work. *PSC forum requested HPSEBL and UJVUNL to expedite the relay replacement work in co-ordination.*
10	Multiple elements tripping at 400/220kV Obra_A(UP) on 9th October 2024	**54 PSC Recommendations:** a)UPPTCL & Obra_A(UP) shall ensure the implementation of LBB protection at the earliest at 220kV side. b)GPS scheme shall be implemented at Obra_B(UP) by the **end of January 2025** and time sync of recording devices will be ensured.	UPPTCL representative informed that time sync work will be completed by Mar'26 and LBB relay work is pending from headquarters. *PSC forum requested UPPTCL to follow up with headquarters for expedited corrective actions.*	UPPTCL representative informed that status is same; time sync work will be completed by Mar'26 and approval of LBB relay work is pending from headquarters. *PSC forum requested UPPTCL to follow up with headquarters for expedited corrective actions.*
11	Frequent tripping of 220 KV RAPS_A(NP)-Sakatpura (RS) (RS) Ckt-1 &2	**55 PSC Recommendations: E**xpeditious corrective actions to minimise frequent faults in line.	NPCIL representatives (RAPS) were not present in the meeting.	NPCIL representative stated that A/R is not installed at RAPS end of 220 KV RAPS_A(NP)-Sakatpura (RS) (RS) Ckt-1 &2 as OEM has denied to install A/R as torsional stress on turbine may lead to blade failure. *PSC forum requested NPCIL to take up this issue with OEM and explore any other possibility to avoid frequent unwanted tripping of line.*
12	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 no insulator is available in stock and new procurement is needed for insulator replacement work. Insulator replacement work will be done before next winter season. *PSC forum requested PSTCL for expeditious actions to avoid frequent trippings during fog.*	PSTCL representative informed that status is same and work will be done before next winter season. NRLDC representative emphasized that frequent tripping of 400 KV Amritsar(PG)-Makhu(PS) (PSTCL) Ckt-1 is observed recently due to string failures, hence PSTCL was requested to complete insulator replacement work at the earliest. *PSC forum requested PSTCL for expeditious actions to avoid frequent trippings of lines due to string failures/during fog.*
13	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 panels are yet to be commissioned. Work will be completed by Jan'26. *PSC forum requested UPPTCL to expedite the corrective actions.*	UPPTCL representative informed that status is same and work will be completed by Jan'26. *PSC forum requested UPPTCL to expedite the corrective actions.*
14	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 link is yet to be connissioned, firm's engineer is expected to reach at site in first week of January'26. *PSC forum requested UPPTCL to expedite the corrective actions.*	UPPTCL representative informed that work is completed on 24th Jan'26.
15	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 stated that new bus bar relay(numerical type) procurement is delayed as the same is clubbed together with other substations at Rajasthan. *PSC forum requested RVPNL to expedite corrective actions at their end.*	RVPNL representative stated that busbar was made functional on 20th Jan'26.
16	Frequent tripping of 220 KV Debari(RS)-RAPS_A(NP) (RS) Ckt-1	**58 PSC Recommendations: E**xpeditious corrective actions to minimise frequent faults in line.	RVPNL representative informed that PO was placed for tower replacement work. *PSC forum requested NPCIL and RVPNL to resolve the issue of A/R at RAPS end and to take expeditious corrective action to minimise frequent faults in line.*	RVPNL representative informed that inspection work is going on. *PSC forum requested NPCIL and RVPNL to resolve the issue of A/R at RAPS end and to take expeditious corrective action to minimise frequent faults in line.*

17	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 RE representatives were not present in the meeting.	NTPC representative stated that OEM suggested to keep Over-voltage at Nokhra end. Separate agenda (Agenda Item No. A.9) was taken up by NTPC during 66th PSC meeting.
18	Multiple elements tripping at 400 kV Uri-II HEP (NHPC) at 21:35 hrs on 18th May, 202	**61 PSC Recommendation:** NHPC in coordination with the POWERGRID(NR-2) shall review the healthiness of carrier protection in 400kV Uri_2-Wagoora line	NHPC representaitve stated that work could not be completed as shutdown was not approved due to low voltage. *PSC forum requested to complete the work within the stipulated time.*	NHPC representaitve stated that the shutdown of the 400 kV Uri-II-Wagoora line has been approved in the 239th OCC meeting for 19/02/2026 for diagnostic testing and maintenance of the GIS. During this shutdown period, the healthiness of the PLCC system at the Uri-IIend will also be checked. *PSC forum requested to complete the work within the stipulated time.*
19	Multiple elements tripping at 220kV Maharanibagh(DTL) & 220/66kV Pragati(DTL) at 03:48 hrs on 15.06.2025	**62 PSC Recommendation:** a) Old REB 500 scheme of bus bar protection need to be up-graded & replaced by PGCIL in coordination with DTL. b) Distance protection settings need to be reviewed at 220kV Maharanibagh-Pragati Ckt-2. c) DR nomenclatures need to be corrected and time synchronisation issue need to be resolved at the earliest at Maharanibagh.	DTL representative informed that material was diverted to 400kV Maharanibagh(PG). *PSC forum requested DTL & POWERGRID(NR-1) to resolve the co-ordination issue through bilateral meetings and expedite the corrective actions.*	DTL representative informed that status is same; however currently there is no need to change busbar scheme.
20	Multiple elements tripping at 220/132kV Pampore(J&K) at 23:25 hrs on 20.06.2025	**62 PSC Recommendation:** a) DR/EL along with detailed tripping report along with remedial action taken details need to be shared within one week. b) Healthiness of protection system and other auxiliary equipments need to be ensured at 220/132kV Pampore(J&K). c) Line protection settings at 220/132kV Pampore(J&K) need to be reviewed in line with NRPC Protection philosophy.	J&K representative was present however no update received regarding the same. *PSC forum suggested to appoint nodal officer for DR/EL extraction work after each event and also proposed that training may be organised by POWERGRID NR-2 if needed.*	J&K representative stated that numerical relays were already installed, but they face problem in extarcting the DR from relay. *PSC forum suggested to appoint nodal officer for DR/EL extraction work after each event and also proposed that training may be organised by POWERGRID NR-2 if needed.*
21	Multiple elements tripping at 220/132kV Moga(PS), 220 kV /66kV Badhni kalan(PS) & 220/66 kV Himmatpura(PS) at 11:06 hrs on 01.07.2025	**62 PSC Recommendation:** a) Healthiness of bus bar protection need to be ensured at Baghapurana and Ajitwal S/s. b) New busbar protection need to be installed at Moga PSTCL at the earliest. c) Line protection settings at 220/132kV Moga(PS), 220 kV /66kV Badhni kalan(PS) & 220/66 kV Himmatpura(PS) need to be reviewed in line with NRPC Protection philosophy. d) CT mismatch issue at both the ends of 220 kV Moga PSTCL – Moga ckt-2 need to be addressed and differential protection need to be installed at the earliest by PSTCL in co-ordination with PGCIL.	PSTCL representative stated that budget approval is in process. *PSC forum requested PSTCL to complete the bus bar protection installation work within the stipulated time.*	PSTCL representative stated that status is same and budget approval is in process. *PSC forum requested PSTCL to complete the bus bar protection installation work within the stipulated time.*
22	Multiple elements tripping at 220/66kV Narela(DTL) at 15:41 hrs on 10.07.2025	**62 PSC Recommendation:** a) Tele-protection communication need to be restored at 220kV Narela at the earliest. b) Line protection settings need to be reviewed at 220kV Narela-Mandola D/C as per NRPC protection philosophy. c) Availability and healthiness of SCADA data at 220kV Narela need to be ensured.	DTL representative stated that work was completed for one ckt and work will be done for the other ckt by first week of Jan'26. *PSC forum requested DTL to implemented the Tele-protection communication system at the earliest.*	DTL representative stated that work was completed for both ckts.
23	Multiple elements tripping at 220/132kV Ziankote(J&K) at 10:18 hrs on 24.07.2025	**62 PSC Recommendation:** a) DR/EL along with detailed tripping report along with remedial action taken details need to be shared within one week. b) Zone-2 settings need to be revised to 160ms at Amargarh end of 220kV Amargarh-Ziankote D/C. c) Healthiness of protection system and other auxiliary equipments need to be ensured at 220/132kV Ziankote(J&K). d) Line protection settings at 220/132kV Ziankote(J&K) need to be reviewed in line with NRPC Protection philosophy.	J&K representative stated that relays were replaced at Ziankote(JK) before 6 months. *PSC forum requested JKPTCL to address other protection related issues at Ziankote(JK) at the earliest.*	J&K representative stated that internal audit was completed at Ziankote(JK). *PSC forum requested JKPTCL to address other protection related issues at Ziankote(JK) and share internal audit report at the earliest.*
24	Multiple elements tripping at 765/400kV Bara TPS(UP) at 21:33 hrs on 08.08.2025	**63 PSC Recommendation:** a) UPPTCL shall review and correct the DEF protection setting at Mainpuri end of 765kV Bara-Mainpuri line-2 to avoid unwanted tripping of the line. b) UPPTCL and Bara TPS shall review the logic of SPS operation (breaker status of both ends may be taken for desired decision) to ensure its proper operation in future events.	UPPTCL representative stated that backup earth fault protection is reviewed however comprehensive review is to be done at Mainpuri end. Bara TPS informed that they will modify the logic after receiving CB status of remote end. PSC forum requested UPPTCL to expedite the corrective actions.	UPPTCL representative stated that SPS needs to be revised due to new 765kV Bara- Mainpuri circuit-I commissioned on 17.01.2026. *PSC forum requested UPPTCL to expedite the corrective actions.*
25	Multiple elements tripping at 220/66kV Laltokalan(PS) at 04:35 hrs on 30.08.2025	**63 PSC Recommendation:** a) PSTCL shall ensure the bus bar protection at 220/66kV Laltokalan(PS) at the earliest possible. b) Timely submission of DR/EL & tripping report need to be ensured.	PSTCL representative informed that there is delay from OEM side; OEM will update whether relay is repairable or not. *PSC forum requested PSTCL to ensure healthiness of busbar protection at the earliest.*	PSTCL representative informed that no response received from OEM regarding relay is repairable or not. *PSC forum requested PSTCL to ensure healthiness of busbar protection at the earliest.*
26	Multiple elements tripping at 400kV Kishenpur(PG) & Baglihar stage-I HEP at 21:58 hrs on 05.09.2025	**64 PSC Recommendation:** a) DT was not sent to remote end on TEED protection operation at Kishenpur end. PLCC/DTPC system needs to be reviewed and DT scheme needs to be configured if not available. b) Overreach of distance protection in 400kV Kishenpur-New Wanpoh line-IV needs to be reviewed. c) Protection settings of units at Baglihar need to be reviewed.	POWERGRID(NR-2) representative informed that PLCC will be made healthy by Mar'26. *PSC forum requested JKPTCL and POWERGRID to expedite the corrective actions.*	POWERGRID(NR-2) representative informed that status is same and PLCC will be made healthy by Mar'26. *PSC forum requested JKPTCL and POWERGRID to expedite the corrective actions.*
27	Multiple elements tripping at 400/220kV at Daulatabad(HR) at 06:02 hrs on 31.10.2025	**64 PSC Recommendation:** a) Bus bar protection need to be restored at the earliest.	HVPNL representative informed that no response was received from OEM so far regarding internal fault of busbar relay (Sifang). *PSC forum requested HVPNL to restore bus bar protection at 220kV Daulatabad(HR) at the earliest.*	HVPNL representative informed that as no response was received from OEM so far regarding internal fault of busbar relay (Sifang), third party option is being explored. *PSC forum requested HVPNL to restore bus bar protection at 220kV Daulatabad(HR) at the earliest.*
28	Multiple element tripping event at 220/132/33kV Jammu/Gladni(J&K) at 16:24 hrs on 10.11.2025	**65 PSC Recommendation:** a) Distance protection relay settings need to be reviewed at 220kV Jammu/Gladni(J&K) in co-ordination with POWERGRID.	*PSC forum requested JKPTCL and POWERGRID to review distance protection relay settings at 220kV Jammu/Gladni(J&K) in co-ordination with POWERGRID at the earliest.*	POWERGRID(NR-2) representative informed that distance protection relay settings at 220kV Jammu/Gladni(J&K) was reviewed.
29	Multiple element tripping event at 220/33kV Chowadhi(JK) at 19:44 hrs on 22.11.2025	**65 PSC Recommendation:** a) Carrier communication issue at Chowadhi(JK) end need to be resolved at the earliest.	*PSC forum requested JKPTCL and POWERGRID to resolve Carrier communication issue at Chowadhi(JK) end at the earliest*	No update received from J&K regarding carrier communication issue at Chowadhi(JK) end. *PSC forum requested J&K to resolve carrier communication issue at Chowadhi(JK) end at the earliest.*

Annexure-B.II

Data Submission Status for Grid Events of December 2025

S.No.	Category of Grid Incident/ Disturbance (GI-I to GD-V)	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Outage		Event (As reported)	Loss of generation / loss of load during the Grid Disturbance		Fault Clearance time (in ms)	Compliance of Protection Protocol/Standard		
					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	GD-1	1) 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 2) 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt	Uttar Pradesh	PGCIL, UPPTCL, NTPC	2-Dec-25	12:25	i)220/132kV Raebareilly(PG) has double main & transfer bus scheme at 220kV level. ii)During antecedent condition, 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-1 & 2 were under shutdown for line diversion work by UPPTCL since 02.11.2025 and 220 KV Raebareilly(PG)-C.G. City Ckt was under shutdown since 02.11.2025 for load management of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 as it is the only source line. 220/132/33 kV Bachravan UPPTCL station was being fed only from 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt. iii)As reported, at 12:25 hrs, Broken conductor alarm was observed at both Raebareilly (PG) and Unchahar(NT) end of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3. Line tripped from Unchahar (NTPC) end only as tripping was enabled on Broken conductor alarm. iv)Since the Broken conductor alarm was observed at both PG and NTPC ends, the Raebareli TLM team was immediately mobilized for emergency patrolling of the line, considering the possibility of conductor or jumper snapping. The TLM team thoroughly patrolled all 37 tension towers (Location 1 to 144), however no abnormalities were reported on the line. v)As at the time of tripping 220kV Bachravan was being fed radially through 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt, the tripping of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 resulted into loss of source for 220 kV Raebareilly (PG) and 220kV Bachravan. vi)This led to operation of UFR relays at 220 kV Raebareilly (PG) (47.7Hz), 220 kV Bachravan (47.7Hz) and 132kV Amawa (47.9Hz), 132kV Tripula (47.9Hz), 132kV Dalmau (47.9Hz), 132 kV Bachravan (47.9Hz) and 132kv Salon (47.9Hz). This UFR panel, installed by UPPTCL at the PG end, is part of the Unchahar Islanding scheme and is designed to isolate Bachravan and C.G. City lines under such conditions. vii)As both 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 and 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt tripped and no alternate power source was available at 220kV Raebareli(PG), complete blackout occurred at 220kV Raebareli(PG) S/s. viii)As per PMU at Bareilly(PG), no fault is observed in the system. ix)As per SCADA, change in demand of approx. 65 MW in UP control area was observed. However, as reported by SLDC UP, load loss of approx. 110 MW occurred in UP control area.	0	110	320	Y(PG) Y(d)(UP) N(NTPC)	Y(d)(PG) N(UP) N(NTPC)	Y(d)(PG) Y(d)(UP) N(NTPC)
2	GD-1	1)220 kV Haduaganj-Sikandra Rao (UP) Ckt 2)220 kV Harduaganj-Etah (UP) Ckt 3)220 kV Harduaganj-Khurja (UP) Ckt-1 4)220 kV Harduaganj-Khurja (UP) Ckt-2 5)20 kV Harduaganj-Boner (UP) Ckt 6)220 kV Harduaganj-Atrauli(UP) Ckt 7)220 kV Harduaganj-Jahagirabad (UP) Ckt 8)220 kV Harduaganj-Rukhi (UP) Ckt 9)220 kV Harduaganj-Harduaganj Ext (UP) Ckt-1 10)220 kV Harduaganj-Harduaganj Ext (UP) Ckt-2 11)220 kV Bus 1 at Harduaganj (UP) 12)220 kV Bus 2 at Harduaganj (UP) 13)220/132 kV 160 MVA ICT-1 at Harduaganj(UP) 14)220/132 kV 160 MVA ICT-2 at Harduaganj(UP)	Uttar Pradesh	UPPTCL,	4-Dec-25	05:46	i)220/132kV Harduaganj(UP) has double main & transfer bus scheme at 220kV level. ii)As reported, at 05:46 hrs, due to breakdown (blast) of B-Ph CT of Bus coupler, bus bar protection operated at both the buses of 220kV Harduaganj(UP). iii)This led to tripping of all the elements connected to both 220kV Bus-1 & 2 and complete blackout occurred at 220 kV Harduaganj (UP). iv)As per PMU at Bareilly(PG), B-N phase to earth fault was observed with delayed fault clearing time of 280ms. v)As per SCADA, change in demand of approx. 205 MW in UP control area was observed. vi)Substation normalized at 10:14 hrs via charging of 220 kV Haduaganj-Sikandra Rao (UP) Ckt and 220kV Bus-1 at Harduaganj (UP).	0	205	280	Y(UP)	N(UP)	Y(UP)
3	GI-1	1)220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 2)220 KV Khodri(UK)-Majri(HP) (UK) Ckt-2 3)132 KV Majri-Kala Amb(HP) Ckt	HP	HPPTCL, PTCUL	6-Dec-25	09:49	i)220/132KV Majri/Giri(HP) have double main bus scheme at 220kV level. ii)During antecedent condition, 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 & 2 were carrying approx. 78 MW each (as per SCADA). iii)As reported, at 09:49 hrs, 132 KV Majri-Kala Amb(HP) Ckt tripped on df/dt and distance relay (electromechanical) operation (exact reason yet to be shared). iv)During the same time, 220 KV Khodri(UK)-Majri(HP) (UK) Ckt-1 & 2 also tripped (exact reason of trippping and nature of protection operated yet to be shared). v)As per SCADA SOE, 220 KV Majri-VISCO (HP) Ckt also tripped during the same time (exact reason of tripping yet to be shared). vi)As per PMU at Dehradun(PG), no fault was observed in the system. vii)As per SCADA, change in demand of approx. 160 MW was observed in Himachal Pradesh control area.	0	160	NA	Y(UK) Y(HP)	N(UK) N(HP)	N(UK) N(HP)
4	GI-2	1)400 KV Panchkula-Abdullapur (PG) Ckt-1 2)400 KV Panchkula-Abdullapur (PG) Ckt-2 3)220 KV DandhariKalan(PS)-Ludhiana(PG) (PSTCL) Ckt-1 4)220 KV DandhariKalan(PS)-Ludhiana(PG) (PSTCL) Ckt-2	Punjab	PGCIL, PSTCL	7-Dec-25	14:12	i)400/220kV Abdullapur(PG) has one & half breaker scheme at 400kV level and 400/220kV Ludhiana(PG) has double main & transfer bus scheme at 220kV level. ii)During antecedent condition, 220 KV DandhariKalan(PS)-Ludhiana(PG) (PSTCL) Ckt-1 & 2 were carrying ~33 MW & ~29 MW respectively. iii)As reported, at 14:12 hrs, 400 KV Panchkula-Abdullapur (PG) Ckt-2 tripped on R-B phase to phase fault with fault distance of 2.061km and Fault current of 31.24kA from Abdullapur & fault distance of 63km and Fault current of 4.72kA from Panchkula. iv)400 KV Panchkula-Abdullapur (PG) Ckt-1 also tripped during the same time on R-B phase to phase fault due to kite string (exact location and nature of fault yet to be shared). v)Hitachi make relay at Dandharikalana(PS) end of 220 KV DandhariKalan(PS)-Ludhiana(PG) (PSTCL) Ckt-1 & 2 sensed this fault and 86 Master Trip Relay operated in Out of Zone Disturbance Pickup, as "2 PHASE FAULT DETECTED" Signal was wrongly connected to "86 OPTD" in Relay Logic by default. vi)This led to tripping of both 220 KV DandhariKalan(PS)-Ludhiana(PG) (PSTCL) Ckt-1 & 2 from Dandharikalan(PS) end only. vii)As per PMU at Ludhiana(PG), R-B double phase fault with fault clearing time of 80ms was observed. viii)As per SCADA, change in demand of approx. 125 MW in Punjab control area was observed. ix)As remedial measure, wrong mapping has been corrected and tested in the Relay Logic.	0	125	80	Y(d)(PG) Y(d)(PS)	Y(d)(PG) Y(d)(PS)	Y(d)(PG) N(PS)
5	GI-1	1) 220KV Tughlakabad(PG)-Mehrauli(DV) (DTL) Ckt-1	Delhi	DTL, PGCIL	8-Dec-25	10:44	i)220/66kV Mehrauli(DTL) has double main Bus arrangement at 220kV side. ii)During antecedent condition, 220KV Tughlakabad(PG)-Mehrauli(DV) (DTL) Ckt-2 was under planned shutdown from 10:05 hrs for tree trimming. 220KV DIAL-Mehrauli (DTL) Ckt-1 & 2 were on no-load. 220kV Bus coupler at Mehrauli(DTL) was in ON position. iii)As reported, at 10:44 hrs, 220KV Tughlakabad(PG)-Mehrauli(DV) (DTL) Ckt-1 tripped on Y-B phase to phase fault with fault distance of 2.9 km and fault current of Iy=~2.22kA and Ib=~2.26kA from Mehrauli(DV). As per DR, differential protection operated; fault clearing time was ~60 ms. iv)As per PMU at Mandaula(PG), B-N phase to earth fault was observed with fault clearing time of 120 ms. v)As per SCADA, change in demand of approx. 285 MW in Delhi control area is observed. vi)As reported, load was normalized by taking 220KV Tughlakabad(PG)-Mehrauli(DV) (DTL) Ckt-2 in service at 10:58 hrs.	0	285	120	Y(d)(DTL) Y(d)(PG)	Y(d)(DTL) N(PG)	Y(d)(DTL) Y(d)(PG)
6	GD-1	1)220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 2)220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-2 3)220/66kV 160 MVA ICT-1 at Naraingarh(PS) 4)220/66kV 100 MVA ICT-2 at Naraingarh(PS)	Punjab	PGCIL, PSTCL	13-Dec-25	03:55	i)220/66kV Naraingarh(PS) has double main bus scheme at 220kV level. 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 are on single tower. ii)During antecedent condition, 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 were carrying ~14 MW each. iii)As reported, at 03:55 hrs, during construction of NHAI highway road, some object came in contact with the conductor of both 220kV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 which were on same tower. iv)As further reported by SLDC Punjab, 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 tripped on R-N phase to earth fault (zone-1) with fault current of 6.983 kA from Naraingarh(PS) (exact location of fault yet to be shared). v)220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-2 also tripped at the same time on 3 phase to earth fault (zone-1) with fault distance of 4.751 km and fault current of Ir=~7.57 kA, Iy=~8.923 kA & Ib=~8.754 kA from Naraingarh(PS). vi)Due to tripping of both 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2, supply to 220/66kV 160 MVA ICT-1 and 100 MVA ICT-2 at Naraingarh(PS) failed and complete blackout occurred at 220/66kV Naraingarh(PS) S/s. vii)As per PMU at Amritsar(PG), two consecutive R-N phase to earth faults followed by B-N phase to earth fault with fault clearing time of 120ms, 440ms (delayed) and 120ms respectively were observed. viii)As per SCADA, change in demand of approx. 28 MW in Punjab control area was observed.	0	28	440	Y(d)(PG) Y(PS)	Y(d)(PG) N(PS)	Y(d)(PG) N(PS)
7	GI-1	1)220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1 2)220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1 3)220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-3 4)220 KV Kashmiri Gate-South Wazirabad(DV) (DTL) Ckt-1 5)220 KV Gopalpur-South Wazirabad(DV) (DTL) Ckt-1 6)220 KV Bus -2 at South Wazirabad(DTL) 7)220/66 KV 100 MVA ICT-1 at South Wazirabad(DTL) 8)220/66 KV 160 MVA ICT-1 at South Wazirabad(DTL)	Delhi	DTL, PGCIL	15-Dec-25	04:15	i)220/66kV South Wazirabad(DTL) has double main Bus arrangement at 220kV side. ii)During antecedent condition, 220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Gopalpur-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Kashmiri Gate-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1 & 3, 220/66 KV 100 MVA ICT-1 & 160 MVA ICT-2 at South Wazirabad(DTL) were connected to 220 KV Bus -2 at South Wazirabad(DTL). 220kV Bus coupler at South Wazirabad(DTL) was in closed position. iii)As reported, at 04:15 hrs, R-N phase to earth fault occurred on 220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1 (exact reason, nature and location of fault need to be shared). iv)Due to delayed clearance of the said fault, as per DR, LBB operated and all the elements connected to 220 KV Bus -2 at South Wazirabad(DTL) tripped and Bus-2 became dead (DR was not time synced). v)As per PMU at Mandaula(PG), R-N phase to earth fault was observed with delayed fault clearing time of 200 ms. vi)As per SCADA, change in demand of approx. 120 MW in Delhi control area is observed. However, as reported by SLDC Delhi, load loss of 94 MW (Wazirabad: 29 MW, Kashmiri Gate: 12 MW, RPH: 27 MW, Geeta Colony: 11 MW and I.P. Stn: 15 MW) occurred in Delhi control area. 11 no.s of 33kV feeders at I.P. Stn tripped on under frequency relay operation at 04:15 hrs and restored at 05:10 hrs. vii)As reported by SLDC Delhi, load of Wazirabad, Kashmiri Gate, RPH, Geeta Colony and I.P. Stn were restored by 04:27 hrs, 04:26 hrs, 04:27 hrs, 04:41 hrs and 05:10 hrs respectively.	0	120	200	Y(d)	Y(d)(partial)	Y(d)
8	GI-2	1)765 KV Obra_C_TPS-Unnao (UP) Ckt 2)660 MW Unit-1 at Obra_C TPS (UP) 3)660 MW Unit-2 at Obra_C TPS (UP) 4)765/400kV 1000 MVA ICT-1 at Obra_C(UP)	Uttar Pradesh	UPPTCL,	16-Dec-25	06:34	i)During antecedent condition, both the 660 MW unit-1&2 at Obra C TPS were in service and generating ~617 MW & ~635 MW respectively. ii)As reported, at 06:34 hrs, 765kV Obra_C-Unnao line tripped on Y-N fault. As reported, fault distance was ~18.5km from Unnao end and ~328km from Obra_C end. Fault current was ~1.8kA from Obra_C end and 9.5 km from Unnao end. iii)As per PMU at Lucknow(PG) and DR received, Y-N fault which cleared within 100msec is observed. iv)At the same time, 660 MW Unit-1&2 at Obra_C TPS and 765/400kV 1000 MVA ICT-1 at Obra_C (UP) also tripped. As reported, Units and ICT-1 tripped on earth fault protection operation. v)As per SCADA, change in generation of ~1250 MW occurred at Obra C TPS during the event.	1250	0	80	Y(d)	Y(d)(partial)	Y(d)

S.No.	Category of Grid Incident/ Disturbance	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Outage		Event (As reported)	Loss of generation / loss of load during the Grid Disturbance		Fault Clearance time (in ms)	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)
9	GI-2	1)765 KV Anpara_C(LAN)-Unnao(UP) (UP) Ckt 2) 500 MW Unit-2 at Anpara-D TPS (UP)	Uttar Pradesh	UPPTCL,	16-Dec-25	07:29	i)During antecedent condition, both the 600 MW units of Anpara C and 500 MW units of Anpara D were in service and generating 366 MW, 574 MW, 476 MW & 475 MW respectively. MW loading of 400kV Anpara-Obra_B line and 400kV Obra_B-Obra_C line were 675 MW (towards Obra_B) and 257 MW (towards Obra_C) respectively. ii)As reported, at 07:29 hrs, 765kV Anpara_C-Unnao line tripped on R-N fault. As reported, fault distance was ~18km from Unnao end and ~357km from Anpara_C end. Fault current was ~2.3kA from Anpara_C end and 6.7km from Unnao end. iii)As per PMU at Lucknow(PG) and DR received, R-N fault which cleared within 100msec with unsuccessful A/R operation due to permanent nature of fault is observed. iv)With the tripping of 765kV Anpara_C-Unnao line, line loading of 400kV Anpara-Obra_B line increased to more than 1100 MW. On this contingency, case-3 of SPS of Anpara complex related to loading of 400kV Anpara-Obra_B line operated. On the operation of SPS, 500 MW Unit-2 at Anpara-D tripped and ~220 MW & ~80 MW generation backdown occurred at Anpara-C & D respectively. 1 unit of Anpara C which was supposed to trip on SPS operation couldn't trip due to issue in SPS logic communication at Anpara C end. v)As per SCADA, total generation backdown of ~780 MW occurred at Anpara C & D during the event. vi)As reported, Anpara-C shall plan the inspection of SPS trip signal communication issue at their end and rectify the issue at the earliest.	780	0	80	Y(d)	Y(d)(partial)	Y(d)
10	GD-1	1)220KV Bus 1 at Pong(BB) 2)220KV Bus 2 at Pong(BB) 3)220 KV Jalandhar-Pong (BB) Ckt-1 4)220 KV Jalandhar-Pong (BB) Ckt-2 5)220 KV Bairasiul(NH)-Pong(BB) (PG) Ckt-1 6)220 KV Jessore(HP)-Pong(BB) (PG) Ckt-1 7)220 KV Pong(BB)-Dasuya(PS) (BBMB) Ckt-1 8)220 KV Pong(BB)-Dasuya(PS) (BBMB) Ckt-2 9)66 MW Pong HPS - UNIT 3 10)66 MW Pong HPS - UNIT 4 11)66 MW Pong HPS - UNIT 5	HP, Punjab	BBMB	24-Dec-25	16:18	i)220kV Pong (BBMB) has main & transfer bus scheme. Main bus is divided into two parts (Bus-1A & 1B) through bus sectionaliser. ii)During antecedent condition, 66 MW unit-3, 4 & 5 were running and generating 66 MW, 50 MW & 60 MW respectively. iii)As reported, at 16:18 hrs, bus bar protection operated at 220kV Pong(BBMB) leading to tripping of all the elements connected to 220kV Bus-1A & 1B. During event analysis, it was found that external tripping initiated in 220kV bus coupler however bus coupler CB didn't open. Due to this, LBB of bus coupler breaker operated leading to tripping of both 220kV Bus-1A & B. During investigation, broken cables have been found in trip circuit of bus coupler breaker. Further review is being done. iv)As per PMU at Jalandhar(PG), no fault in system in observed. v)As per SCADA, loss of generation of ~175 MW occurred at Pong HEP due to tripping of 66 MW Unit-3, 4 & 5.	175	0	80	Y(d)	Y(d)	Y(d)
11	GD-1	1) 220/33kV 100 MVA ICT-2 at Nokhra(IP) 2) 220 KV Nokhra SL_BHD2 (NTPC)-Bhadla_2 (PG) (NTPC_NOKHRA) Ckt	Rajasthan	NTPC Green, PGCIL	26-Dec-25	10:46	i)Generation of 220kV Nokhra (IP) stations evacuates through 220 KV Nokhra SL_BHD2 (NTPC)-Bhadla_2 (PG) (NTPC_NOKHRA) Ckt. ii)During antecedent condition, 220kV Nokhra (IP) was generating approx. 270 MW (as per PMU). iii)As reported, at 10:46hrs, 220/33 kV 100 MVA ICT-2 tripped on differential protection operation on B-N fault. iv)At the same time, 220kV Bhadla2-Nokhra line also tripped. Reason of the tripping is yet to be received. v)As per PMU at Bhadla2(PG), B-N phase to earth fault cleared within 100 msec is observed. vi)As per PMU plot of MW of Nokhra(IP), solar generation loss of ~270 MW occurred at Nokhra Restation.	270	0	80	Y(d)(PG) N(Nokhra)	Y(d)(PG) N(Nokhra)	Y(d)(PG) N(Nokhra)
12	GD-1	1)220/66 KV 100 MVA ICT-1 at South Wazirabad(DTL) 2)220/66 KV 160 MVA ICT-2 at South Wazirabad(DTL) 3)220/66 KV 100 MVA ICT-3 at South Wazirabad(DTL) 4)220/66 KV 160 MVA ICT-4 at South Wazirabad(DTL)	Delhi	DTL	29-Dec-25	10:39	i)220/66kV South Wazirabad(DTL) has double main Bus arrangement at 220kV side. ii)As reported, at 10:39hrs, during bus shifting operation of 66/11kV 20 MVA transformer, bus fault occurred at 66kV bus. On this fault, all four 220/66kV ICTs at 220kV South Wazirabad(DTL) tripped on overcurrent earth fault protection operation. iii)As per PMU at Manolda(PG), R-Y-B three phase fault with delayed clearance of ~600 msec is observed. v)As per SCADA, change in demand of ~200 MW in Delhi control area is observed. However, as reported by SLDC Delhi load loss of ~160 MW occurred in Delhi control area.	0	160	600	Y(d)	Y(d)	Y(d)
13	GD-1	1) 220 KV Neemrana(PG)-Kushkhera(RS) (RS) Ckt-1 2) 220 KV Bhiwadi(PG)-Kushkhera(RS) (RS) Ckt-1 3) 220 KV Khushkhera-karoli ckt 4) 220/132kV 160 MVA Transformer-1 at Khushkhera(RS) 5) 220/132kV 160 MVA Transformer-2 at Khushkhera(RS)	Rajasthan	RVPNL, PGCIL	29-Dec-25	16:12	i)220kV Kushkhera(RS) has double main bus scheme. ii)During antecedent condition,220kV 220 KV Neemrana(PG)-Kushkhera(RS) (RS) Ckt-1 and 220 KV Bhiwadi(PG)-Kushkhera(RS) (RS) Ckt-1 were carrying 108 MW & 186 MW respectively. iii)As reported, at 16:12hrs, bus post B-ph jumper of 220 KV Neemrana(PG)-Kushkhera(RS) (RS) Ckt-1(connected at 220kV Bus-II) at Khuskhera end damaged and created bus fault. On this fault, bus bar protection of 220kV Bus-2 at Kushkhera(RS) operated leading to tripping of all the elements connected at 220kV Bus-II. iv)As per PMU at Neemrana(PG), B-N phase to earth fault cleared within 100 msec is observed. v)As per SCADA, change in demand of ~260 MW in Rajasthan control area is observed.	0	260	80	Y(d)	Y(d)(partial)	Y(d)

Annexure-B.III

Grid Events to be discussed in 66th PSC Meeting

S.No.	Category of Grid Incident/ Disturbance (GI-I to GD-V)	Name of Elements (Tripped/Manually opened)	Affected Area	Owner/ Agency	Outage		Event (As reported)	Loss of generation / loss of load during the Grid Disturbance		Fault Clearance time (in ms)	Points of Dsicussion
					Date	Time		Generation Loss(MW)	Load Loss (MW)		
1	GD-1	1) 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 2) 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt	Uttar Pradesh	PGCIL, UPPTCL, NTPC	2-Dec-25	12:25	i)220/132kV Raebareilly(PG) has double main & transfer bus scheme at 220kV level. ii)During antecedent condition, 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-1 & 2 were under shutdown for line diversion work by UPPTCL since 02.11.2025 and 220 KV Raebareilly(PG)-C.G. City Ckt was under shutdown since 02.11.2025 for load management of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 as it is the only source line. 220/132/33 kV Bachravan UPPTCL station was being fed only from 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt. iii)As reported, at 12:25 hrs, Broken conductor alarm was observed at both Raebareilly (PG) and Unchahar(NT) end of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3. Line tripped from Unchahar (NTPC) end only as tripping was enabled on Broken conductor alarm. iv)Since the Broken conductor alarm was observed at both PG and NTPC ends, the Raebareli TLM team was immediately mobilized for emergency patrolling of the line, considering the possibility of conductor or jumper snapping. The TLM team thoroughly patrolled all 37 tension towers (Location 1 to 144), however no abnormalities were reported on the line. v)As at the time of tripping 220kV Bachravan was being fed radially through 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt, the tripping of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 resulted into loss of source for 220 kV Raebareilly (PG) and 220kV Bachravan. vi)This led to operation of UFR relays at 220 kV Raebareilly (PG) (47.7Hz), 220 kV Bachravan (47.7Hz) and 132kV Amawa (47.9Hz), 132kV Tripula (47.9Hz), 132kV Dalmau (47.9Hz), 132 kV Bachravan (47.9Hz) and 132kv Salon (47.9Hz). This UFR panel, installed by UPPTCL at the PG end, is part of the Unchahar Islanding scheme and is designed to isolate Bachravan and C.G. City lines under such conditions. vii)As both 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 and 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt tripped and no alternate power source was available at 220kV Raebareli(PG), complete blackout occurred at 220kV Raebareli(PG) S/s. viii)As per PMU at Bareilly(PG), no fault is observed in the system. ix)As per SCADA, change in demand of approx. 65 MW in UP control area was observed. However, as reported by SLDC UP, load loss of approx. 110 MW occurred in UP control area.	0	110	320	i)Reason for broken conductor alarm in 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 need to be analysed. Why tripping was enabled at NTPC end? ii)DR/EL along with detailed tripping report need to be shared by NTPC. iii)Remedial action taken report need to be shared.
2	GD-1	1)220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 2)220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-2 3)220/66kV 160 MVA ICT-1 at Naraingarh(PS) 4)220/66kV 100 MVA ICT-2 at Naraingarh(PS)	Punjab	PGCIL, PSTCL	13-Dec-25	03:55	i)220/66kV Naraingarh(PS) has double main bus scheme at 220kV level. 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 are on single tower. ii)During antecedent condition, 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 were carrying ~14 MW each. iii)As reported, at 03:55 hrs, during construction of NHAI highway road, some object came in contact with the conductor of both 220kV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 which were on same tower. iv)As further reported by SLDC Punjab, 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 tripped on R-N phase to earth fault (zone-1) with fault current of 6.983 kA from Naraingarh(PS) (exact location of fault yet to be shared). v)220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-2 also tripped at the same time on 3 phase to earth fault (zone-1) with fault distance of 4.751 km and fault current of Ir=~7.57 kA, Iy=~8.923 kA & Ib=~8.754 kA from Naraingarh(PS). vi)Due to tripping of both 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2, supply to 220/66kV 160 MVA ICT-1 and 100 MVA ICT-2 at Naraingarh(PS) failed and complete blackout occurred at 220/66kV Naraingarh(PS) S/s. vii)As per PMU at Amritsar(PG), two consecutive R-N phase to earth faults followed by B-N phase to earth fault with fault clearing time of 120ms, 440ms (delayed) and 120ms respectively were observed. viii)As per SCADA, change in demand of approx. 28 MW in Punjab control area was observed.	0	28	440	i)Exact location of fault in 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 need to be shared. ii)SCADA data was not available at 220/66kV Naraingarh(PS) during the event. Healthiness and availability of the same need to be ensured. iii)DR/EL along with detailed report need to be shared for all the elements from both ends. iv)Necessary remedial actions need to be taken to avoid such events in future.
3	GI-1	1)220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1 2)220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1 3)220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-3 4)220 KV Kashmiri Gate-South Wazirabad(DV) (DTL) Ckt-1 5)220 KV Gopalpur-South Wazirabad(DV) (DTL) Ckt-1 6)220 KV Bus -2 at South Wazirabad(DTL) 7)220/66 KV 100 MVA ICT-1 at South Wazirabad(DTL) 8)220/66 KV 160 MVA ICT-1 at South Wazirabad(DTL)	Delhi	DTL, PGCIL	15-Dec-25	04:15	i)220/66kV South Wazirabad(DTL) has double main Bus arrangement at 220kV side. ii)During antecedent condition, 220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Gopalpur-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Kashmiri Gate-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1 & 3, 220/66 KV 100 MVA ICT-1 & 160 MVA ICT-2 at South Wazirabad(DTL) were connected to 220 KV Bus -2 at South Wazirabad(DTL). 220kV Bus coupler at South Wazirabad(DTL) was in closed position. iii)As reported, at 04:15 hrs, R-N phase to earth fault occurred on 220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1 (exact reason, nature and location of fault need to be shared). iv)Due to delayed clearance of the said fault, as per DR, LBB operated and all the elements connected to 220 KV Bus -2 at South Wazirabad(DTL) tripped and Bus-2 became dead (DR was not time synced). v)As per PMU at Mandaula(PG), R-N phase to earth fault was observed with delayed fault clearing time of 200 ms. vi)As per SCADA, change in demand of approx. 120 MW in Delhi control area is observed. However, as reported by SLDC Delhi, load loss of 94 MW (Wazirabad: 29 MW, Kashmiri Gate: 12 MW, RPH: 27 MW, Geeta Colony: 11 MW and I.P. Stn: 15 MW) occurred in Delhi control area. 11 no.s of 33kV feeders at I.P. Stn tripped on under frequency relay operation at 04:15 hrs and restored at 05:10 hrs. vii)As reported by SLDC Delhi, load of Wazirabad, Kashmiri Gate, RPH, Geeta Colony and I.P. Stn were restored by 04:27 hrs, 04:26 hrs, 04:27 hrs, 04:41 hrs and 05:10 hrs respectively.	0	120	200	i)Exact reason, nature and location of fault need to be shared. ii)Reason of delayed clearance of fault need to be shared. iii)DR time sync issue at South Wazirabad(DTL) need to be resolved at the earliest. iv)SCADA data was suspected and freezed during the event at South Wazirabad(DTL). Availability and healthiness of SCADA data need to be ensured. v)DR/EL (.dat/.cfg file) with detailed tripping report need to be shared for all the elements. vi)Remedial action taken report needs to be shared.
4	GI-2	1)765 KV Obra_C_TPS-Unnao (UP) Ckt 2)660 MW Unit-1 at Obra_C TPS (UP) 3)660 MW Unit-2 at Obra_C TPS (UP) 4)765/400kV 1000 MVA ICT-1 at Obra_C(UP)	Uttar Pradesh	UPPTCL,	16-Dec-25	06:34	i)During antecedent condition, both the 660 MW unit-1&2 at Obra C TPS were in service and generating ~617 MW & ~635 MW respectively. ii)As reported, at 06:34 hrs, 765kV Obra_C-Unnao line tripped on Y-N fault. As reported, fault distance was ~18.5km from Unnao end and ~328km from Obra_C end. Fault current was ~1.8kA from Obra_C end and 9.5 km from Unnao end. iii)As per PMU at Lucknow(PG) and DR received, Y-N fault which cleared within 100msec is observed. iv)At the same time, 660 MW Unit-1&2 at Obra_C TPS and 765/400kV 1000 MVA ICT-1 at Obra_C (UP) also tripped. As reported, Units and ICT-1 tripped on earth fault protection operation. v)As per SCADA, change in generation of ~1250 MW occurred at Obra C TPS during the event.	1250	0	80	i)Reason of tripping of 660 MW Unit-1&2 at Obra_C and 765/400kV 1000 MVA ICT-1 at Obra_C (UP) need to be shared. As line fault cleared within 100msec, Unit and ICT shouldn't have tripped. Earth fault protection setting need to be reviewed. SLDC-UP may share the O/C E/F protection setting details of Units and ICT at Obra_C (UP). ii)DR(.dat/.cfg) files of tripping of units and ICT at Obra_C need to be shared. iii)Disturbance recorder at Unnao end (line DR) is not standardized (time sync issue). iv)Remedial action taken report needs to be shared.
5	GI-2	1)765 KV Anpara_C(LAN)-Unnao(UP) (UP) Ckt 2) 500 MW Unit-2 at Anpara-D TPS (UP)	Uttar Pradesh	UPPTCL,	16-Dec-25	07:29	i)During antecedent condition, both the 600 MW units of Anpara C and 500 MW units of Anpara D were in service and generating 366 MW, 574 MW, 476 MW & 475 MW respectively. MW loading of 400kV Anpara-Obra_B line and 400kV Obra_B-Obra_C line were 675 MW (towards Obra_B) and 257 MW (towards Obra_C) respectively. ii)As reported, at 07:29 hrs, 765kV Anpara_C-Unnao line tripped on R-N fault. As reported, fault distance was ~18km from Unnao end and ~357km from Anpara_C end. Fault current was ~2.3kA from Anpara_C end and 6.7km from Unnao end. iii)As per PMU at Lucknow(PG) and DR received, R-N fault which cleared within 100msec with unsuccessful A/R operation due to permanent nature of fault is observed. iv)With the tripping of 765kV Anpara_C-Unnao line, line loading of 400kV Anpara-Obra_B line increased to more than 1100 MW. On this contingency, case-3 of SPS of Anpara complex related to loading of 400kV Anpara-Obra_B line operated. On the operation of SPS, 500 MW Unit-2 at Anpara-D tripped and ~220 MW & ~80 MW generation backdown occurred at Anpara-C & D respectively. 1 unit of Anpara C which was supposed to trip on SPS operation couldn't trip due to issue in SPS logic communication at Anpara C end. v)As per SCADA, total generation backdown of ~780 MW occurred at Anpara C & D during the event. vi)As reported, Anpara-C shall plan the inspection of SPS trip signal communication issue at their end and rectify the issue at the earliest.	780	0	80	i)Disturbance recorder at Unnao end is not standardized (time sync issue and time window is less). ii)Issue w.r.t. SPS operation at Anpara-C end need to be reviewed and corrected at the earliest possible. iii)Remedial action taken report needs to be shared.
6	GD-1	1)220/66 KV 100 MVA ICT-1 at South Wazirabad(DTL) 2)220/66 KV 160 MVA ICT-2 at South Wazirabad(DTL) 3)220/66 KV 100 MVA ICT-3 at South Wazirabad(DTL) 4)220/66 KV 160 MVA ICT-4 at South Wazirabad(DTL)	Delhi	DTL	29-Dec-25	10:39	i)220/66kV South Wazirabad(DTL) has double main Bus arrangement at 220kV side. ii)As reported, at 10:39hrs, during bus shifting operation of 66/11kV 20 MVA transformer, bus fault occurred at 66kV bus. On this fault, all four 220/66kV ICTs at 220kV South Wazirabad(DTL) tripped on overcurrent earth fault protection operation. iii)As per PMU at Manolda(PG), R-Y-B three phase fault with delayed clearance of ~600 msec is observed. v)As per SCADA, change in demand of ~200 MW in Delhi control area is observed. However, as reported by SLDC Delhi load loss of ~160 MW occurred in Delhi control area.	0	160	600	i)Reason of occurrence of fault on 66kv bus at South Wazirabad(DTL). ii)As per DR of ICT-3, no significant fault current is observed in phases. Reason of the same need to be shared. iii)SCADA data of South Wazirabad(DTL) got freezed after the tripping event. Healthiness of SCADA data needs to be ensured. iv)Remedial action taken report needs to be shared.

Multiple element tripping event at 220/132kV Raebareilly(PG) at 12:25 hrs on 02.12.2025

Tripped Elements

S. No	Name of Elements	Outage Time	Revival Time	Reason of tripping
1.	220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3	12:25 hrs	21:03 hrs	Broken conductor alarm; Tripped from Unchahar end only
2.	220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt		14:32 hrs	UFR operated as part of Unchahar islanding scheme

Brief details of the event

- 220/132kV Raebareilly(PG) has double main & transfer bus scheme at 220kV level.
- During antecedent condition, 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-1 & 2 were under shutdown for line diversion work by UPPTCL since 02.11.2025 and 220 KV Raebareilly(PG)-C.G. City Ckt was under shutdown since 02.11.2025 for load management of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 as it is the only source line. 220/132/33 kV Bachravan UPPTCL station was being fed only from 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt.
- As reported, at 12:25 hrs, Broken conductor alarm was observed at both Raebareilly (PG) and Unchahar(NT) end of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3. Line tripped from Unchahar (NTPC) end only as tripping was enabled on Broken conductor alarm.
- Since the Broken conductor alarm was observed at both PG and NTPC ends, the Raebareli TLM team was immediately mobilized for emergency patrolling of the line, considering the possibility of conductor or jumper snapping. The TLM team thoroughly patrolled all 37 tension towers (Location 1 to 144), however no abnormalities were reported on the line.
- As at the time of tripping 220kV Bachravan was being fed radially through 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt, the tripping of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 resulted into loss of source for 220 kV Raebareilly (PG) and 220kV Bachravan.

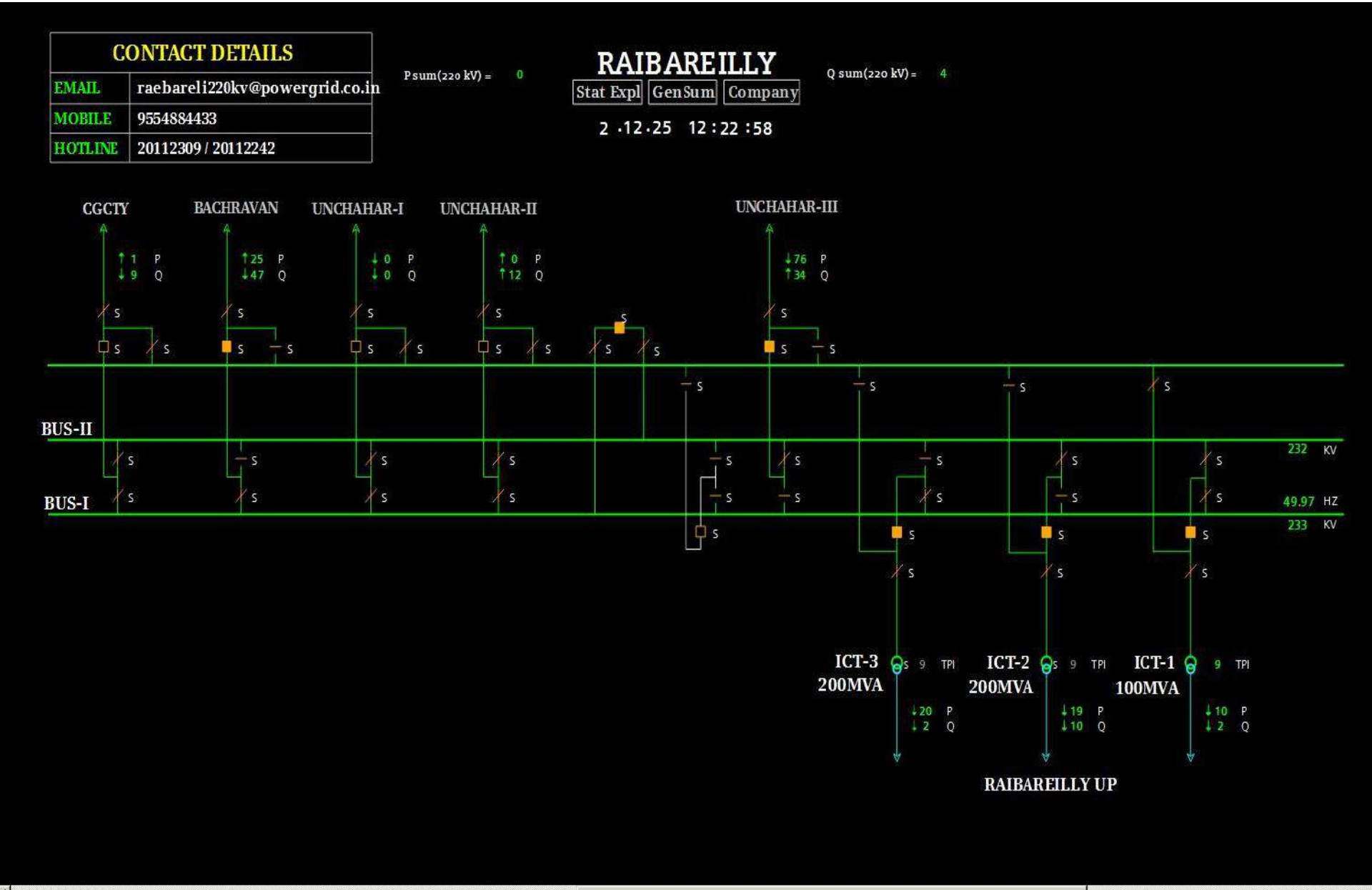
Brief details of the event

- This led to operation of UFR relays at 220 kV Raebareilly (PG) (47.7Hz), 220 kV Bachravan (47.7Hz) and 132kV Amawa (47.9Hz), 132kV Tripula (47.9Hz), 132kV Dalmau (47.9Hz), 132 kV Bachravan (47.9Hz) and 132kv Salon (47.9Hz). This UFR panel, installed by UPPTCL at the PG end, is part of the Unchahar Islanding scheme and is designed to isolate Bachravan and C.G. City lines under such conditions.
- As both 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 and 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt tripped and no alternate power source was available at 220kV Raebareli(PG), complete blackout occurred at 220kV Raebareli(PG) S/s.
- As per PMU at Bareilly(PG), no fault is observed in the system.
- As per SCADA, change in demand of approx. 65 MW in UP control area was observed. However, as reported by SLDC UP, load loss of approx. 110 MW occurred in UP control area.

Sequence of restoration

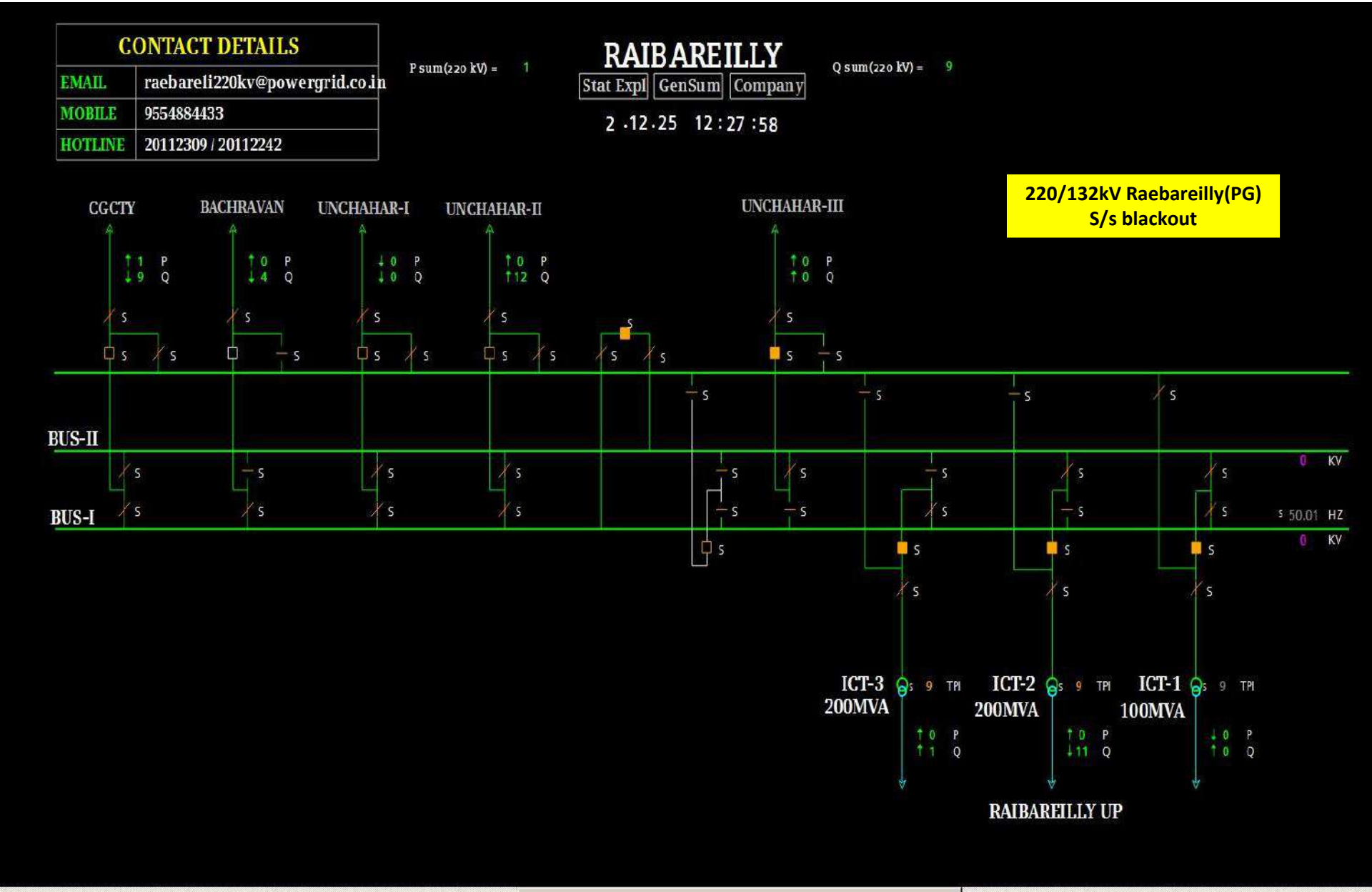
- Already closed CBs at Raebareilly(PG) (Unchahar-3, ICT-1, ICT-2 and ICT-3) were first opened at PG end.
- Bachravan UPPTCL station charged from Bijnor Road (UPPTCL SS) and 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt charged at 14:32 HRS.
- Thereafter, 220/132kV 200 MVA ICT-3 & ICT-2 and 100 MVA ICT-1 at Raebareilly(PG) were taken in service at 14:50 Hrs.
- 20 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-1 & 2 charged at 16:19 hrs and 16:23 hrs respectively. However. 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-1 got tripped at 16:21 hrs on Y-N phase to earth fault. 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 was restored at 21:03 hrs.

SLD of 220/132kV Raebareilly(PG) before the event



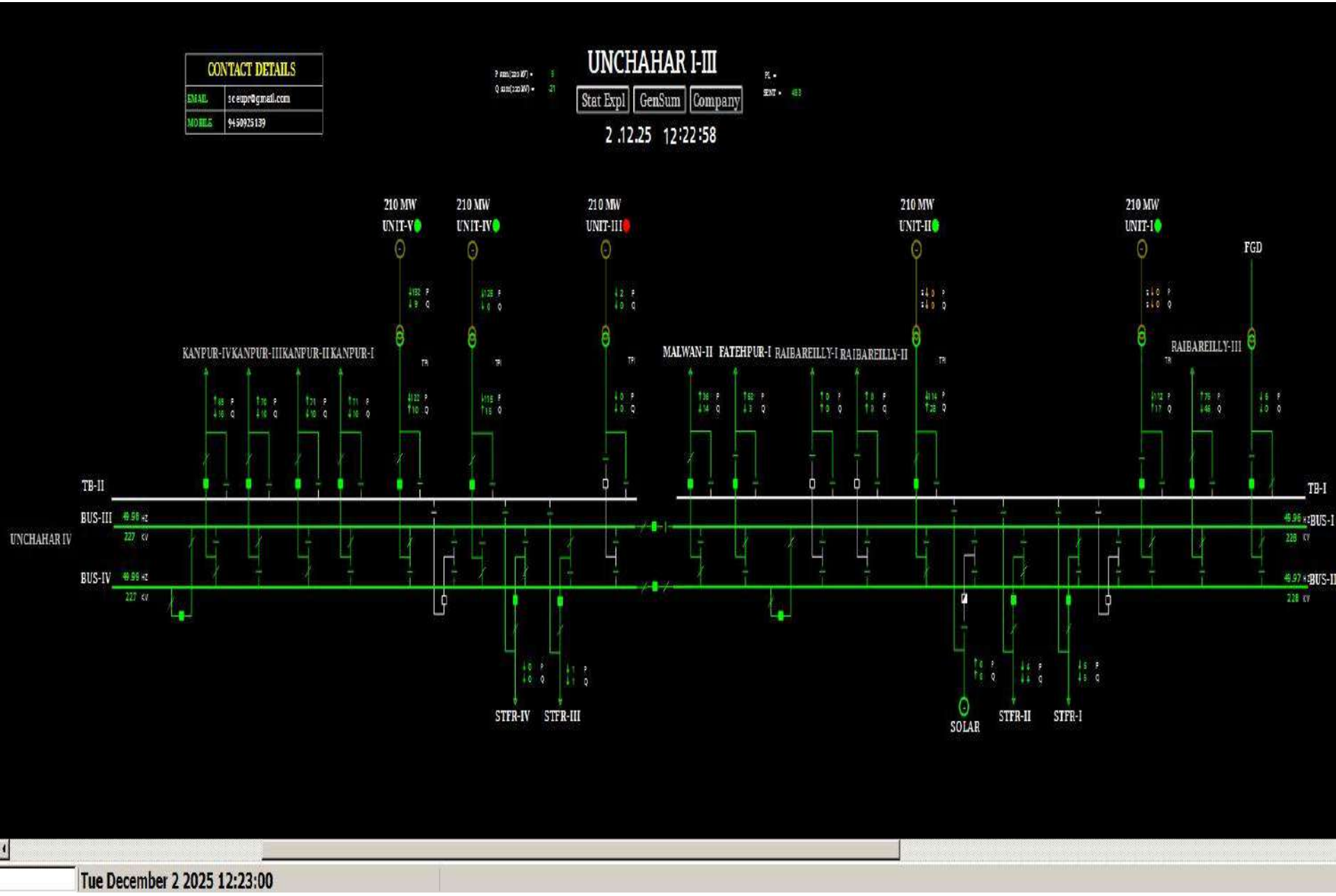
Tue December 2 2025 12:23:00

SLD of 220/132kV Raebareilly(PG) after the event



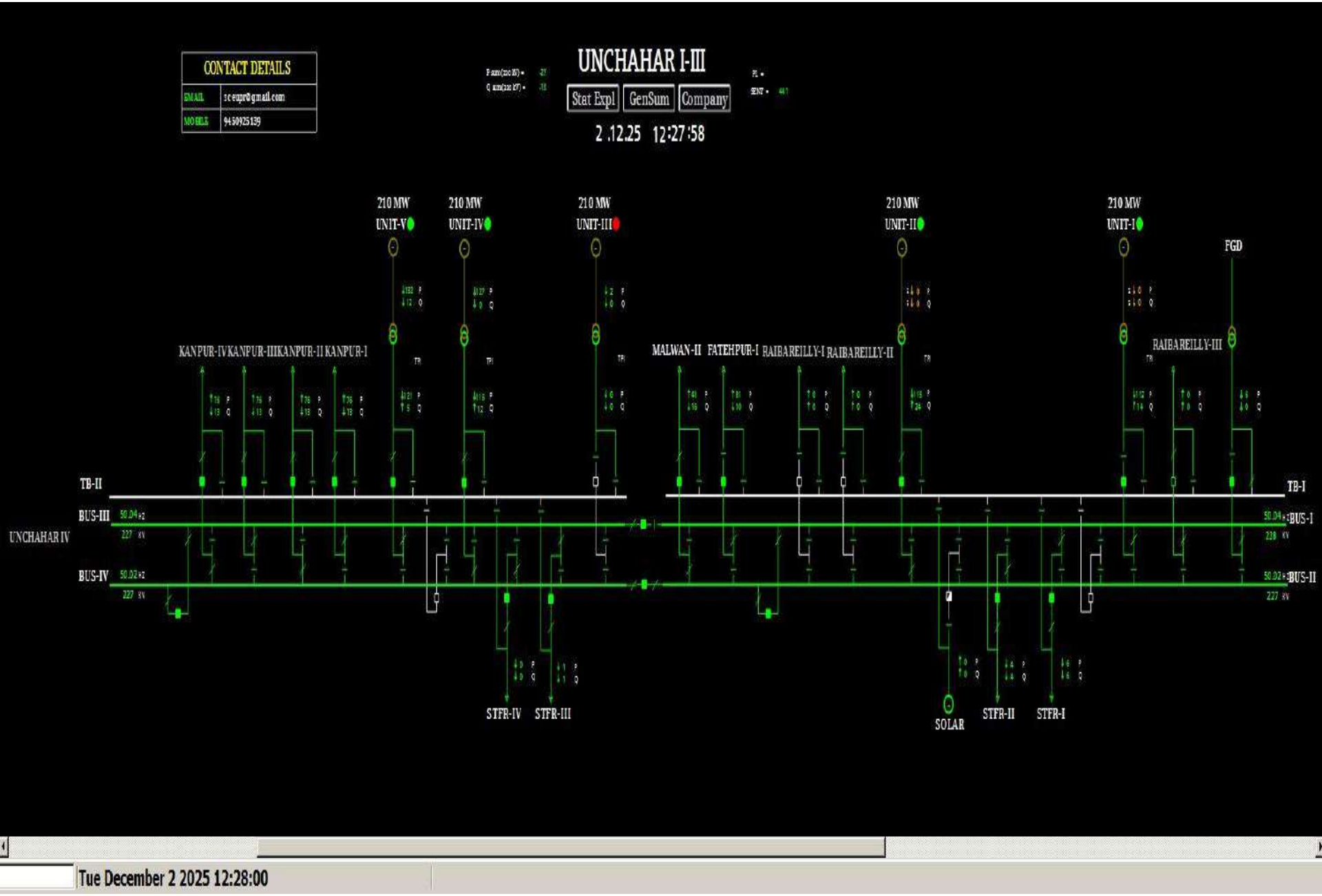
Tue December 2 2025 12:28:00

SLD of 220kV Unchahar I-III(NT) before the event

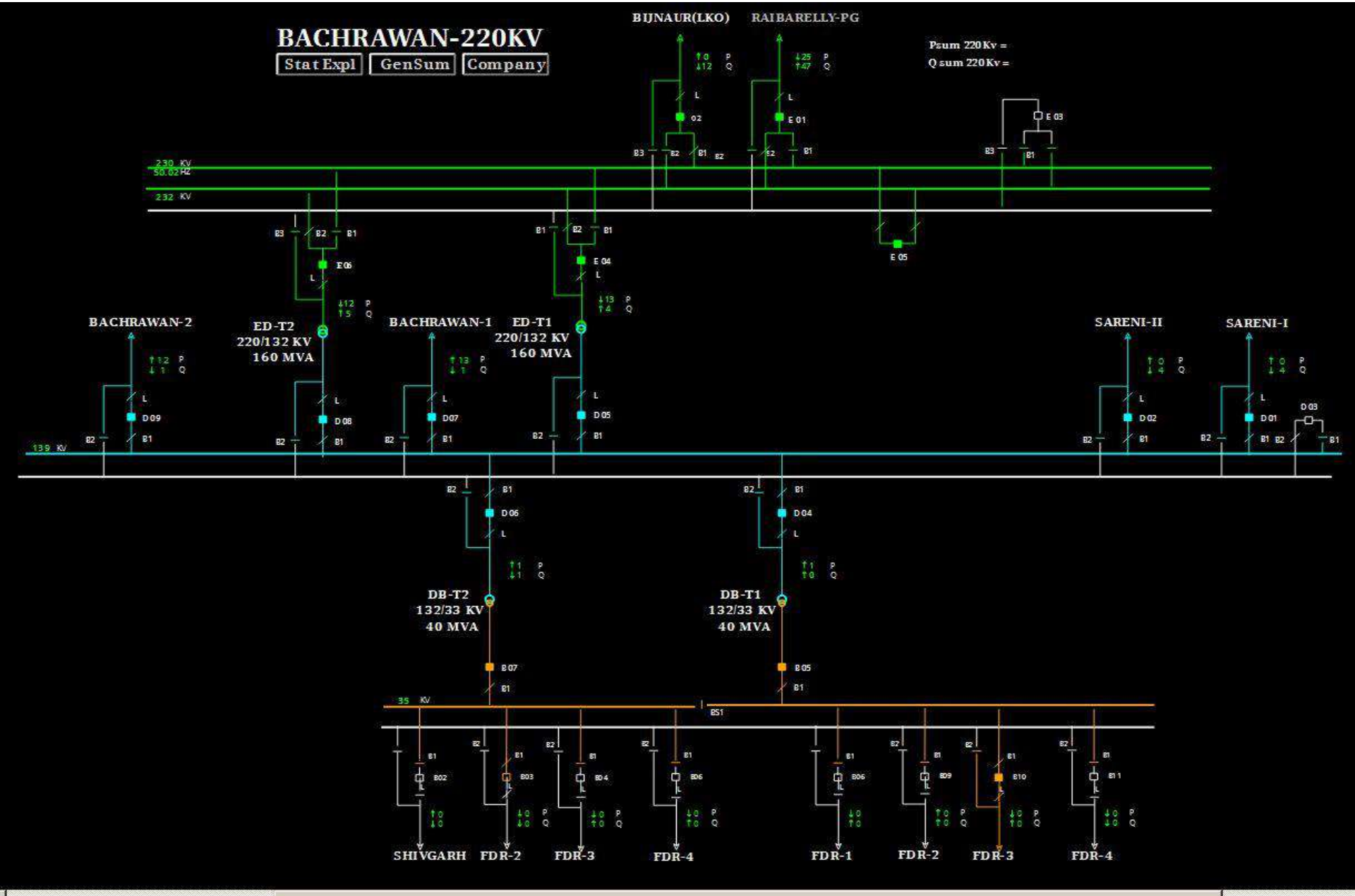


Tue December 2 2025 12:23:00

SLD of 220kV Unchahar I-III(NT) after the event

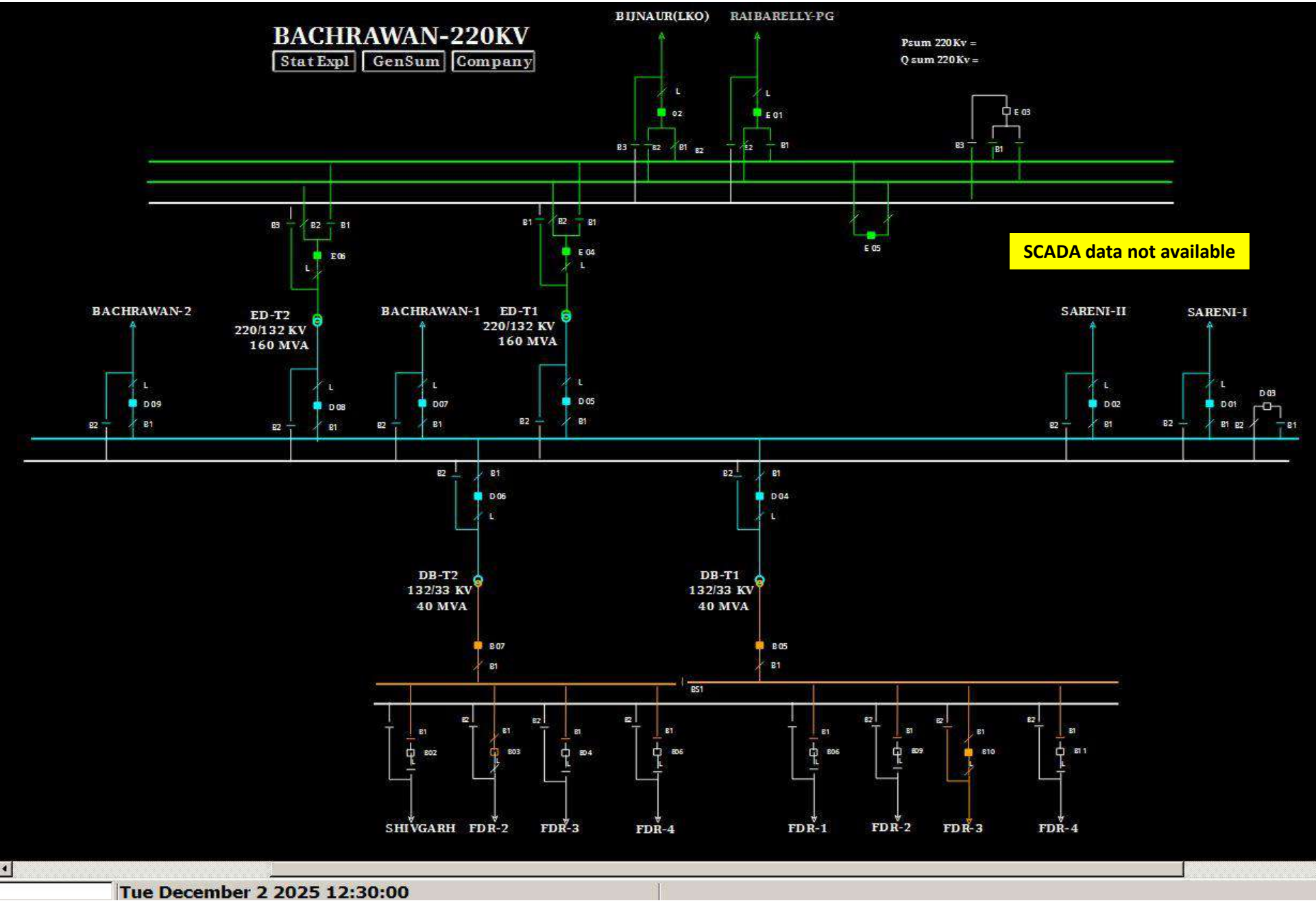


SLD of 220/132/33kV Bachravan(UP) before the event

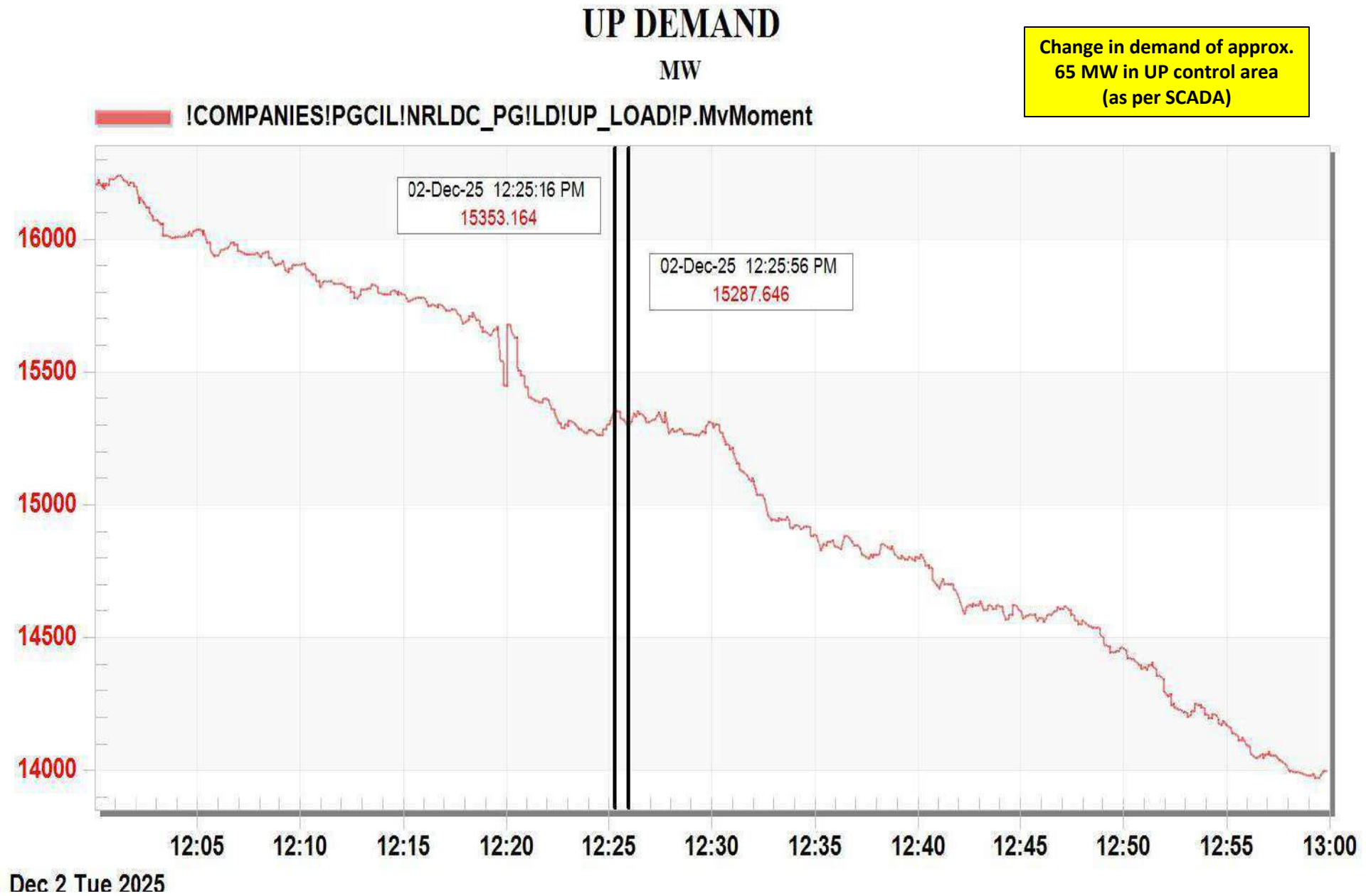


Tue December 2 2025 12:23:00

SLD of 220/132/33kV Bachravan(UP) after the event

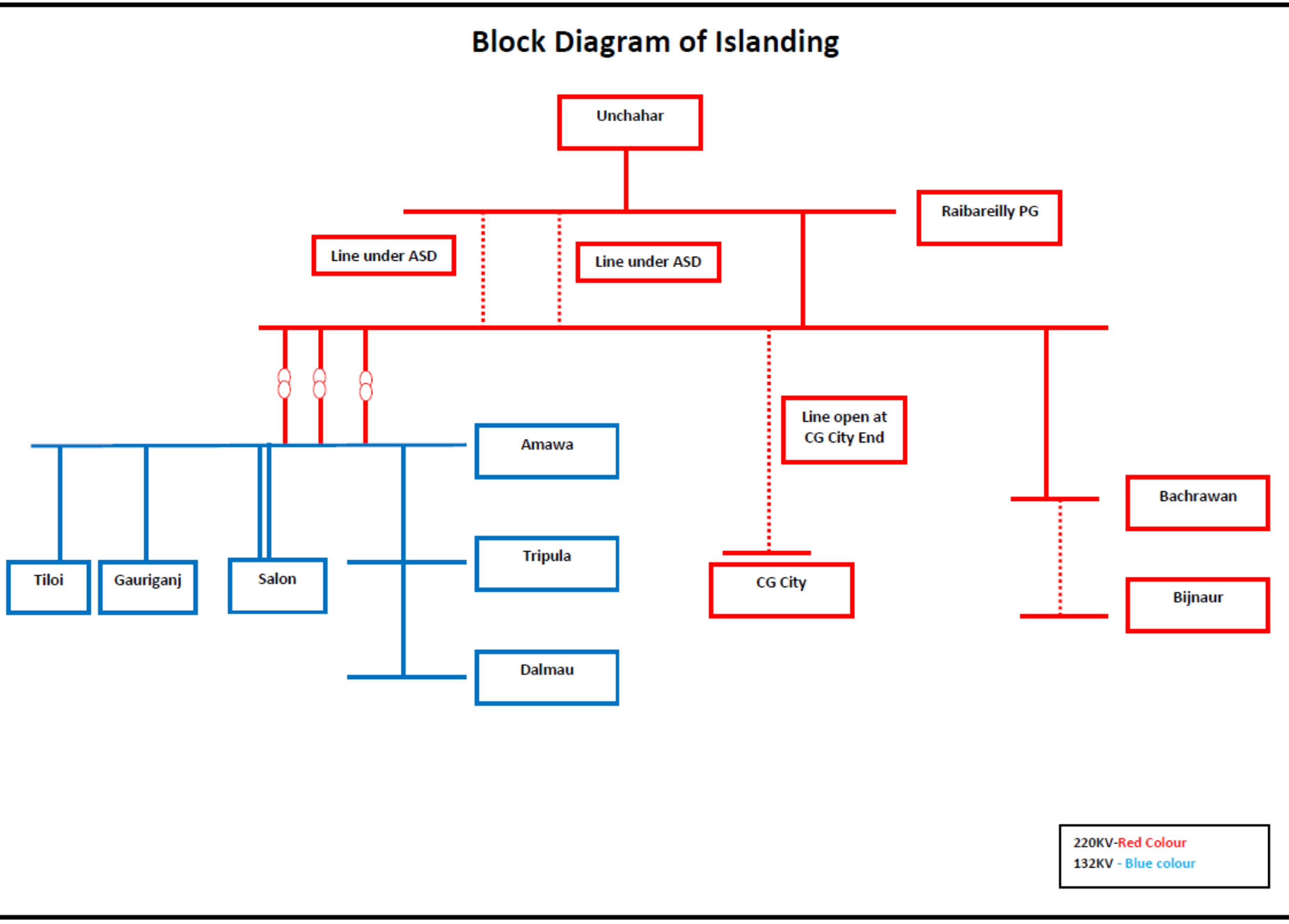


UP demand during the event

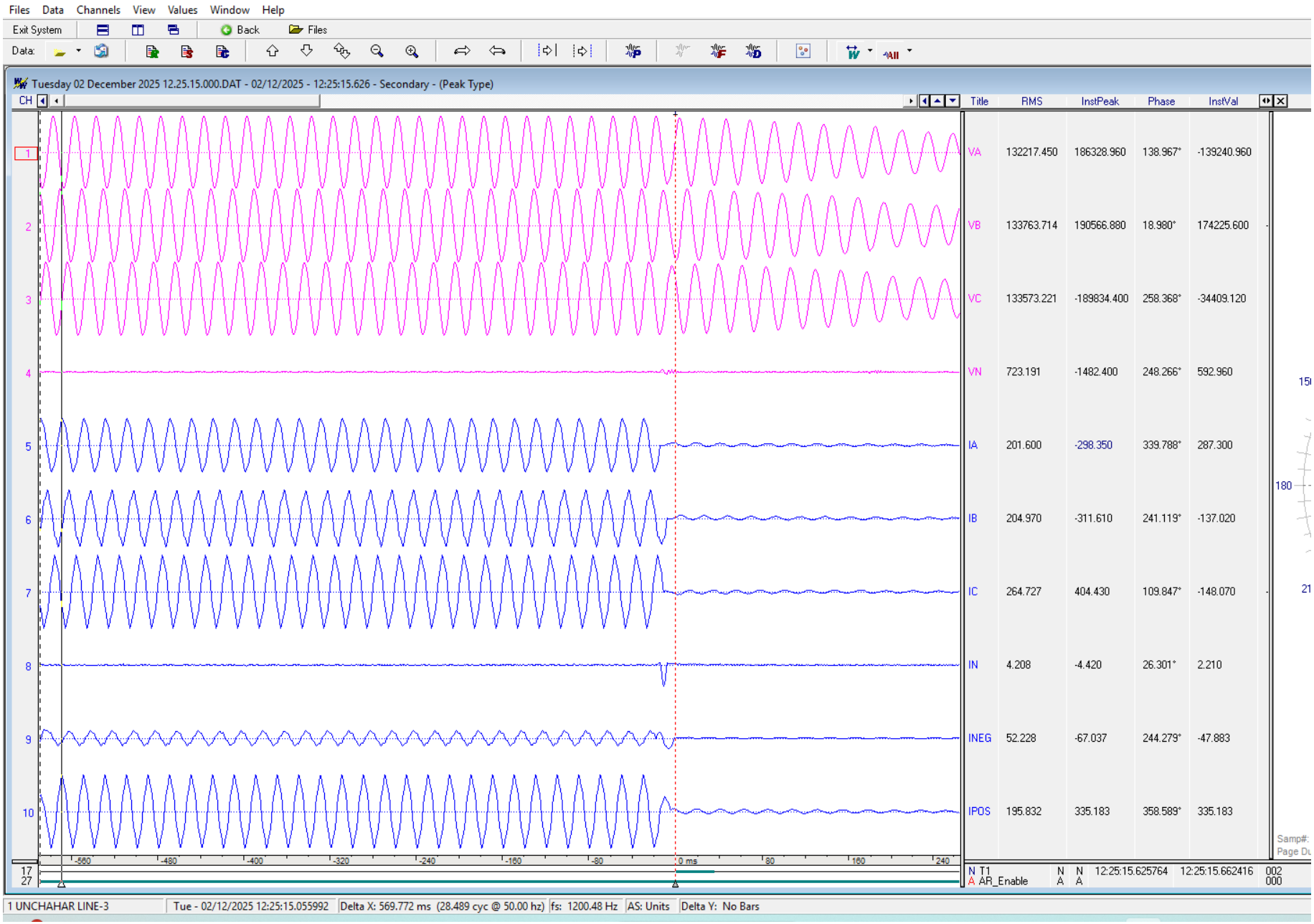


Change in demand of approx. 65 MW in UP control area (as per SCADA)

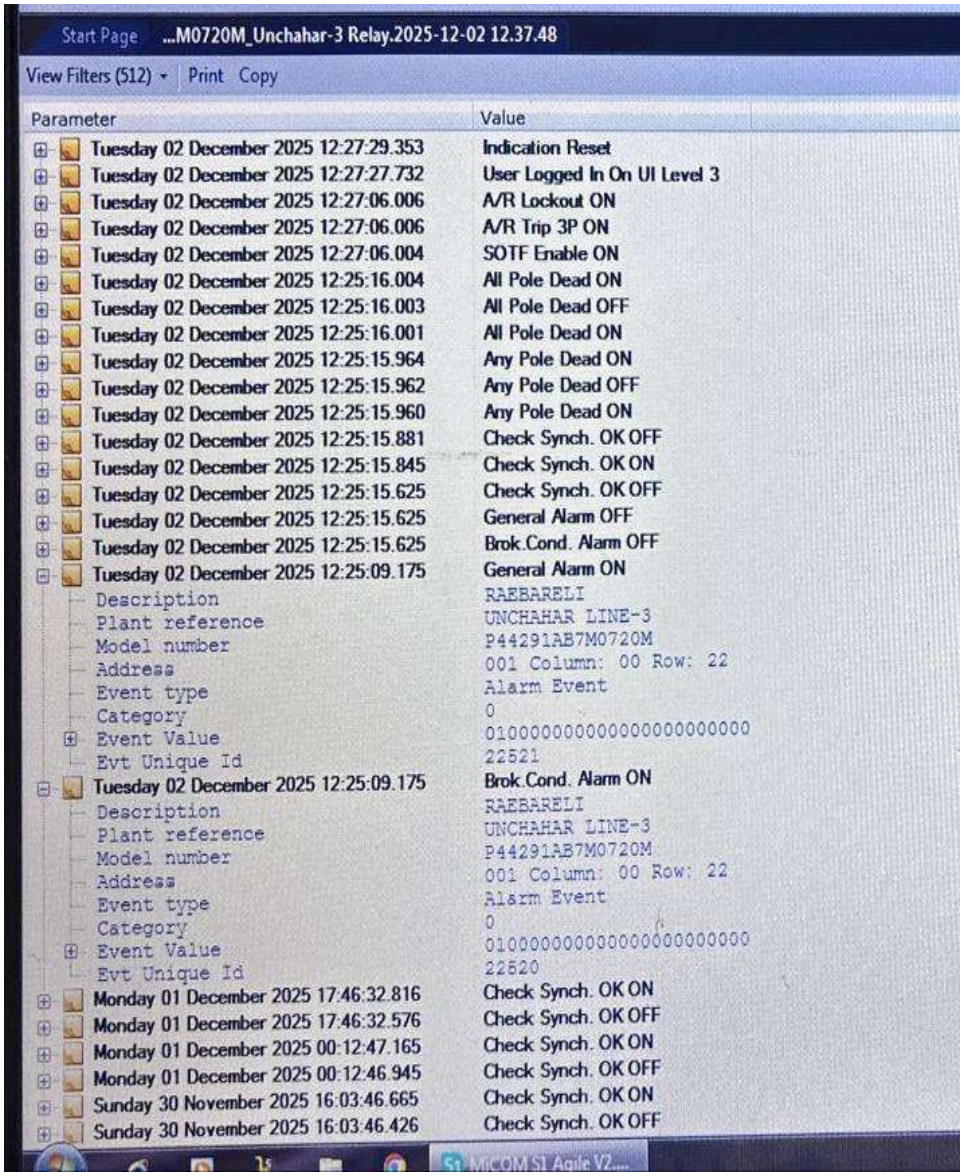
Unchahar Islanding Scheme

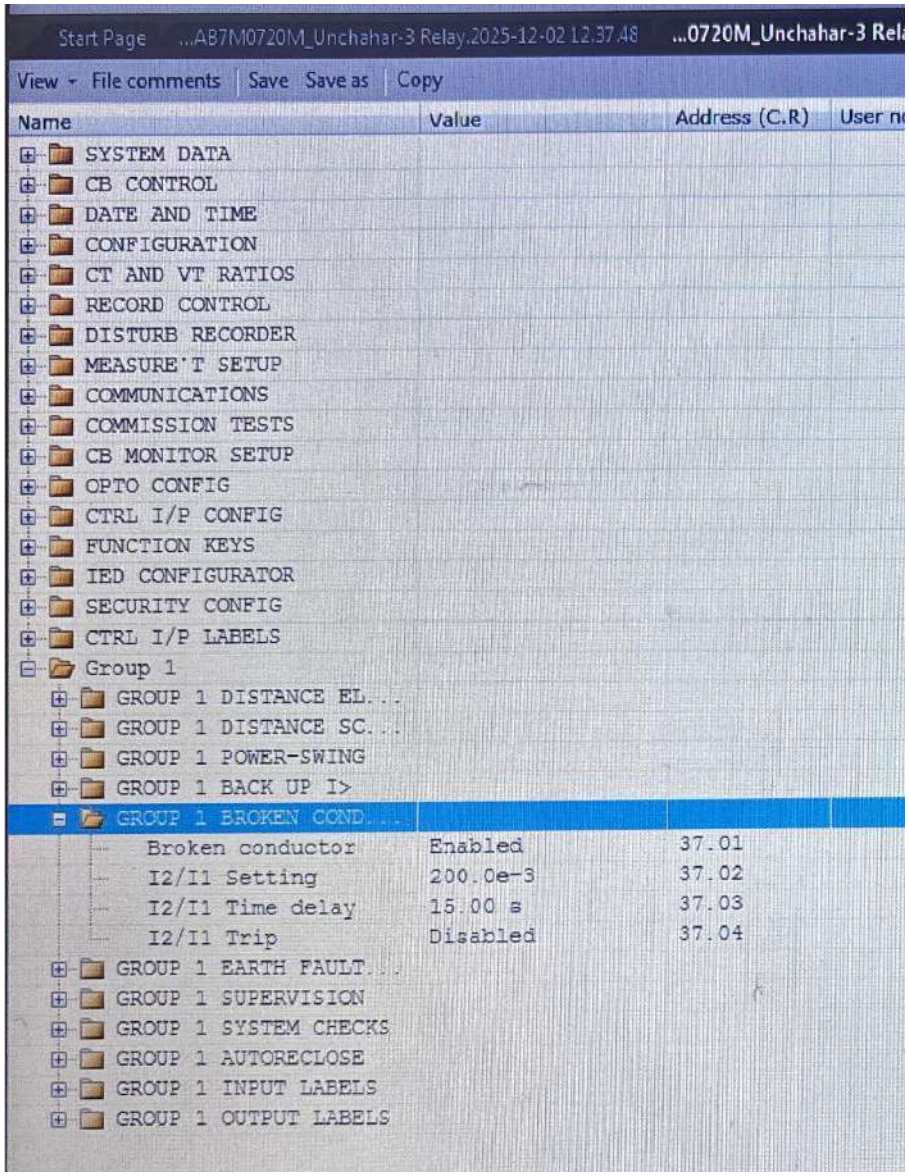


DR of 220 KV Unchahar(NT)-Raebareilly(PG) (end) (PG) Ckt-3 (Main-I)



220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3
Event of M1 Relay & Setting at PG end





220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt
Event of M2 Relay at PG end

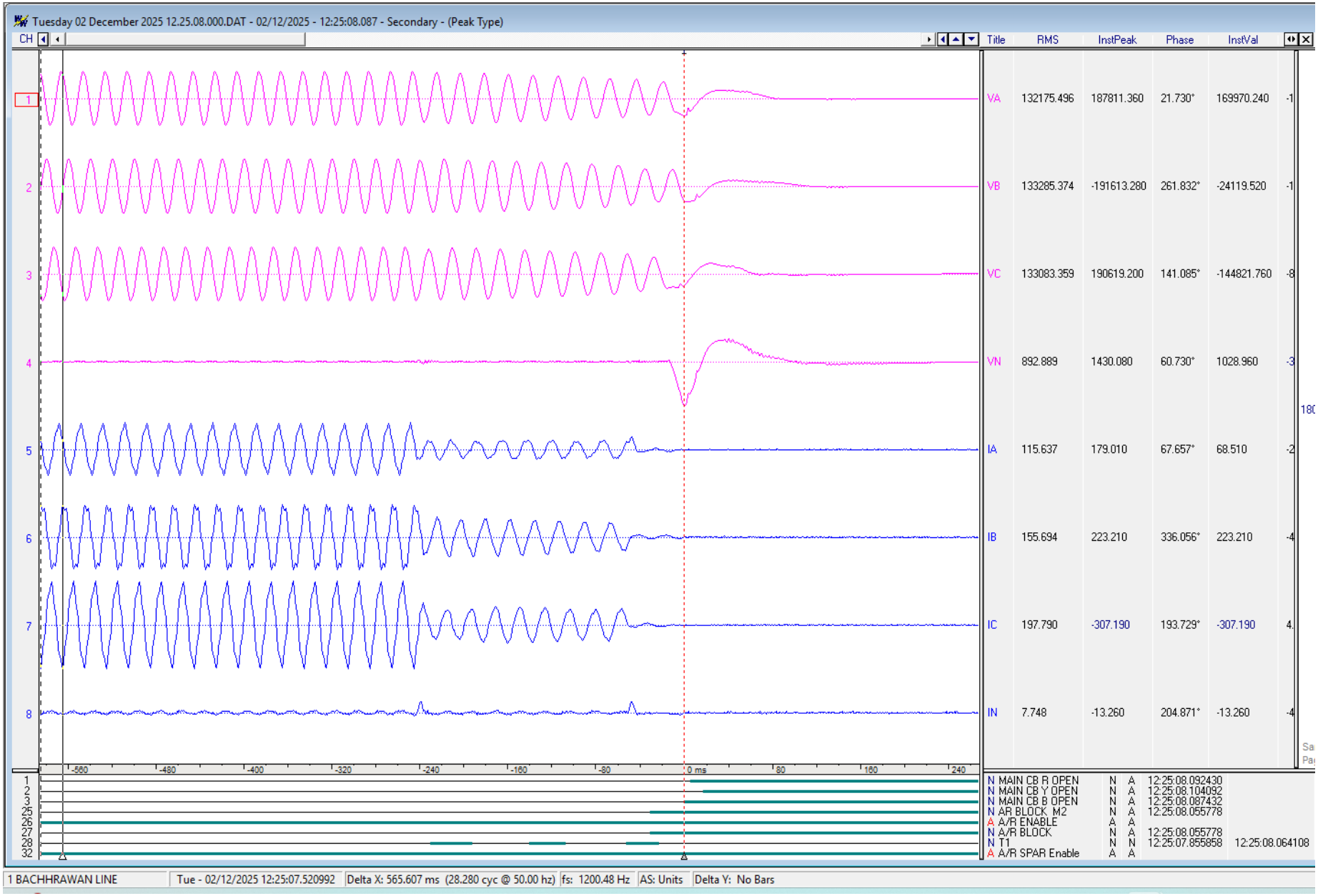
DIGSI - [Event Log - 12/ - for ICT-1 time delay / Lines and ICT_1 / 7SA522 V4.6 Var_Bachhraw/7SA522 V04.7]

File Edit Paste Device View Options Window Help

Number	Indication	Value	Date and time	Initiator	Cause	State	Add. Cause
00503	Relay PICKUP Phase L1	ON	15.11.2025 19:43:47.331	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	ON	15.11.2025 19:43:47.331	Com.Issued=Aut...	Spontaneous		
00503	Relay PICKUP Phase L1	OFF	15.11.2025 19:43:47.341	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	OFF	15.11.2025 19:43:47.410	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	443 - OFF	15.11.2025 19:43:47.410	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	444 - ON	15.11.2025 19:49:29.076	Com.Issued=Aut...	Spontaneous		
00503	Relay PICKUP Phase L1	ON	15.11.2025 19:49:29.076	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	ON	15.11.2025 19:49:29.076	Com.Issued=Aut...	Spontaneous		
00503	Relay PICKUP Phase L1	OFF	15.11.2025 19:49:29.086	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	OFF	15.11.2025 19:49:29.314	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	444 - OFF	15.11.2025 19:49:29.314	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	445 - ON	17.11.2025 12:02:00.658	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	ON	17.11.2025 12:02:00.659	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	OFF	17.11.2025 12:02:00.699	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	445 - OFF	17.11.2025 12:02:00.699	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	446 - ON	18.11.2025 09:29:43.666	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	ON	18.11.2025 09:29:43.666	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	OFF	18.11.2025 09:29:43.716	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	446 - OFF	18.11.2025 09:29:43.716	Com.Issued=Aut...	Spontaneous		
00070	Setting calculation is running	ON	19.11.2025 12:54:56.412	Com.Issued=Aut...	Spontaneous		
00072	Level-2 change	ON	19.11.2025 12:55:48.359	Com.Issued=Aut...	Spontaneous		
00070	Setting calculation is running	OFF	19.11.2025 12:55:48.361	Com.Issued=Aut...	Spontaneous		
	M/T SYN OK	OFF	22.11.2025 10:22:05.604		Spontaneous		
	M/T SYN OK	ON	22.11.2025 10:22:06.772		Spontaneous		
00301	Power System fault	447 - ON	26.11.2025 02:07:51.477	Com.Issued=Aut...	Spontaneous		
00503	Relay PICKUP Phase L1	ON	26.11.2025 02:07:51.477	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	ON	26.11.2025 02:07:51.477	Com.Issued=Aut...	Spontaneous		
00503	Relay PICKUP Phase L1	OFF	26.11.2025 02:07:51.566	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	OFF	26.11.2025 02:07:51.566	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	447 - OFF	26.11.2025 02:07:51.566	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	448 - ON	26.11.2025 02:23:54.767	Com.Issued=Aut...	Spontaneous		
00503	Relay PICKUP Phase L1	ON	26.11.2025 02:23:54.767	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	ON	26.11.2025 02:23:54.767	Com.Issued=Aut...	Spontaneous		
00503	Relay PICKUP Phase L1	OFF	26.11.2025 02:23:54.777	Com.Issued=Aut...	Spontaneous		
00506	Relay PICKUP Earth	OFF	26.11.2025 02:23:55.307	Com.Issued=Aut...	Spontaneous		
00301	Power System fault	448 - OFF	26.11.2025 02:23:55.307	Com.Issued=Aut...	Spontaneous		
	M/T SYN OK	OFF	02.12.2025 11:18:04.780		Spontaneous		
	M/T SYN OK	ON	02.12.2025 11:18:05.063		Spontaneous		
	DTRC CH1/2	ON	02.12.2025 12:25:17.809		Spontaneous		
00381	>Single-phase trip permitted from ext.AR	OFF	02.12.2025 12:25:17.817	Com.Issued=Aut...	Spontaneous		
	M_CB_BO	ON	02.12.2025 12:25:17.837		Spontaneous		
	M/T SYN OK	OFF	02.12.2025 12:25:17.837		Spontaneous		
	M_CB_RO	ON	02.12.2025 12:25:17.841		Spontaneous		
	M_CB_YO	ON	02.12.2025 12:25:17.855		Spontaneous		
00004	>Trigger Waveform Capture	ON	02.12.2025 12:25:18.339	Com.Issued=Aut...	Spontaneous		

Press F1 Internet Explorer 7SA522 V04.73.03 Online COM19 115200 8E1 0001 NUM

DR of 220 KV Raebareilly(PG) (end)-Bachravan(UP) (PG) Ckt (Main-II)

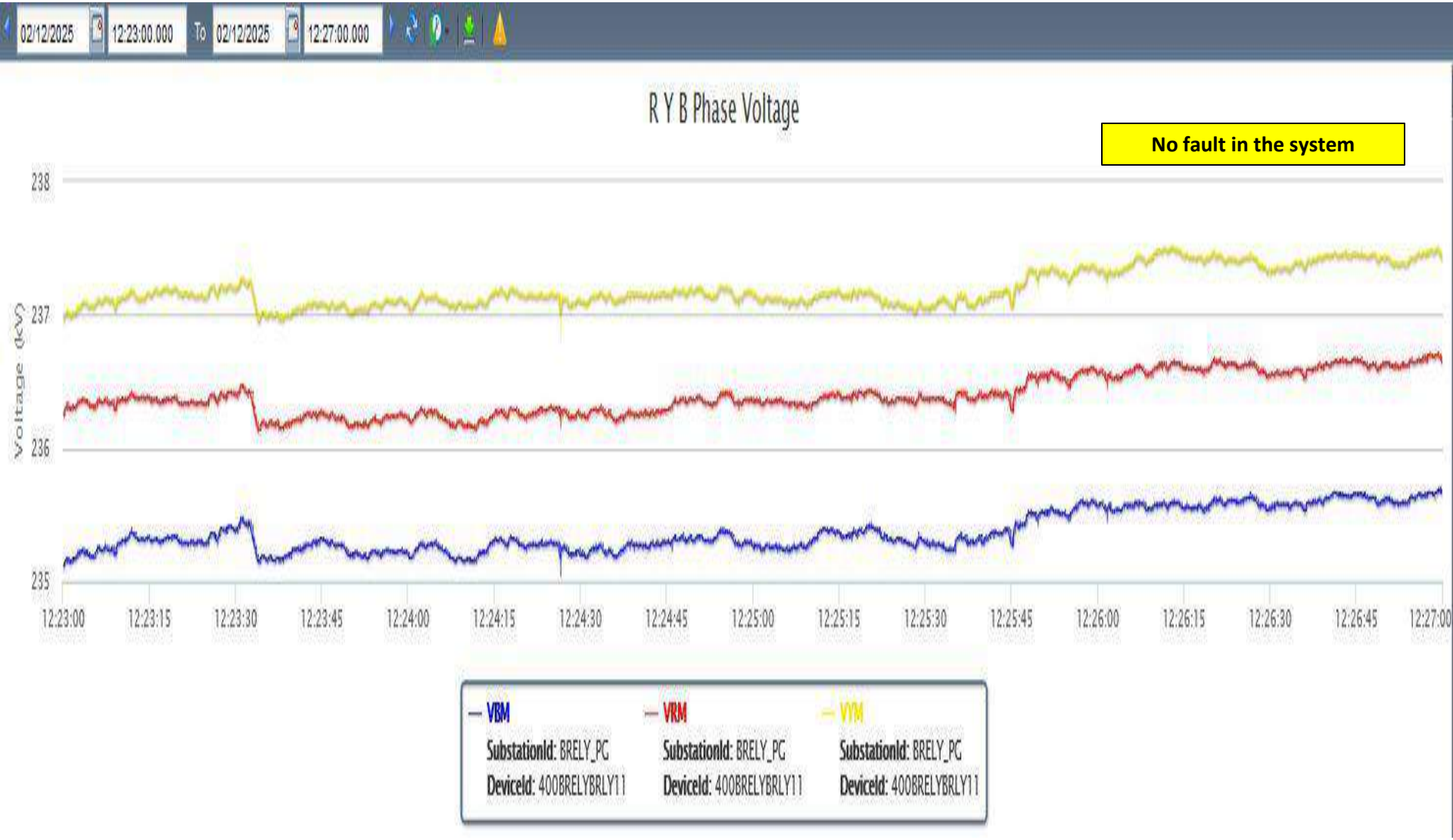


PMU Plot of frequency at Bareilly(PG)

12:25 hrs/02-Dec-25

PMU Plot of phase voltage magnitude at Bareilly(PG)

12:25 hrs/02-Dec-25



SCADA SOE

Time	Station Name	Voltage	Element Name	Element Type	Element Status	Remarks
12:25:15,000	BCHWN_UP	220kV	01RBRLY	Circuit Breaker	Open	Line CB at Bachravan(UP) end of 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt opened
12:25:15,000	BCHWN_UP	132kV	01SARNI1	Circuit Breaker	Open	Line CB at Bachravan(UP) end of 132 KV Sareni-Bachravan(UP) Ckt-1 opened
12:25:17,850	RBRLY_PG	220kV	11BCHWN	Circuit Breaker	Open	Line CB at Raebareilly(PG) end of 220 KV Raebareilly(PG)-Bachravan(UP) (PG) Ckt opened
12:25:20,626	UNCH1_NT	220kV	01ARBRL3	Circuit Breaker	Open	Line CB at Unchahar(NT) end of 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 opened
12:26:16,000	BCHWN_UP	33kV	10FDR7	Circuit Breaker	Open	
12:26:38,000	BCHWN_UP	132kV	02SARNI2	Circuit Breaker	Open	Line CB at Bachravan(UP) end of 132 KV Sareni-Bachravan(UP) Ckt-2 opened
12:26:41,000	BCHWN_UP	132kV	07BCHWN1	Circuit Breaker	Open	Line CB at Bachravan(UP) end of 132 KV Bachravan-Bachravan(UP) Ckt-1 opened
12:26:49,160	BCHWN_UP	132kV	09BCHWN2	Circuit Breaker	Open	Line CB at Bachravan(UP) end of 132 KV Bachravan-Bachravan(UP) Ckt-2 opened
12:26:54,000	BCHWN_UP	33kV	07T4	Circuit Breaker	Open	CB at 33kV side of 132/33kV 40 MVA ICT-4 at Bachravan(UP) opened
12:26:55,000	BCHWN_UP	132kV	06T4	Circuit Breaker	Open	CB at 132kV side of 132/33kV 40 MVA ICT-4 at Bachravan(UP) opened
12:26:57,000	BCHWN_UP	132kV	04T3	Circuit Breaker	Open	CB at 132kV side of 132/33kV 40 MVA ICT-3 at Bachravan(UP) opened
12:26:57,000	BCHWN_UP	33kV	05T3	Circuit Breaker	Open	CB at 33kV side of 132/33kV 40 MVA ICT-3 at Bachravan(UP) opened
12:27:08,000	BCHWN_UP	132kV	05T1	Circuit Breaker	Open	CB at 132kV side of 220/132kV 160 MVA ICT-1 at Bachravan(UP) opened
12:27:12,000	BCHWN_UP	132kV	08T2	Circuit Breaker	Open	CB at 132kV side of 220/132kV 160 MVA ICT-2 at Bachravan(UP) opened
12:27:13,000	BCHWN_UP	220kV	06T2	Circuit Breaker	Open	CB at 220kV side of 220/132kV 160 MVA ICT-2 at Bachravan(UP) opened
12:27:16,000	BCHWN_UP	220kV	04T1	Circuit Breaker	Open	CB at 220kV side of 220/132kV 160 MVA ICT-1 at Bachravan(UP) opened

Points of Discussion

i. Reason for broken conductor alarm in 220 KV Unchahar(NT)-Raebareilly(PG) (PG) Ckt-3 need to be analysed. Why tripping was enabled at NTPC end?
ii. DR/EL along with detailed tripping report need to be shared by NTPC.
iii. Remedial action taken report need to be shared.

U.P. POWER TRANSMISSION CORPORATION LIMITED

UPPTCL

220KV Sub-Station, Bachhrawan

02.12.2025, 12:24

Tripping of 220kV Raebareli (PG) line at 220kV S/S Bachhrawan and other 132kV lines, 132/33kV T/F & 33kV feeders at various Sub Stations under ETD, Raebareli.

TRIPPING OF 220kV RAEBARELI (PG) LINE AND OTHER ELEMENTS AT 220kV S/S BACHHRAWAN, 132kV S/S AMAWAN, 132kV S/S TRIPULA, RAEBARELI, 132kV S/S DALMAU, 132kV S/S BACHHRAWAN and 132kV S/S SALON DUE TO OPERATION OF UFR ON DATE 02.12.2025

- **Date & Time of event**: 02.12.2025 at 12:24 hrs
- **Sub-Station affected**: 220kV Bachhrawan, 132kV Bachhrawan, 132kV Amawan, 132kV Tripula, Raebareli, 132kV Salon & 132kV Dalmau.
- **Date & Time of restoration**: 220kV Raebareli (PG) line, 132kV Sareni Ckt.-I&II line & 40MVA T/F-I&II at 220kV S/S Bachhrawan at 12:57hrs, 13:10hrs & 12:57hrs respectively . 132kV Newajganj, 132kV RINL, 132kV MCF, 132kV Reliance Cement line, 40MVA T/F-I&II at 132kV S/S Bachhrawan at 12:57hrs & 13:10hrs. 132kV Dalmau line & 33kV feeders at 132kV S/S Tripula, Raebareli at 13:50hrs. 132kV Salon Ckt.-I&II, 132kV Newajganj, 132kV Gauriganj & 132kV Tiloi lines at 132kV S/S Amawan at 13:25hrs, 13:15hrs & 14:45hrs respectively. 132kV Raebareli line at 132kV S/S Dalmau at 13:50hrs and 132kV Amawan Ckt.-I&II line at 132kV S/S Salon at 13:50hrs.

Description of elements

- Details of Tripping & Closing times of elements:-
  - At 220kV S/S Bachhrawan:-

Name of Elements	Tripping time	Closing time
220kV Raebareli (PG)	12:24	12:57
132kV Sareni Ckt.-I	12:24	13:10
132kV Sareni Ckt.-II	12:24	13:10
40MVA T/F-1	12:24	12:57
40MVA T/F-2	12:24	12:57

  - At 132kV S/S Bachhrawan:-

Name of Elements	Tripping time	Closing time
132kV Newajganj	12:24	12:57
132kV RINL	12:24	12:57
132kV MCF	12:24	12:57
132kV Reliance Cement	12:24	12:57
40MVA T/F-1	12:24	13:10
40MVA T/F-2	12:24	13:10

  - At 132kV S/S Dalmau:-

Name of Elements	Tripping time	Closing time
132kV Raebareli	12:24	13:50

Description of elements

- Details of Tripping & Closing times of elements:-
  - At 132kV S/S Tripula, Raebareli:-

Name of Elements	Tripping time	Closing time
132kV Dalamu	12:24	13:50
33kV Teliakot	12:24	13:50
33kV Pragatipuram	12:24	13:50
33kV Furshatganj	12:24	13:50
10MVA T/F-1	12:24	13:50
10MVA T/F-2	12:24	13:50

  - At 132kV S/S Amawan:-

Name of Elements	Tripping time	Closing time
132kV Salon Ckt.-I	12:24	13:25
132kV Salon Ckt.-II	12:24	13:25
132kV Newajganj	12:24	13:25
132kV Gauriganj	12:24	13:25
132kV Tiloi	12:24	14:45
40MVA T/F-2	12:24	14:45

  - At 132kV S/S Salon:-

Name of Elements	Tripping time	Closing time
132kV Amawan Ckt.-I	12:24	13:50
132kV Amawan Ckt.-II	12:24	13:25

Details of Connected elements during trippings

- **<u>Elements connected through 220kV Bus A:-</u>**

    1. 220kV Bijnor Road line

- **<u>Elements connected through 220kV Bus B:-</u>**

    1. 220kV Raebareli (PG)
    2. 160MVA T/F-I
    3. 160MVA T/F-II

Report 1

Details of Tripping of feeders under Transmission Central Zone (Tripping Details Under Electy Test & Commissioning Circle, Lucknow) on Dated- 02.12.2025

Name of Division- Electy Test & Commissioning Division Sultanpur

SL. NO.	NAME OF SUB-STATION	TRIPPING DATE/ TIME	CLOSING DATE/ TIME	C.B. NO/ DIRECTION	TYPE OF PROTECTION SCHEME	FLAGS OBSERVED		REMARK	ANALYSIS
						THIS END			
						RELAY FLAGS	F.L. READING		
1	2	3	4	5	6	7		10	11
1	220kV S/S Bachhrawan	02.12.2025 12:24	02.12.2025 12:57	220kV PGCIL Raebareli Line	Sifang CSC-101 & ABB REL-650	-	-	-	As reported, at 12:24hrs, Broken conductor alarm was observed at both Raebareli (PG) and Unchahar (NT) end at 220kV Unchahar (NT)- Raebareli (PG) Ckt-3. This line tripped from Unchahar (NTPC) end only due to tripping was enabled on Broken conductor alarm. As at the time of tripping 220kV Bachrawan was being fed radially through 220kV Raebareli (PG)-Bachrawan (UP) Ckt, the tripping of 220kV Unchahar (NT)-Raebarli (PG) Ckt-3 resulted into loss of source for 220kV Raebareli (PG) and also for 220kV S/S Bachrawan. This led to operation of UFR relays at 220kV S/S Bachrawan (47.7Hz) and 132kV S/S Amawan (47.9Hz), 132kV S/S Tripula, Raebareli (47.9Hz), 132kV S/S Dalmau (47.9Hz), 132kV S/S Bachrawan (47.9Hz) and 132kv S/S Salon (47.9Hz) due to frequency sinked up.
2		02.12.2025 12:24	02.12.2025 13:10	132kV Sareni Ckt.-I Line	Sifang CSC-101 & ABB REL-650	-	-	-	
3		02.12.2025 12:24	02.12.2025 13:10	132kV Sareni Ckt.-II Line	Sifang CSC-101 & ABB REL-650	-	-	-	
4		02.12.2025 12:24	02.12.2025 12:57	40MVA T/F-I	Sifang CSC 326 & Sifang CSC 211	-	-	-	
5		02.12.2025 12:24	02.12.2025 12:57	40MVA T/F-II	Sifang CSC 326 & Sifang CSC 211	-	-	-	
6		02.12.2025 12:24	02.12.2025 12:57	132kV Newajganj Line	Siemens Siprotec 7SA611 & Siemens Reyrolle	-	-	-	
7		02.12.2025 12:24	02.12.2025 12:57	132kV RINL Line	Micom P-442 & ABB REL-650	-	-	-	
8	132kV S/S	02.12.2025 12:24	02.12.2025 12:57	132kV MCF Line	Siemens Siprotec 7SA611 & Siemens Siprotec 7SJ803	-	-	-	

Report 2

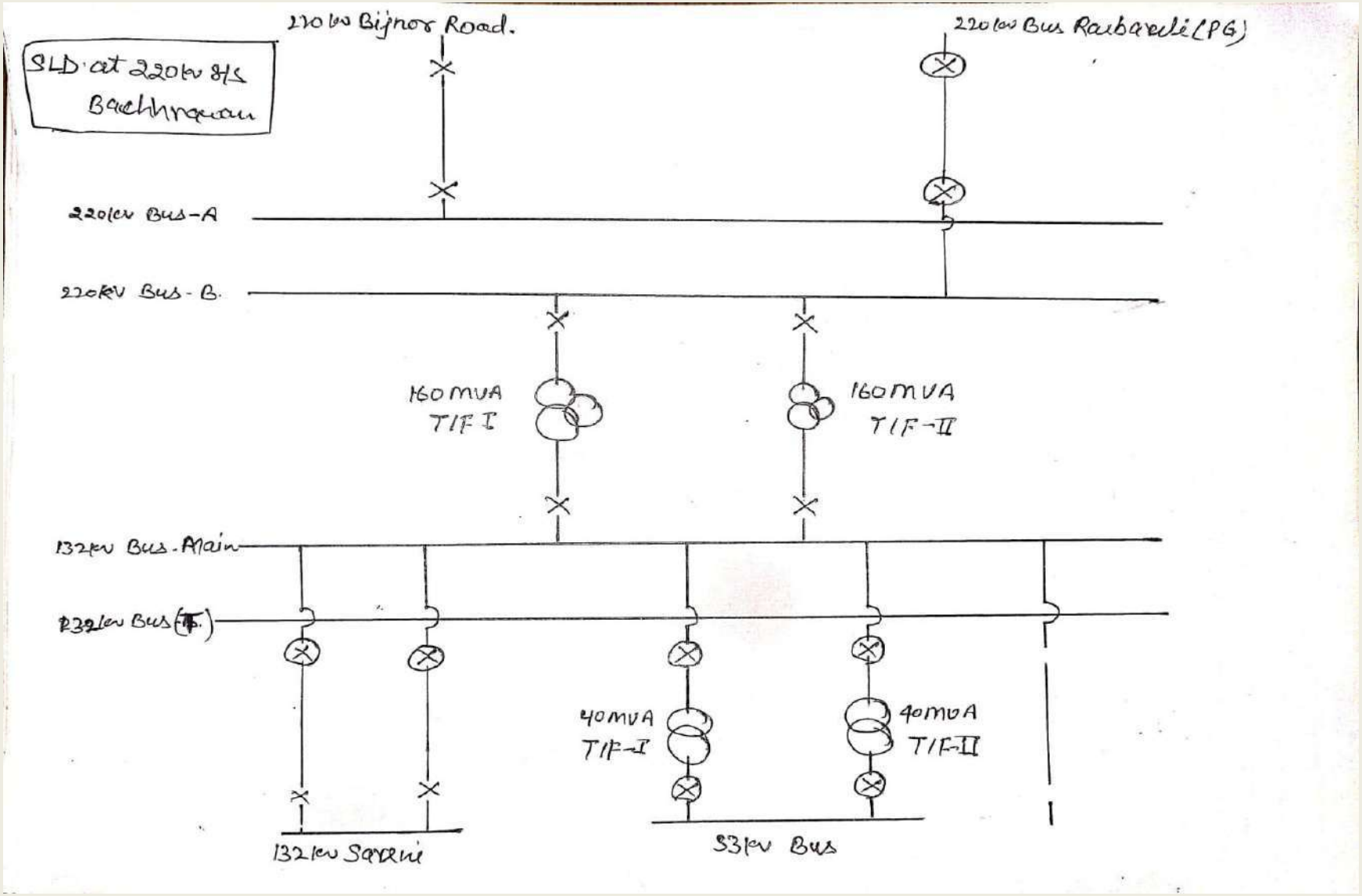
9	132kV S/S Bachhrawan	02.12.2025 12:24	02.12.2025 12:57	132kV Reliance Cement Line	Siemens Siprotec 7SA611 & Siemens Siprotec 7SJ803	-	-	-
10		02.12.2025 12:24	02.12.2025 13:10	40MVA T/F-I	ERL DUO Bias-M & ERL 2TJM12	-	-	-
11		02.12.2025 12:24	02.12.2025 12:57	40MVA T/F-II	Siemens Siprotec 7UT61 & Siemens Siprotec 7SJ64	-	-	-
12	132kV S/S Tripula, Raebareli	02.12.2025 12:24	02.12.2025 13:50	132kV Dalamu Line	SEL-311C & ERL 2TJM12	-	-	-
13		02.12.2025 12:24	02.12.2025 13:50	33kV Teliakot Feeder	Siemens 7SR1103	-	-	-
14		02.12.2025 12:24	02.12.2025 13:50	33kV Pragatipuram Feeder	Siemens 7SR1103	-	-	-
15		02.12.2025 12:24	02.12.2025 13:50	33kV Furshatganj Feeder	Siemens 7SR1103	-	-	-
16		02.12.2025 12:24	02.12.2025 13:50	10MVA T/F-I&II	English Electric Type-CDG	-	-	-
17	132kV S/S Dalmau	02.12.2025 12:24	02.12.2025 13:50	132kV Raebareli Line	ABB REL-650 & GE Multilin D-60	-	-	-
18	132kV S/S Salon	02.12.2025 12:24	02.12.2025 13:50	132kV Amawan-I Line	Micom-P442 & ABB REL-650	-	-	-
19		02.12.2025 12:24	02.12.2025 13:50	132kV Amawan-II Line	Micom-P442 & ABB REL-650	-	-	-
20		02.12.2025 12:24	02.12.2025 13:25	132kV Salon-1 Line	ABB REL-650 & GE Multilin D-60	-	-	-

Report 3

21	132kV S/S Amawan	02.12.2025 12:24	02.12.2025 13:25	132kV Salon-II Line	ABB REL-650 & GE Multilin D-60	-	-	-
22		02.12.2025 12:24	02.12.2025 13:15	132kV Newajganj Line	Schyneider Micom P-442 & ABB REL-650	-	-	-
23		02.12.2025 12:24	02.12.2025 14:45	132kV Gauriganj Line	SEL-311C & ERL 2TJM12	-	-	-
24		02.12.2025 12:24	02.12.2025 14:45	132kV Tiloi Line	Schyneider Micom P-442 & ABB REL-650	-	-	-

(Ajay Kumar Singh)
Executive Engineer

SLD


SLD at 220kv S/S Bachhrawan
220kv Bijnor Road.
220kv Bus Raibareli (PG)
220kv Bus-A
220KV Bus-B
160MVA T/F I
160MVA T/F-II
132kv Bus-Main
132kv Bus-(T)
40MVA T/F-I
40MVA T/F-II
132kv Sarni
33kv Bus

Events Description

- During antecedent condition, 220kV Unchahar (NT)- Raebarei (PG) Ckt-1 & 2 were under shutdown for line diversion work by UPPTCL on 02.11.2025 and 220kV Raebarei (PG) - C.G. City Ckt was under shutdown for load management of 220kV Unchahar (NT)-Raebarei (PG) Ckt-3 as it is the only source line. 220/132/33kV Bachhrawan UPPTCL station was being fed only from 220kV Raebarei (PG) - Bachhrawan.
- As reported, at 12:24hrs, Broken conductor alarm was observed at both Raebareli (PG) and Unchahar (NT) end at 220kV Unchahar (NT)-Raebareli (PG) Ckt-3. Line tripped from Unchahar (NTPC) end only due to tripping was enabled on Broken conductor alarm.
- As at the time of tripping 220kV Bachrawan was being fed radially through 220 KV Raebareli (PG)-Bachrawan (UP) Ckt, the tripping of 220kV Unchahar (NT)-Raebarli (PG) Ckt-3 resulted into loss of source for 220kV Raebareli (PG) and 220kV Bachrawan. This led to operation of UFR relays at 220kV Bachrawan (47.7Hz) and 132kV Amawan (47.9Hz), 132kV Tripula, Raebareli (47.9Hz), 132kV Dalmau (47.9Hz), 132kV Bachrawan (47.9Hz) and 132kv Salon (47.9Hz) due to frequency sinked up.

Exact location and nature of Fault:-

Reason for tripping of other elements:-

- Broken conductor alarm was observed at both Raebareli (PG) and Unchahar (NT) end at 220kV Unchahar (NT)- Raebareli (PG) Ckt-3. Line at 12:24hrs and this tripped from Unchahar (NTPC) end only due to tripping was enabled on Broken conductor alarm. This was the single source of supply for 220kV S/S Raebareli (PG) and 220kV S/S Bachrawan. This unbalanced condition, due to frequency sinked up, led to operation of UFR relays at 220kV S/S Bachrawan, 132kV S/S Amawan, 132kV S/S Tripula, Raebareli, 132kV S/S Dalmau, 132kV S/S Bachrawan and 132kV S/S Salon.

- As both 220kV Unchahar (NT) – Raebareli (PG) Ckt-3 and 220kV Raebareli (PG)-Bachrawan (UP) tripped and no alternate power source was available at 220kV Bachhrawan therfore complete blackout occurred at 220kV S/S Bachhrawan.

Remedial Measures Taken.

- Power supply at various Sub Stations restored successfully on same day.
- Since the Broken conductor alarm was observed at both PG and NTPC ends, the Raebareli TLM team was immediately mobilized for emergency patrolling of the lineregarding the possibility of conductor or jumper snapping. The TLM team thoroughly patrolled all 37 tension towers (Location 1 to 144), however no abnormalities were reported on the line.

THANK YOU.

Multiple element tripping event at 220/66kV Naraingarh(PS) at 03:55 hrs on 13.12.2025

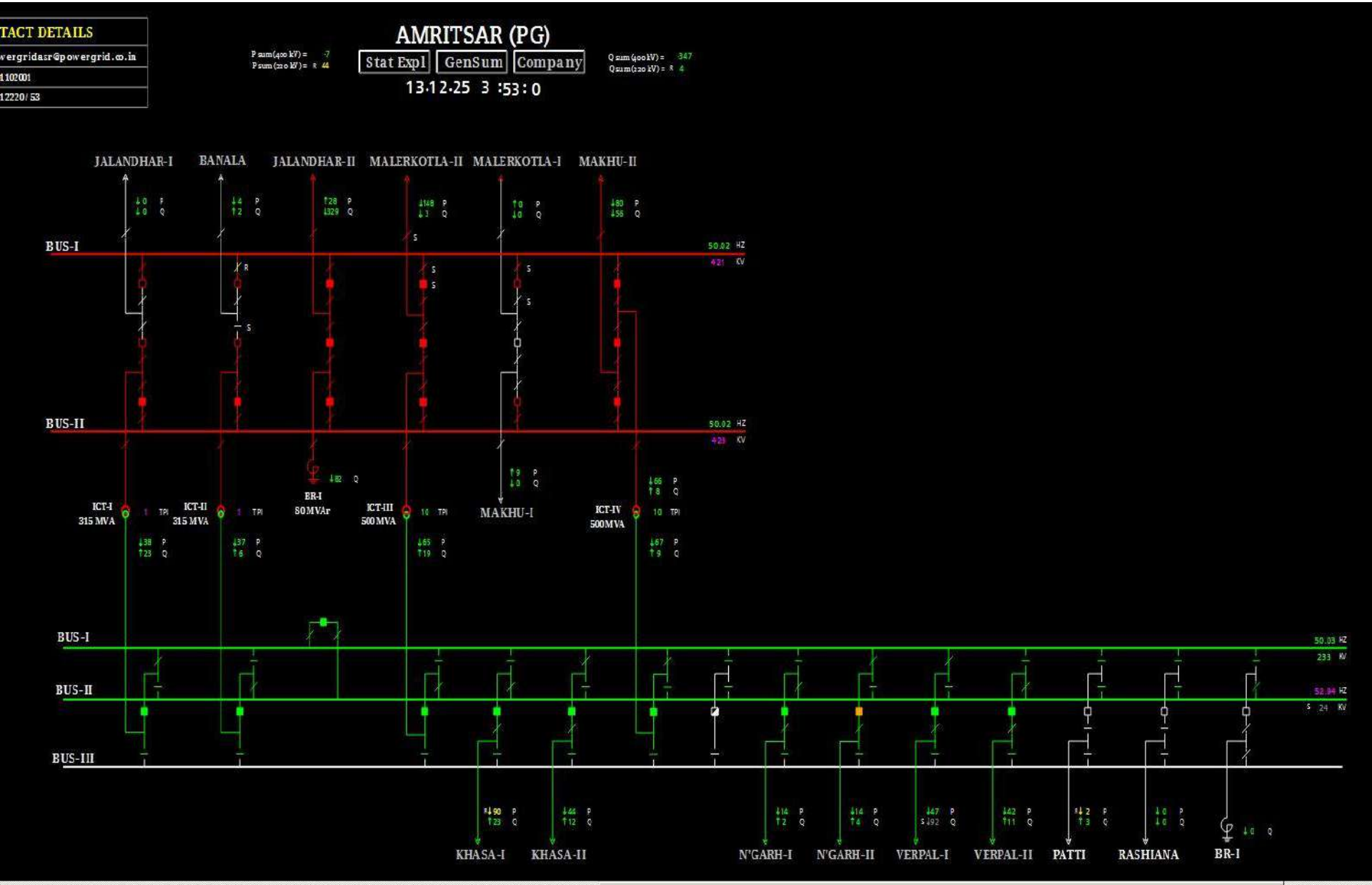
Tripped Elements

S. No	Name of Elements	Outage Time	Revival Time	Reason of tripping
1.	220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1	03:55 hrs	10:07 hrs	R-N phase to earth fault
2.	220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-2		06:09 hrs	3 phase to earth fault
3.	220/66kV 160 MVA ICT-1 at Naraingarh(PS)		06:14 hrs	Manually tripped due to loss of supply
4.	220/66kV 100 MVA ICT-2 at Naraingarh(PS)		06:16 hrs	

Brief details of the event

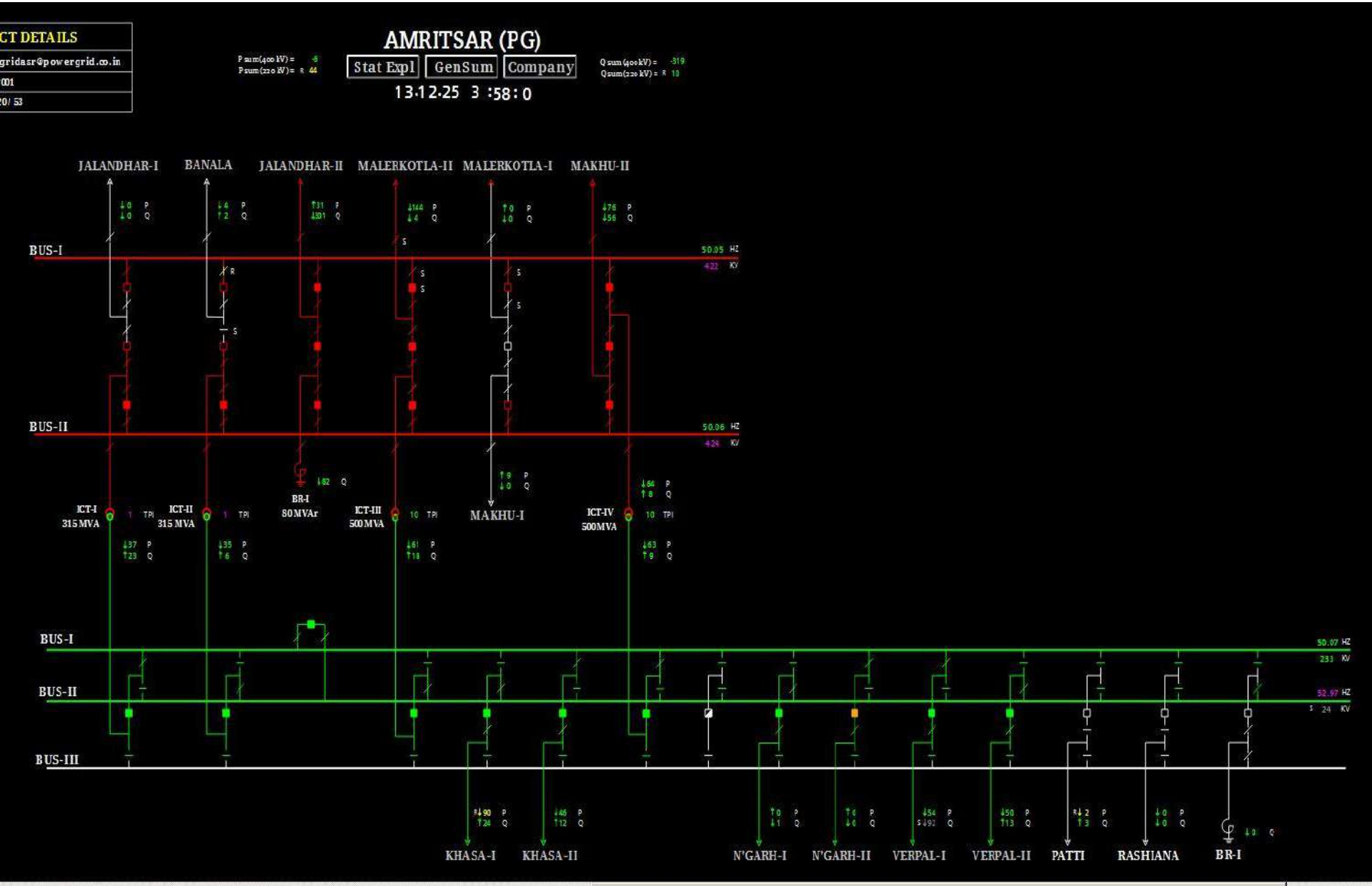
- 220/66kV Naraingarh(PS) has double main bus scheme at 220kV level. 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 are on single tower.
- During antecedent condition, 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 were carrying ~14 MW each.
- As reported, at 03:55 hrs, during construction of NHAI highway road, some object came in contact with the conductor of both 220kV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2 which were on same tower.
- As further reported by SLDC Punjab, 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 tripped on R-N phase to earth fault (zone-1) with fault current of 6.983 kA from Naraingarh(PS) (exact location of fault yet to be shared).
- 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-2 also tripped at the same time on 3 phase to earth fault (zone-1) with fault distance of 4.751 km and fault current of Ir=~7.57 kA, Iy=~8.923 kA & Ib=~8.754 kA from Naraingarh(PS).
- Due to tripping of both 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 & 2, supply to 220/66kV 160 MVA ICT-1 and 100 MVA ICT-2 at Naraingarh(PS) failed and complete blackout occurred at 220/66kV Naraingarh(PS) S/s.
- As per PMU at Amritsar(PG), two consecutive R-N phase to earth faults followed by B-N phase to earth fault with fault clearing time of 120ms, 440ms (delayed) and 120ms respectively were observed.
- As per SCADA, change in demand of approx. 28 MW in Punjab control area was observed.

SLD of 400/220kV Amritsar(PG) before the event

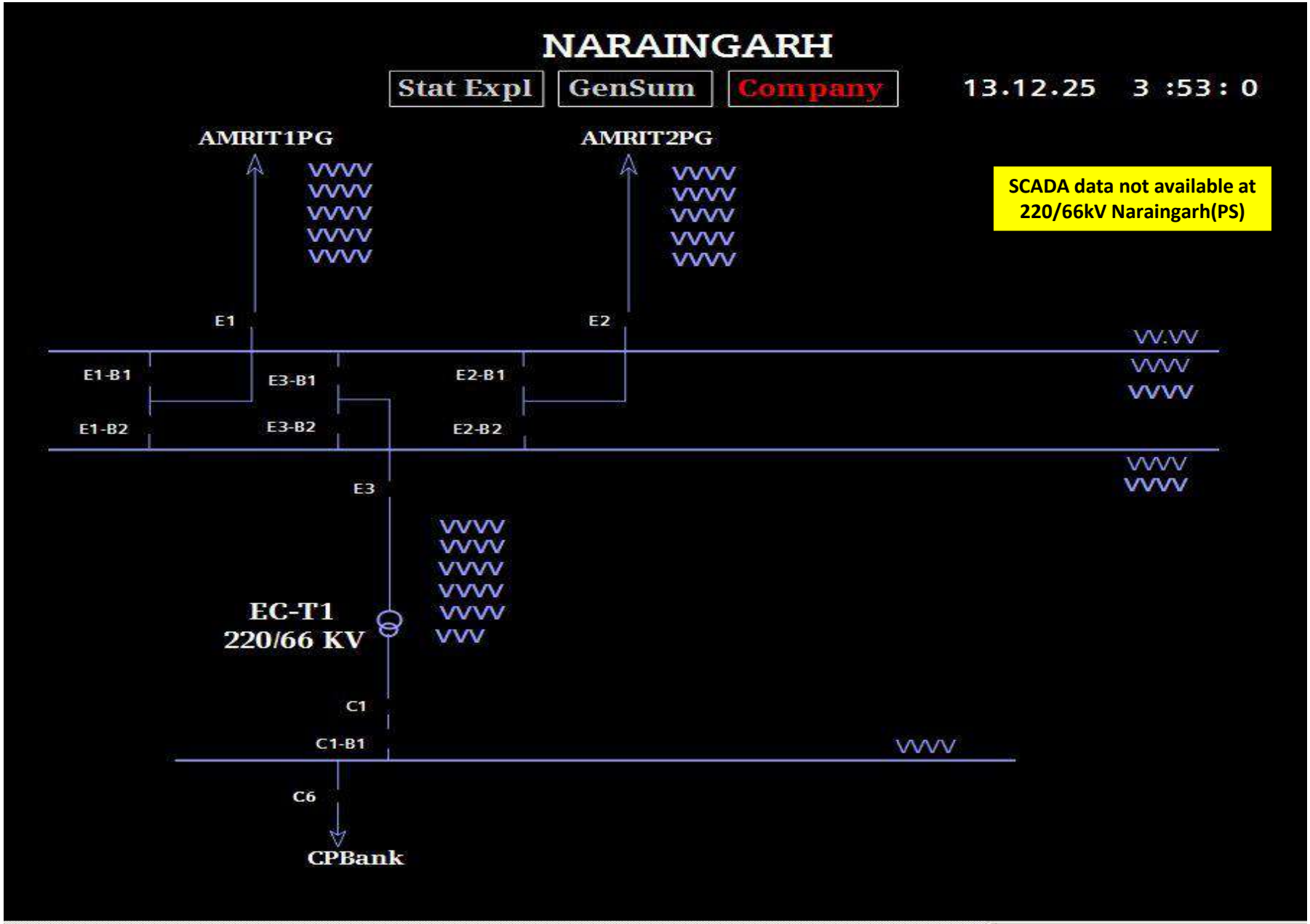


Sat December 13 2025 03:53:00

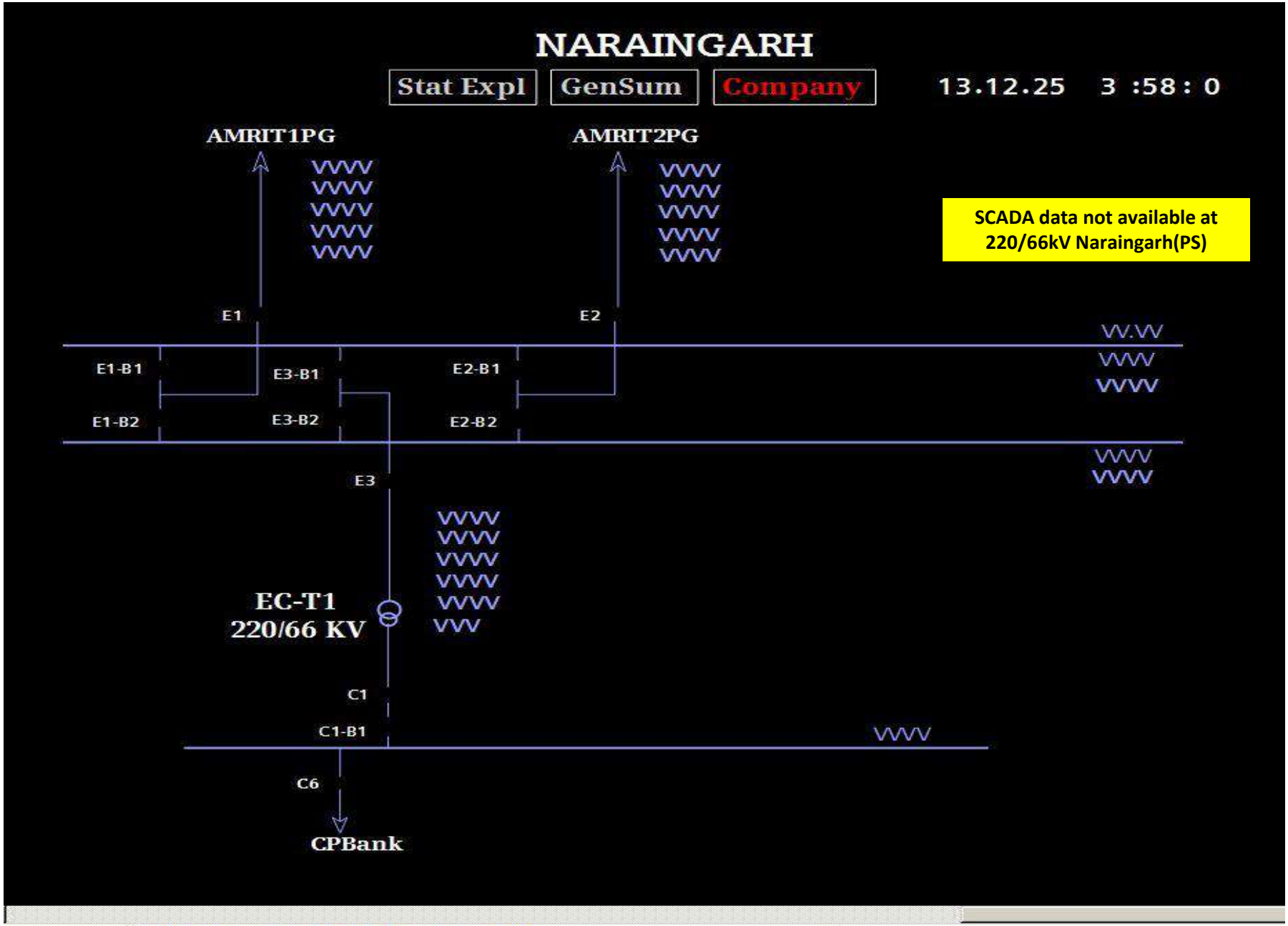
SLD of 400/220kV Amritsar(PG) after the event



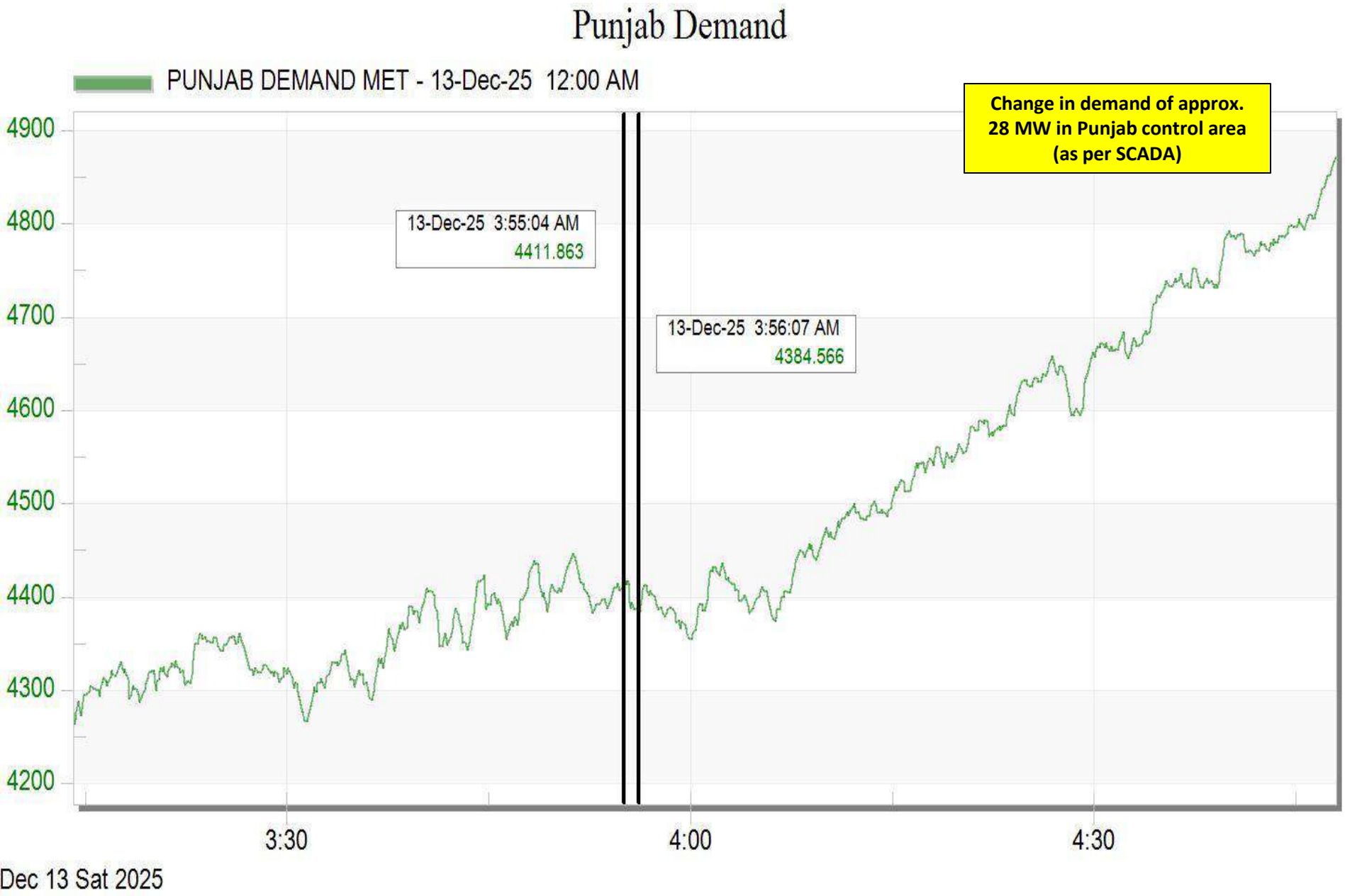
SLD of 220/66kV Naraingarh(PS) before the event



SLD of 220/66kV Naraingarh(PS) after the event

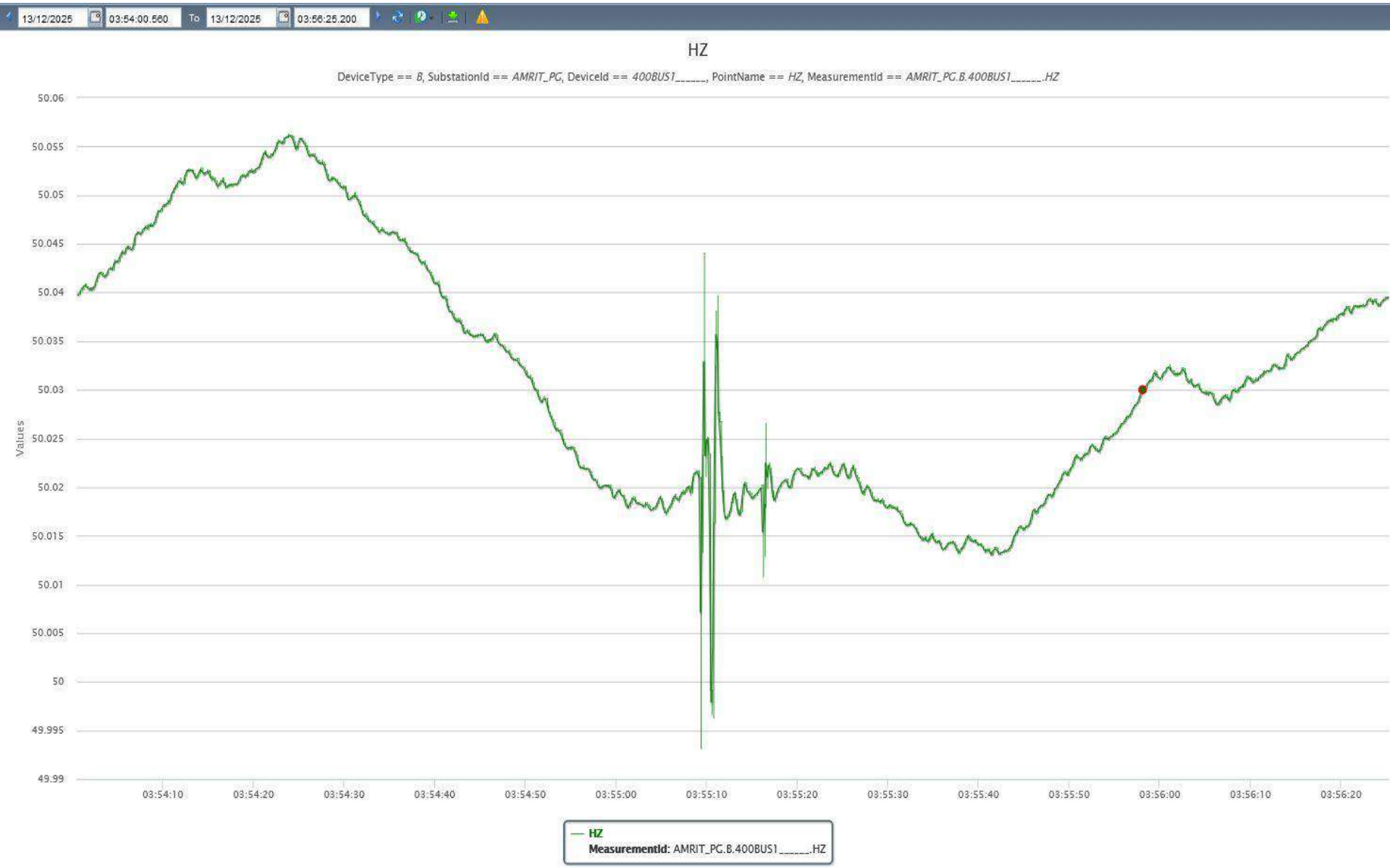


Punjab demand during the event



PMU Plot of frequency at Amritsar(PG)

03:55 hrs/13-Dec-25



PMU Plot of phase voltage magnitude at Amritsar(PG)

03:55 hrs/13-Dec-25

SCADA SOE

Time	Station Name	Voltage	Element Name	Element Type	Element Status	Remarks
03:55:22,098	NRAIN_PS	220kV	02BLCHK2	Circuit Breaker	disturbe	
03:55:22,098	NRAIN_PS	220kV	02BLCHK2	Circuit Breaker	Open	Line CB at Naraingarh(PS) end of 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-2 opened
03:55:22,098	NRAIN_PS	220kV	01BLCHK1	Circuit Breaker	Open	Line CB at Naraingarh(PS) end of 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 opened

Points of Discussion

i. Exact location of fault in 220 KV Amritsar(PG)-Naraingarh(PS) (PSTCL) Ckt-1 need to be shared.
ii. SCADA data was not available at 220/66kV Naraingarh(PS) during the event. Healthiness and availability of the same need to be ensured.
iii. DR/EL along with detailed report need to be shared for all the elements from both ends.
iv. Necessary remedial actions need to be taken to avoid such events in future.

Multiple element tripping event at 220/66kV South Wazirabad(DTL) at 04:15 hrs on 15.12.2025

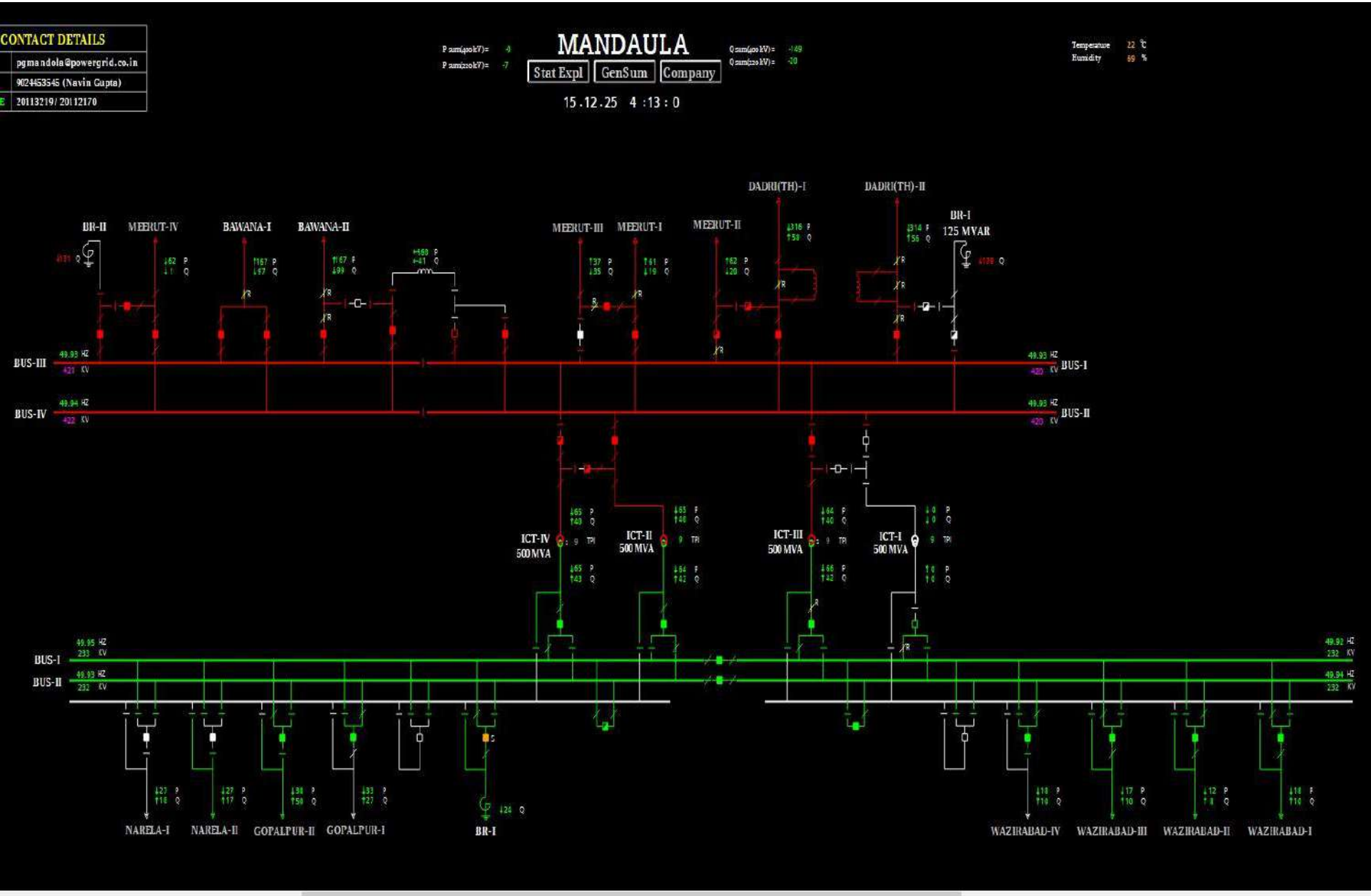
Tripped Elements

S. No	Name of Elements	Outage Time	Revival Time	Reason of tripping
1.	220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1	04:15 hrs	04:42 hrs	R-N phase to earth fault
2.	220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1		04:58 hrs	LBB operated due to delayed clearance of above fault
3.	220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-3		04:58 hrs	
4.	220 KV Kashmiri Gate-South Wazirabad(DV) (DTL) Ckt-1		05:00 hrs	
5.	220 KV Gopalpur-South Wazirabad(DV) (DTL) Ckt-1		05:43 hrs	
6.	220 KV Bus -2 at South Wazirabad(DTL)		04:42 hrs	
7.	220/66 KV 100 MVA ICT-1 at South Wazirabad(DTL)		05:43 hrs	
8.	220/66 KV 160 MVA ICT-1 at South Wazirabad(DTL)		05:43 hrs	

Brief details of the event

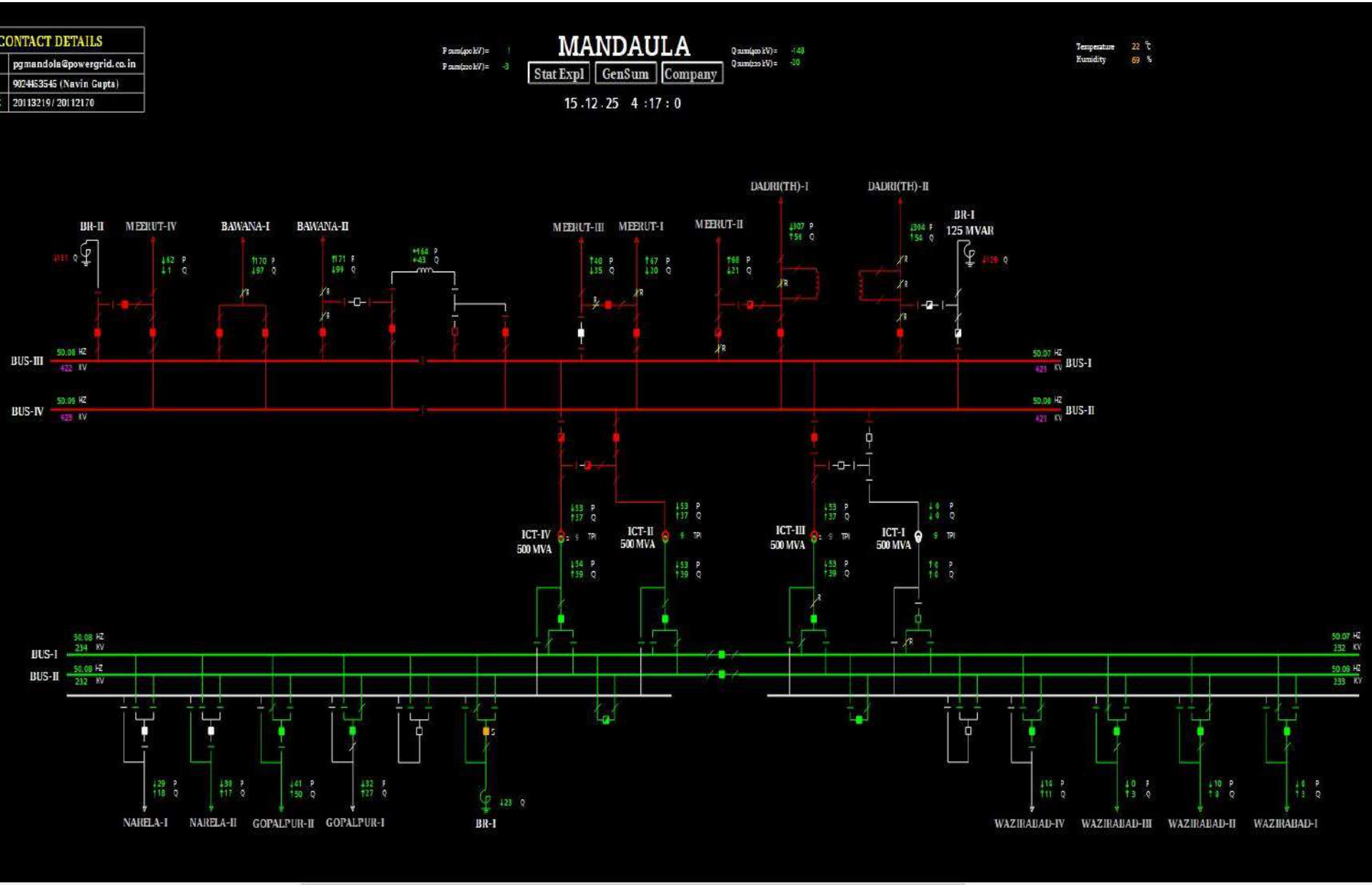
- 220/66kV South Wazirabad(DTL) has double main Bus arrangement at 220kV side.
- During antecedent condition, 220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Gopalpur-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Kashmiri Gate-South Wazirabad(DV) (DTL) Ckt-1, 220 KV Mandola(PG)-South Wazirabad(DV) (DTL) Ckt-1 & 3, 220/66 KV 100 MVA ICT-1 & 160 MVA ICT-2 at South Wazirabad(DTL) were connected to 220 KV Bus -2 at South Wazirabad(DTL). 220kV Bus coupler at South Wazirabad(DTL) was in closed position.
- As reported, at 04:15 hrs, R-N phase to earth fault occurred on 220 KV Geeta Colony-South Wazirabad(DV) (DTL) Ckt-1 (exact reason, nature and location of fault need to be shared).
- Due to delayed clearance of the said fault, as per DR, LBB operated and all the elements connected to 220 KV Bus -2 at South Wazirabad(DTL) tripped and Bus-2 became dead (DR was not time synced).
- As per PMU at Mandaula(PG), R-N phase to earth fault was observed with delayed fault clearing time of 200 ms.
- As per SCADA, change in demand of approx. 120 MW in Delhi control area is observed. However, as reported by SLDC Delhi, load loss of 94 MW (Wazirabad: 29 MW, Kashmiri Gate: 12 MW, RPH: 27 MW, Geeta Colony: 11 MW and I.P. Stn: 15 MW) occurred in Delhi control area. 11 no.s of 33kV feeders at I.P. Stn tripped on under frequency relay operation at 04:15 hrs and restored at 05:10 hrs.
- As reported by SLDC Delhi, load of Wazirabad, Kashmiri Gate, RPH, Geeta Colony and I.P. Stn were restored by 04:27 hrs, 04:26 hrs, 04:27 hrs, 04:41 hrs and 05:10 hrs respectively.

SLD of 400/220kV Mandaula(PG) before the event



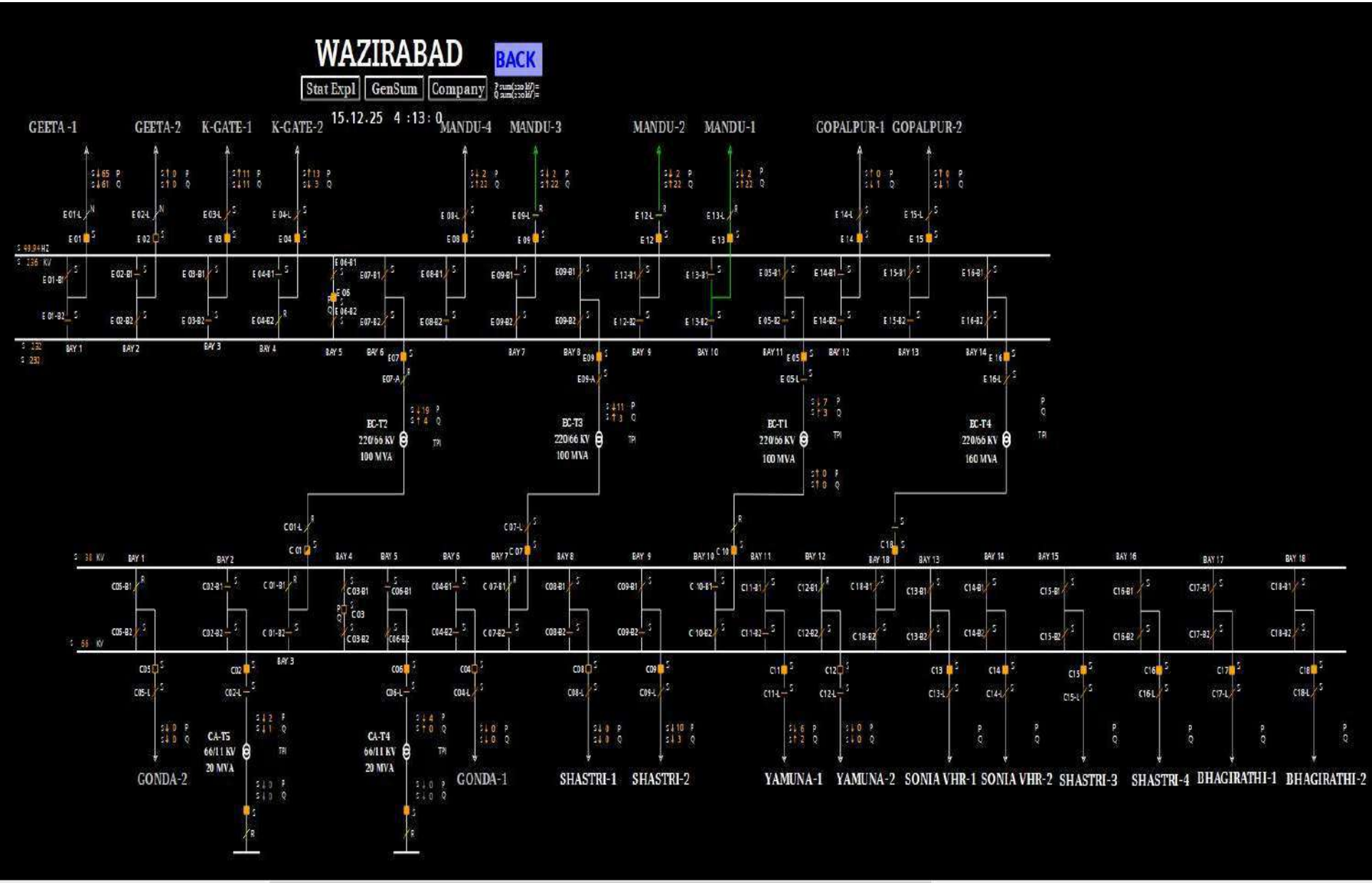
Mon December 15 2025 04:13:00

SLD of 400/220kV Mandaula(PG) after the event

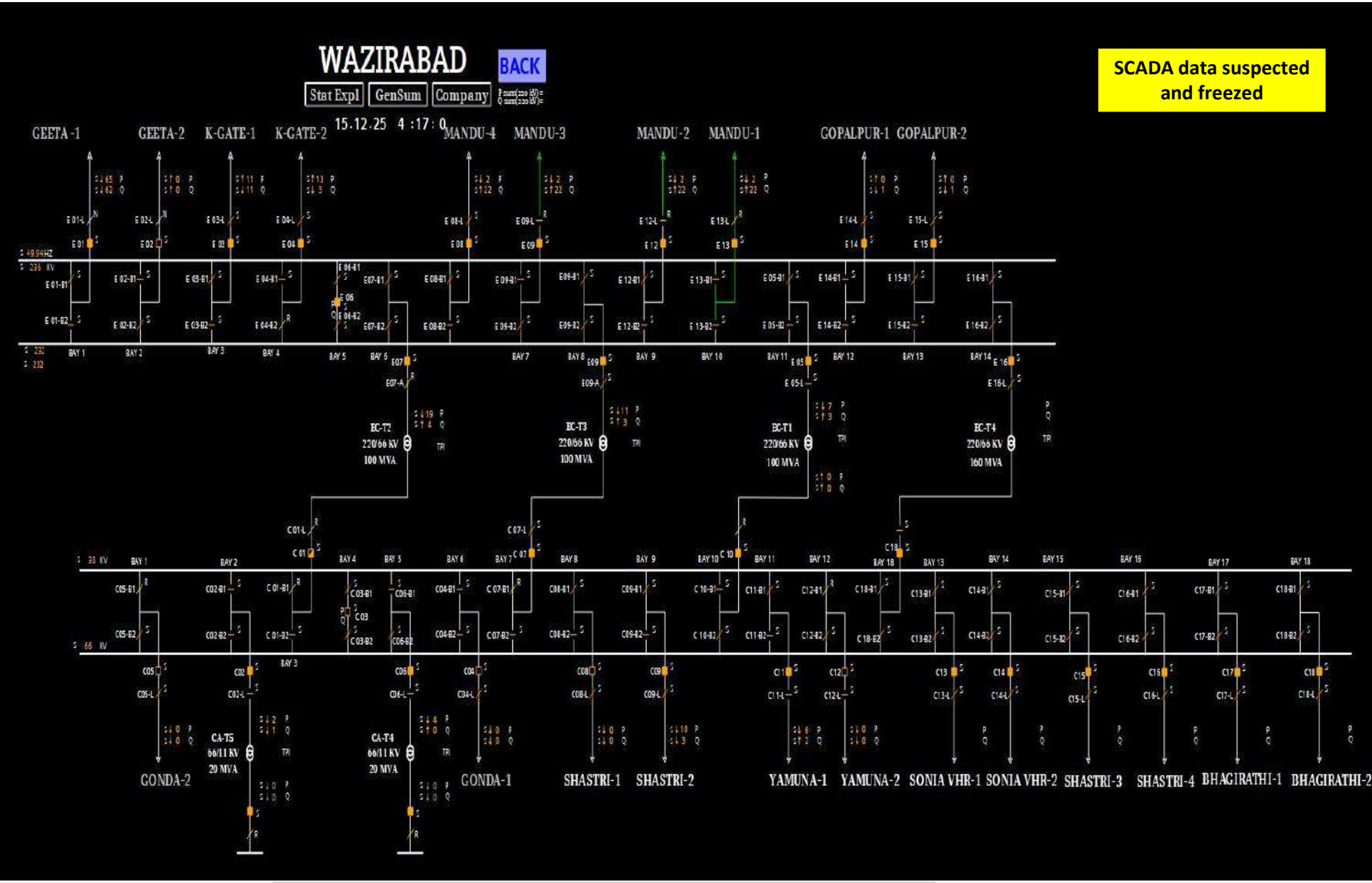


Mon December 15 2025 04:17:00

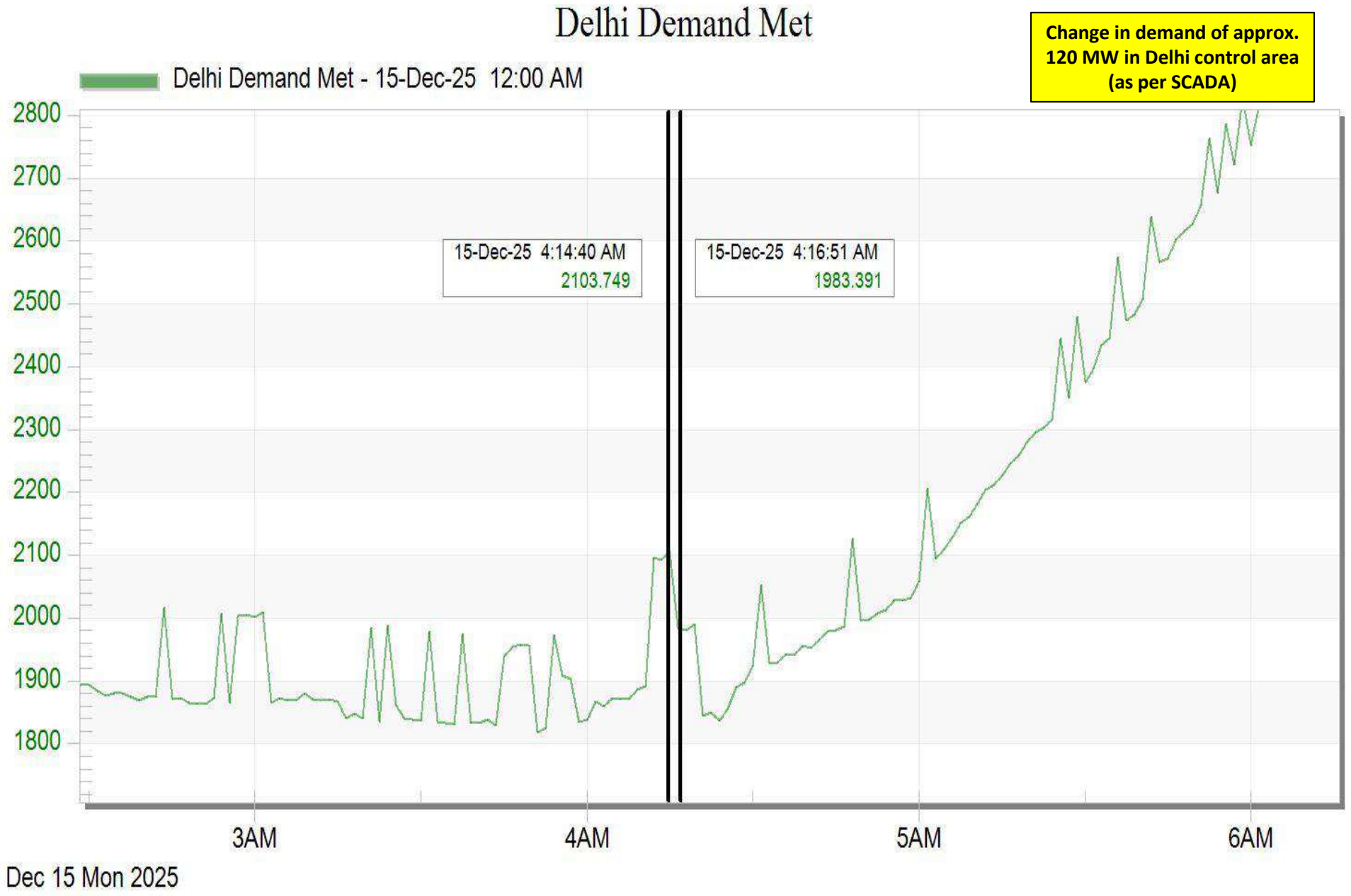
SLD of 220/66kV South Wazirabad(DTL) before the event



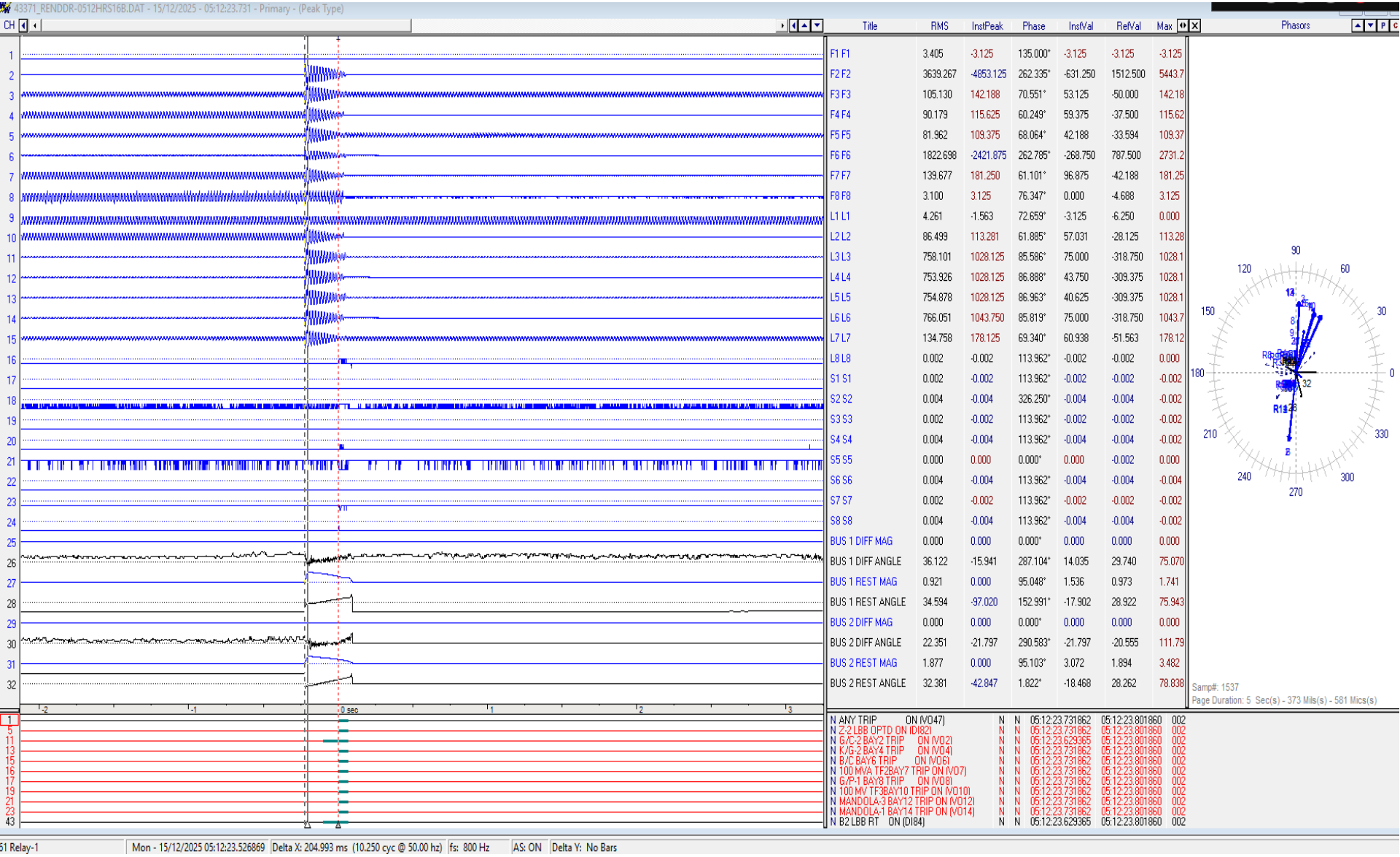
SLD of 220/66kV South Wazirabad(DTL) after the event



Delhi Demand during the event

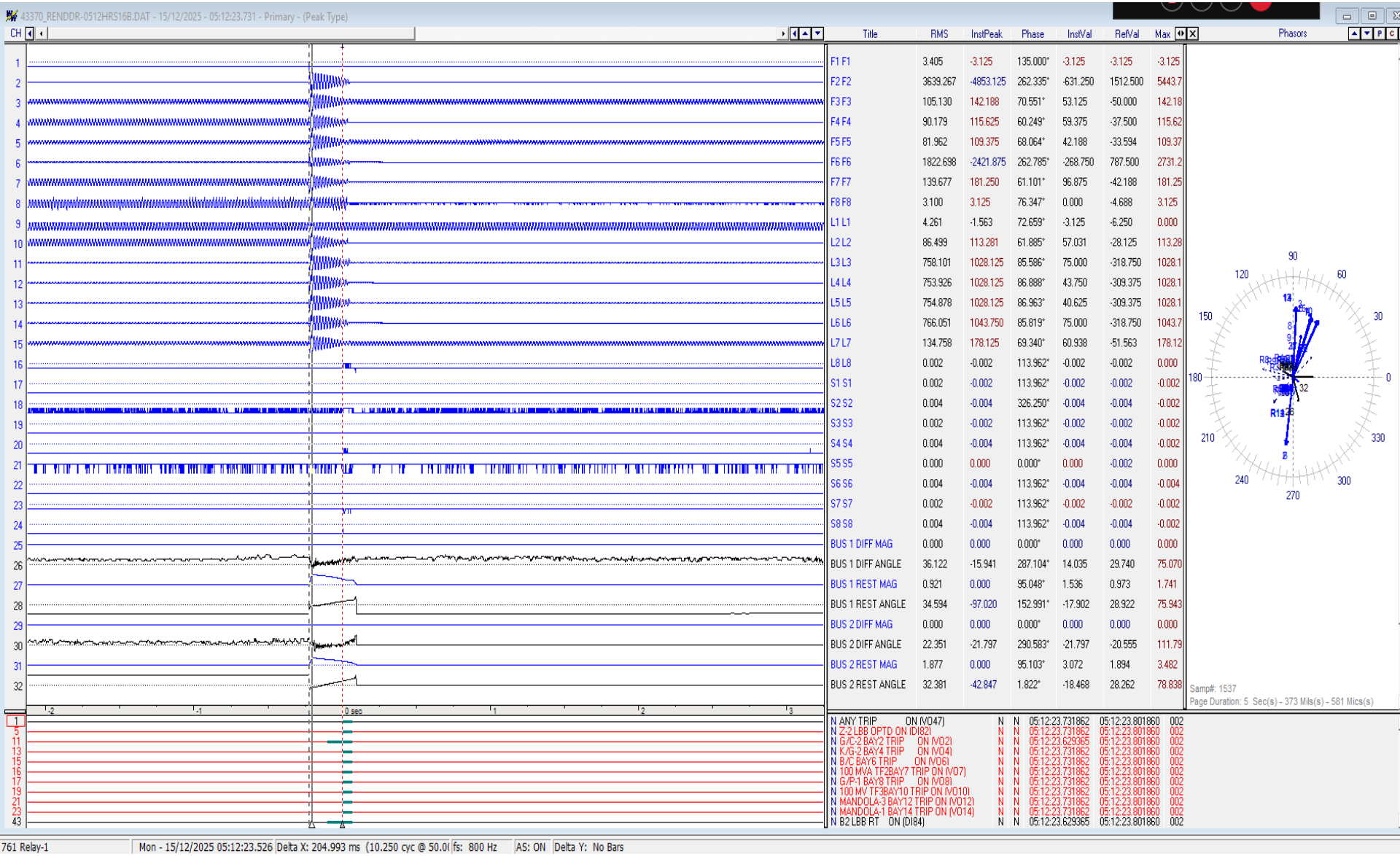


DR of 220 KV Mandola(PG)-South Wazirabad(DV) (end) (DTL) Ckt-1



- ✓ LBB operated tripping all elements of 220kV Bus-2 at South Wazirabad(DTL)
- ✓ DR is not time synced

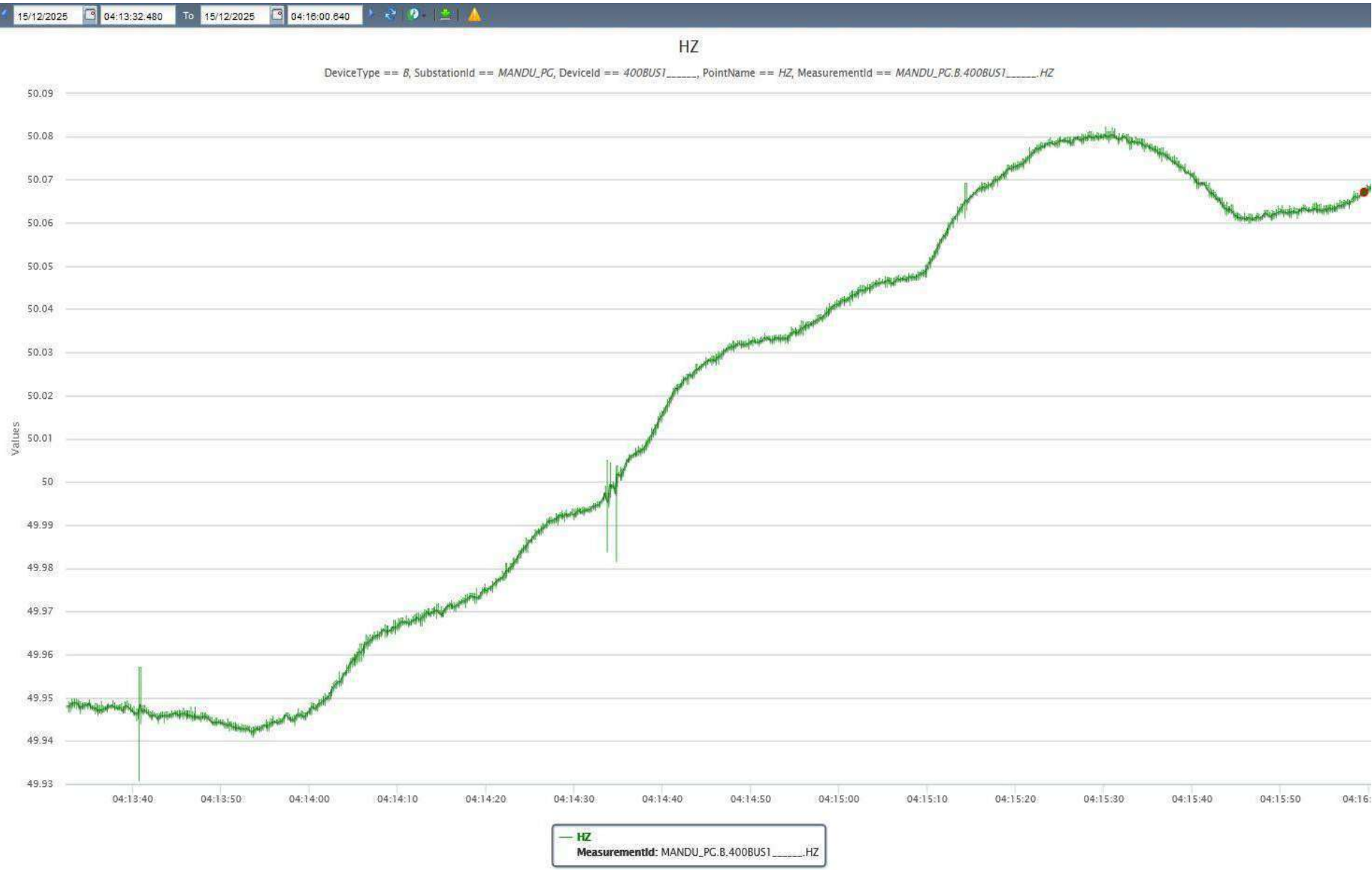
DR of 220 KV Mandola(PG)-South Wazirabad(DV) (end) (DTL) Ckt-3



- ✓ LBB operated tripping all elements of 220kV Bus-2 at South Wazirabad(DTL)
- ✓ DR is not time synced

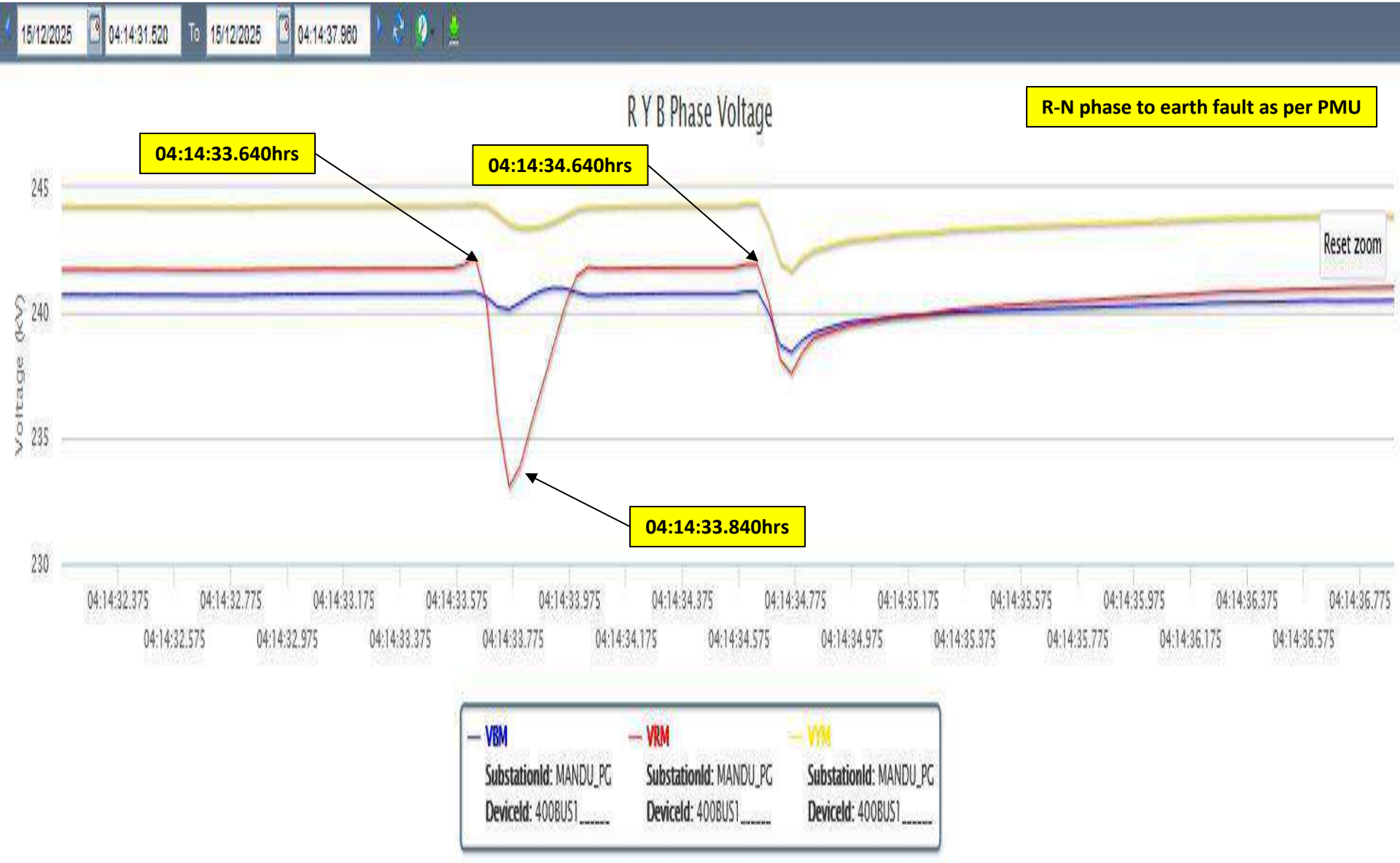
PMU Plot of frequency at Mandaula(PG)

04:15 hrs/15-Dec-25



PMU Plot of phase voltage magnitude at Mandaula(PG)

04:15 hrs/15-Dec-25



Points of Discussion

i. Exact reason, nature and location of fault need to be shared.
ii. Reason of delayed clearance of fault need to be shared.
iii. DR time sync issue at South Wazirabad(DTL) need to be resolved at the earliest.
iv. SCADA data was suspected and freezed during the event at South Wazirabad(DTL). Availability and healthiness of SCADA data need to be ensured.
v. DR/EL (.dat/.cfg file) with detailed tripping report need to be shared for all the elements.
vi. Remedial action taken report needs to be shared.

Presentation on DTL Tripping analysis for tripping dated 15th Dec. 2025 in Delhi Area

INTRODUCTION

1. Time & Date of Event: - 04:15 Hrs. 15-12-2025

2. Substation affected along with voltage level: - 220 kV South of Wazirabad (SOW), DTL.

3. Brief event summary: - tripping occurred at 220 kV SOW, DTL on dt.-15.12.2025 during dense fog.

4. 220 kV Bus arrangement at 220 kV SOW during the time of incident:-

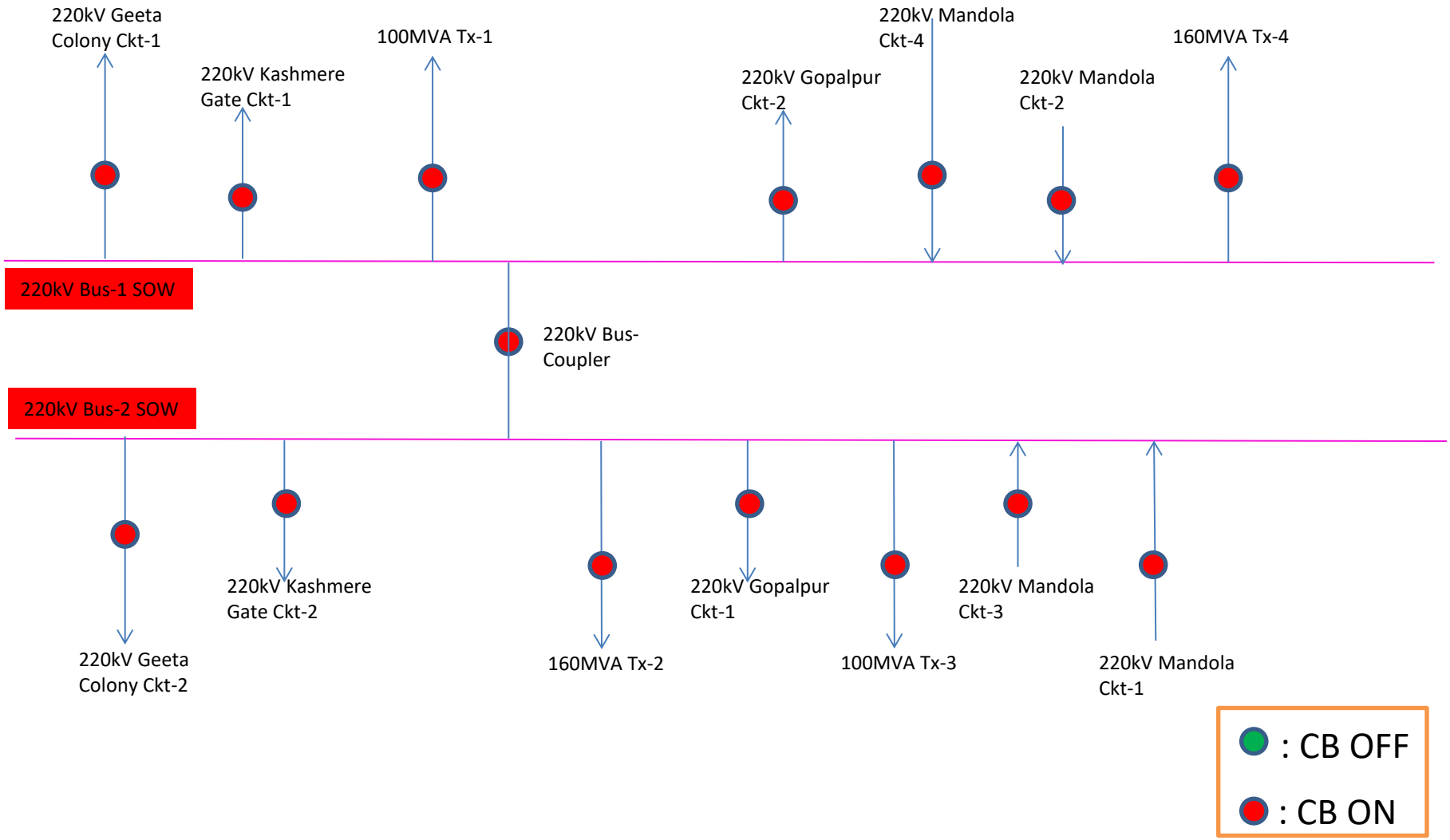
220 kV SOW has double main Bus arrangement at 220 kV side.

220kV Bus-1: 220kV Geeta Colony Ckt-1, 220kV Kashmere Gate Ckt-1, 100MVA Tx-1, 220kV Gopalpur Ckt-2, 220kV Mandola Ckt-4, 220kV Mandola Ckt-2, 160MVA Tx-4

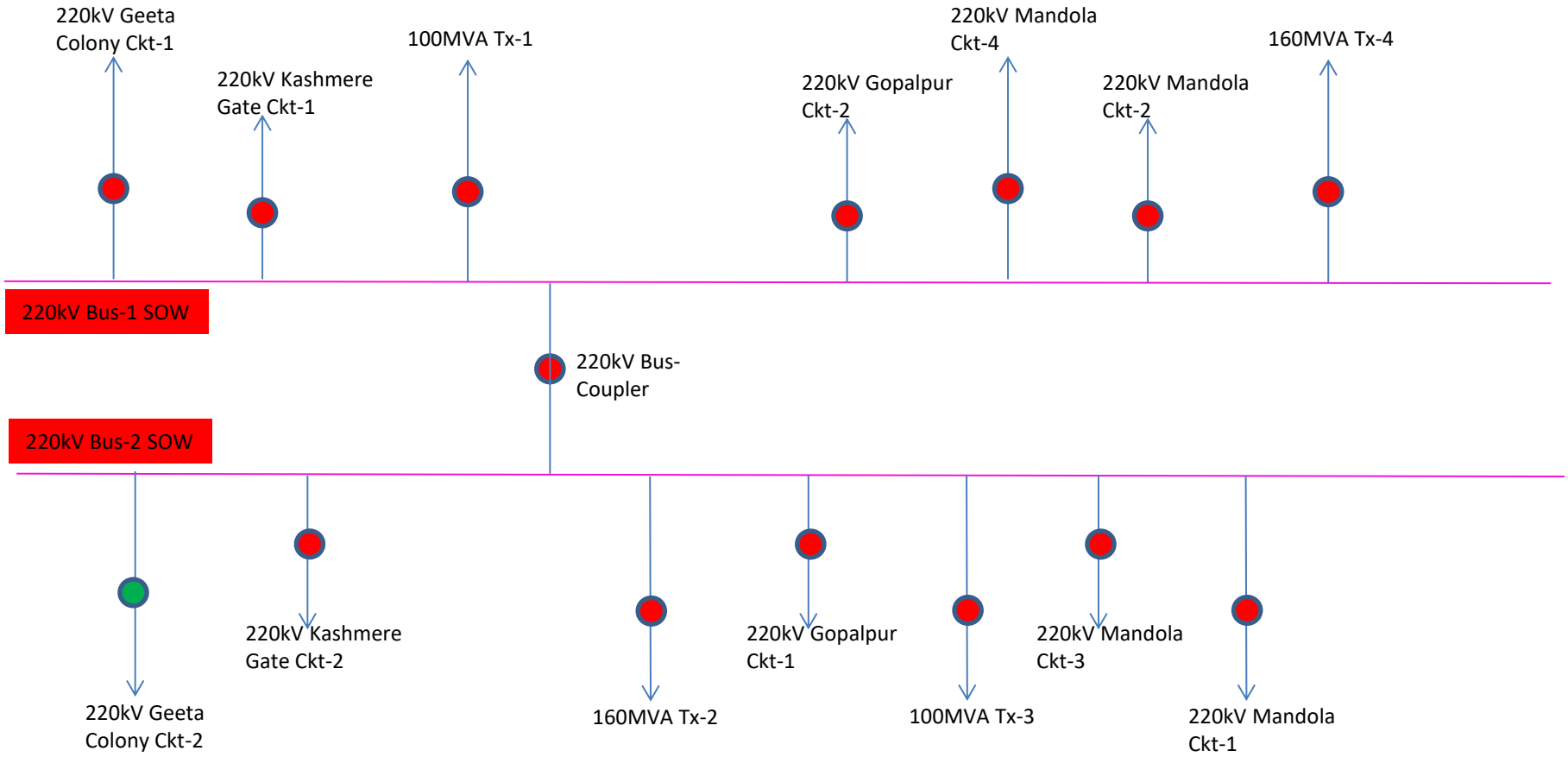
220kV Bus-2: 220kV Geeta Colony Ckt-2, 220kV Kashmere Gate Ckt-2, 160MVA Tx-2, 220kV Gopalpur Ckt-1, 100MVA Tx-3, 220kV Mandola Ckt-3, 220kV Mandola Ckt-1

220kV Bus Coupler was in closed position

Pre-fault system configuration SLD



Event-1 : 220 kV SOW – Geeta colony Ckt.-II was tripped off at 220kV SOW at 04:01 Hrs. on 15/12/2025

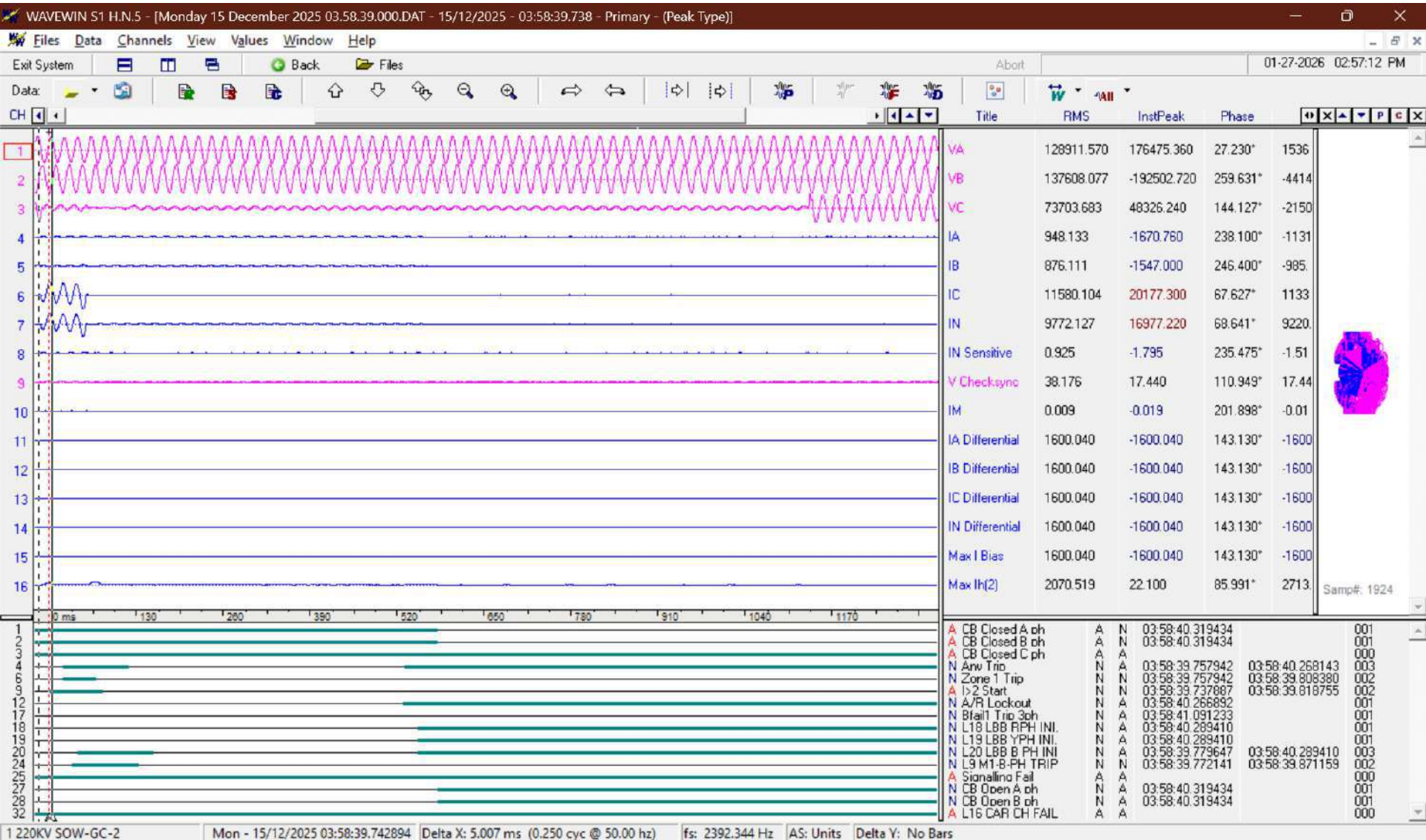


At 220 kV SOW:- Zone-1, C-ph, 4.4 KM, A/R Lock-out, Ic-11.5kA, Vc-26kV
Tripping occurred on A/R Lock-out at SOW end due to missing C-Ph CB status.
A/R successful at Geeta colony end.

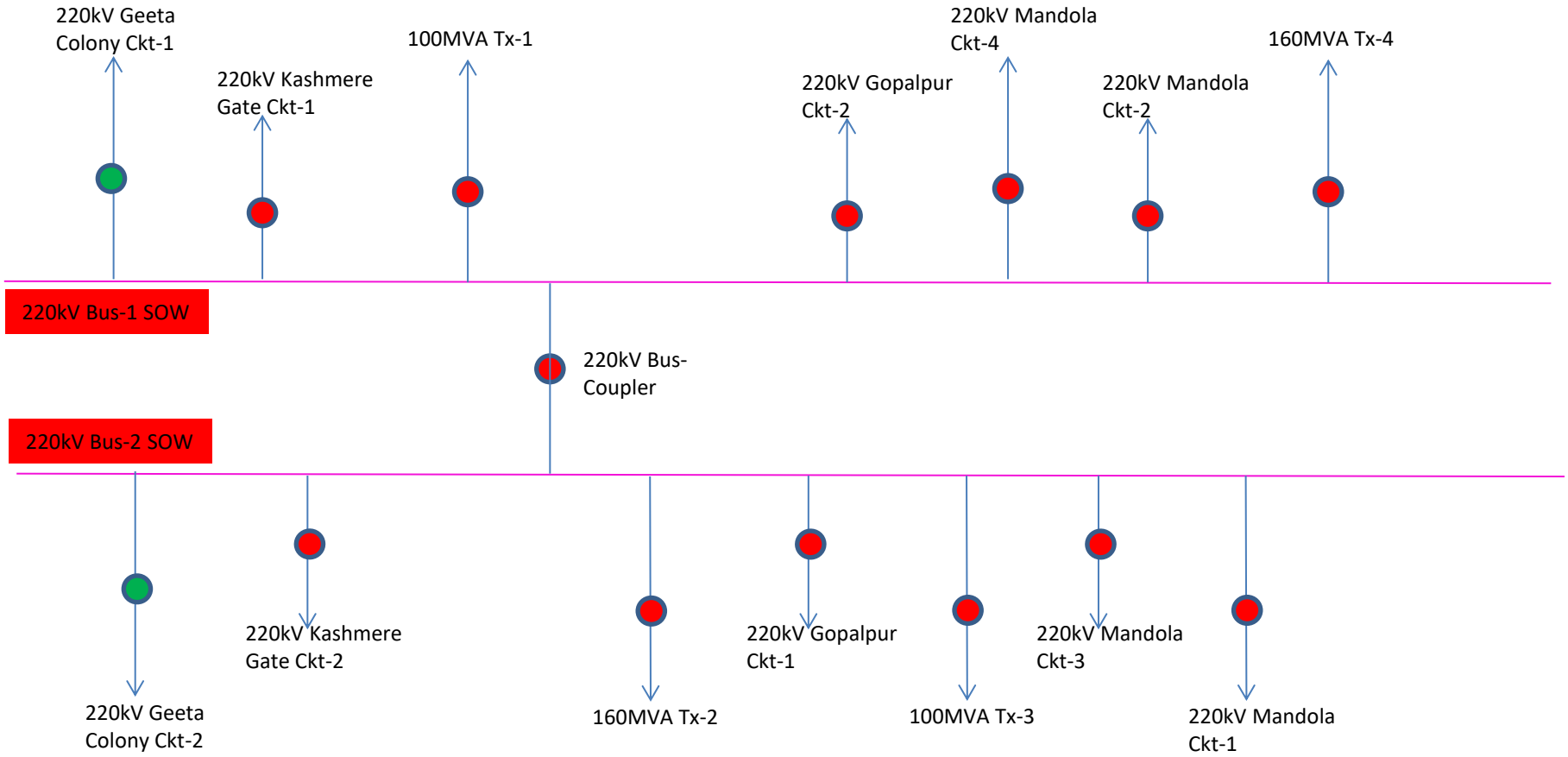
: CB OFF

: CB ON

DR of Event-1 : 220 kV SOW – Geeta colony Ckt.-II was tripped off at 220kV SOW at 04:01 Hrs. on 15/12/2025



Event-2 : 220 kV SOW – Geeta colony Ckt.-I was tripped off at 220kV SOW at 04:09 Hrs. on 15/12/2025



At 220 kV SOW:- Zone-1, B-ph, 4.368 KM, A/R Lock-out, Ib-14.67kA

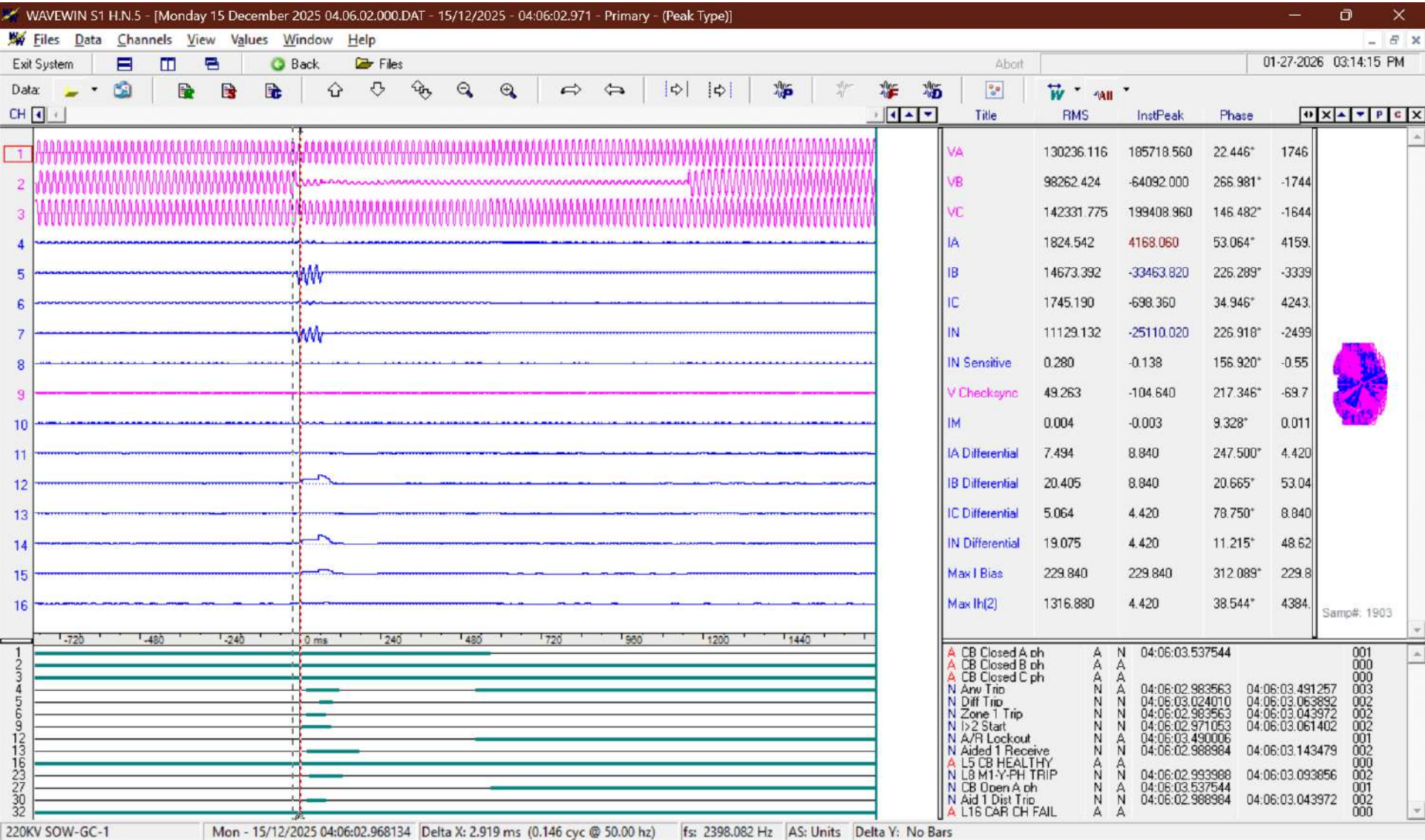
At 220 kV Geeta colony:- Zone-1, B-Ph, Ib-6kA, Vb-13kV (A/R successful)

Tripping occurred at SOW end. A/R successful at Geeta colony end.

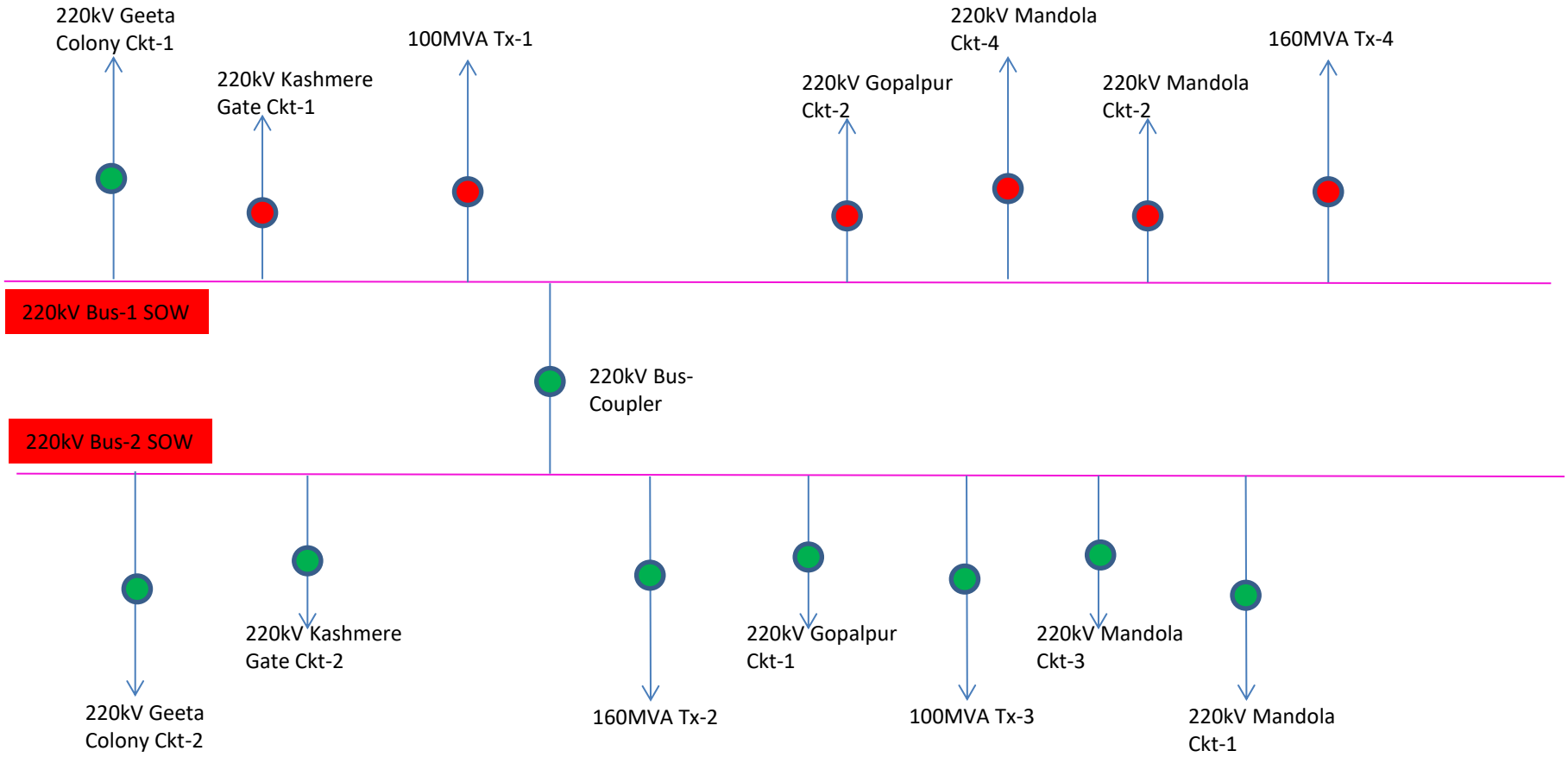
: CB OFF

: CB ON

DR of Event-2 : 220 kV SOW – Geeta colony Ckt.-I was tripped off at 220kV SOW at 04:09 Hrs. on 15/12/2025



Event-3 : LBB operated on 220 kV Bus-II at 220kV SOW at 04:14 Hrs. on 15/12/2025

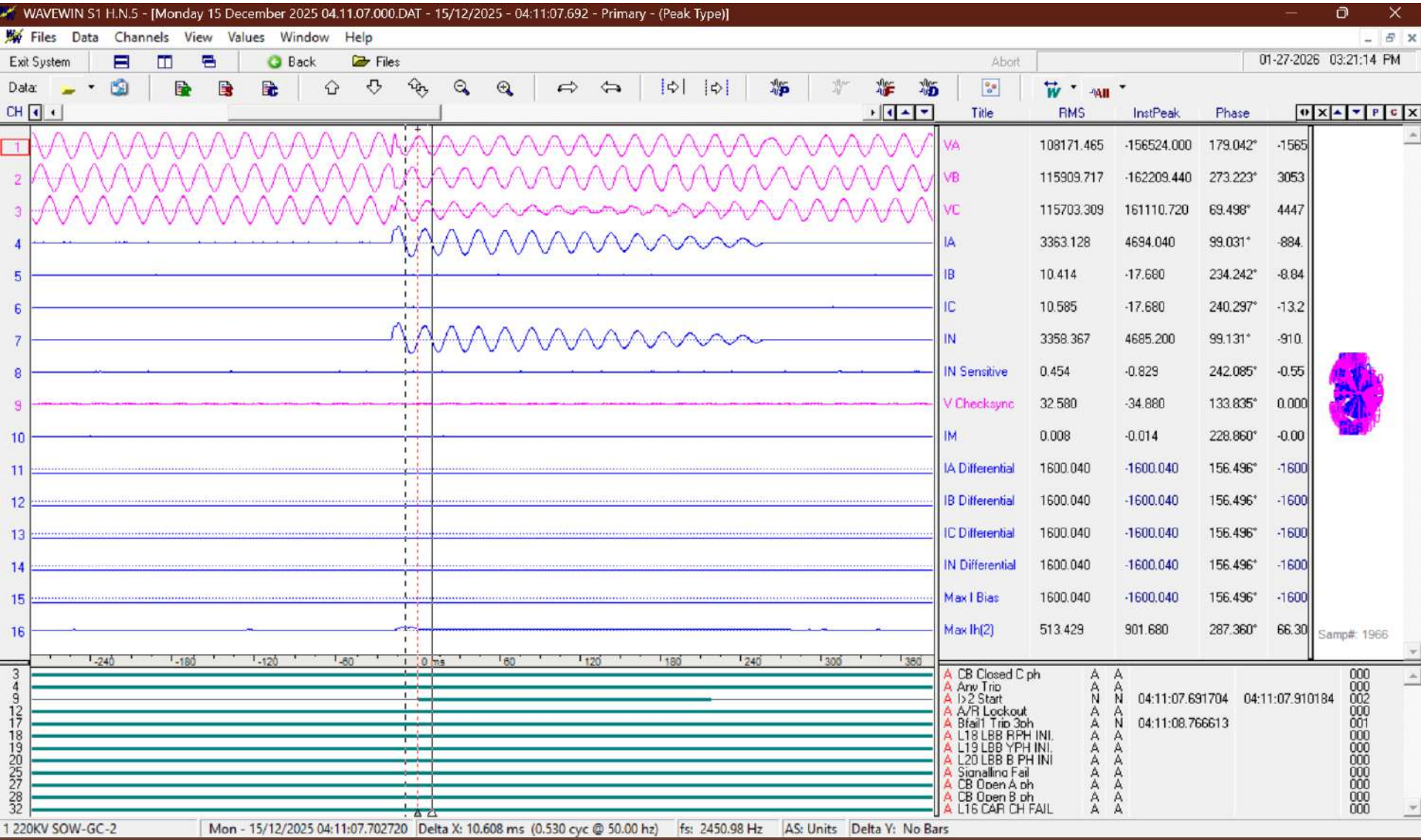


After the A/R lock-out in 220 kV SOW – Geeta colony Ckt.-II at 04:01 hrs., LBB initiation was high, although the CB was in OFF position. At 04:14 hrs., another fault of 3kA magnitude occurred in A-Ph of 220 kV SOW – Geeta colony Ckt.-II due to external tracking through the CB porcelain insulator in dense fog condition resulting the operation of LBB on 220 kV Bus-II.

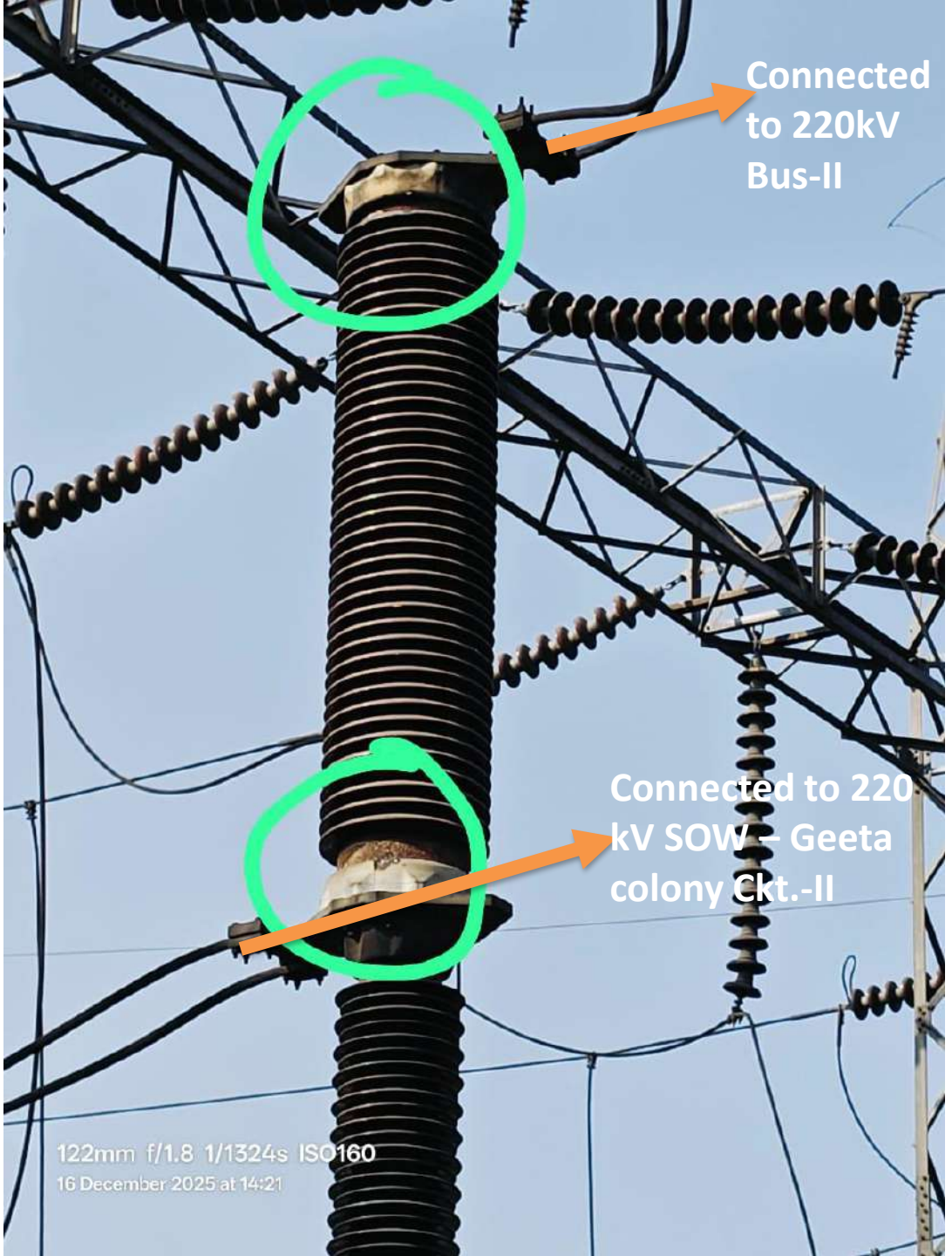
: CB OFF

: CB ON

DR of Event-2 : LBB operated on 220 kV Bus-II at 220kV SOW at 04:14 Hrs. on 15/12/2025



Snapshot of the A-Ph Pole of the CB of 220 kV SOW – Geeta colony Ckt.-II where external tracking through the CB porcelain insulator occurred in dense fog.



Tripping Analysis:-

(i) The 220 kV SOW – Geeta colony Ckt.-II tripped at SOW end on 15.12.2025, 04:01 hrs. on Distance protection Zone-1,C-ph,4.4 KM,A/R Lock-out,Ic-11.5kA,Vc-26kV.

(ii) The 220 kV SOW – Geeta colony Ckt.-I tripped at SOW end on 15.12.2025, 04:09 hrs. on Distance protection Zone-1, B-ph, 4.368 KM, A/R Lock-out, Ib-14.67kA.

(iii) At 04:14 hrs., another fault of 3kA magnitude occurred in A-Ph in 220 kV SOW – Geeta colony Ckt.-II due to external tracking through the CB porcelain insulator (between the two clamps of CB pole), in dense fog condition as evident by the flash on the clamps. The fault is also feed at Geeta colony end as the relay captured 3 kA current in the DR. Since the A/R Lock-out condition was prevailing due to the tripping mentioned at S.No.(i) at 04:01hrs., and 86 relay had already operated, the flow of 3 kA current in A-Ph due to external tracking through the CB porcelain insulator resulted the operation of LBB on 220 kV Bus-II after the time delay of 200 ms.

(iv) Due to the tripping of both 220 kV SOW – Geeta colony Ckt.-I & II, one after another and both ckts. of 220 kV Patparganj-IP were also connected on the same Bus at Patparganj end with the Bus coupler in open position, this led to disconnection with the Grid for the Generator at Pragati which further resulted operation of UFR and thereafter tripping of 220 kV IP-RPH Ckt.-I & II, 220 V IP-PPG Ckt.-I and 33 kV O/G feeders at IP.

Multiple element tripping event at 765kV Anpara-C & D TPS (UP) at 07:29 hrs on 16.12.2025

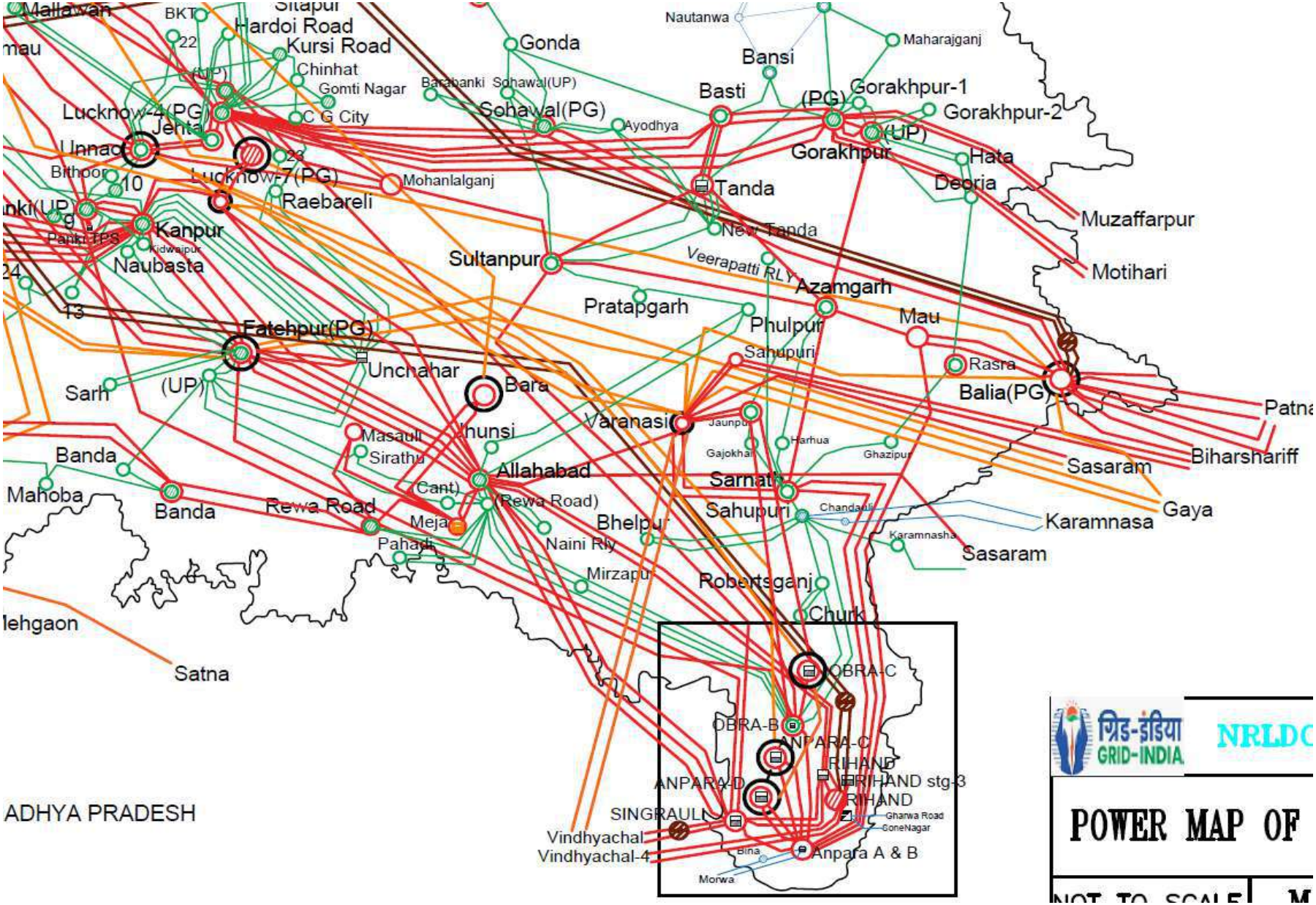
Tripped Elements

S. No	Name of Elements	Outage Time	Revival Time	Reason of tripping
1.	765 KV Anpara_C(LAN)-Unnao(UP) (UP) Ckt	07:29 hrs	10:16 hrs	R-N fault, A/R unsuccessful,
2.	500 MW Unit-2 at Anpara-D TPS (UP)		21:36 hrs, 19.12.2025	SPS operation

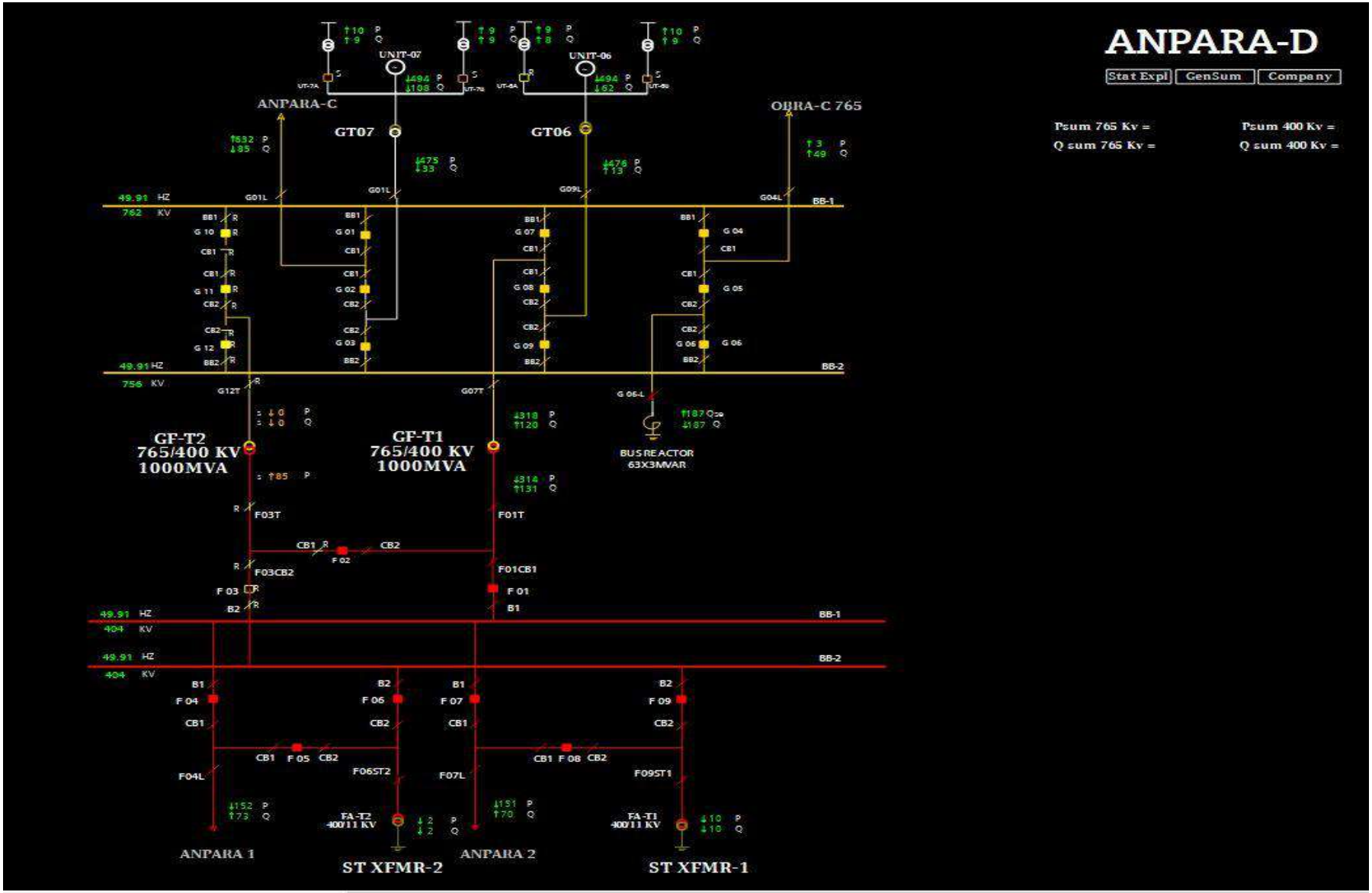
Brief details of the event

- During antecedent condition, both the 600 MW units of Anpara C and 500 MW units of Anpara D were in service and generating 366 MW, 574 MW, 476 MW & 475 MW respectively. MW loading of 400kV Anpara-Obra_B line and 400kV Obra_B-Obra_C line were 675 MW (towards Obra_B) and 257 MW (towards Obra_C) respectively.
- As reported, at 07:29 hrs, 765kV Anpara_C-Unnao line tripped on R-N fault. As reported, fault distance was ~18km from Unnao end and ~357km from Anpara_C end. Fault current was ~2.3kA from Anpara_C end and 6.7km from Unnao end.
- As per PMU at Lucknow(PG) and DR received, R-N fault which cleared within 100msec with unsuccessful A/R operation due to permanent nature of fault is observed.
- With the tripping of 765kV Anpara_C-Unnao line, line loading of 400kV Anpara-Obra_B line increased to more than 1100 MW. On this contingency, case-3 of SPS of Anpara complex related to loading of 400kV Anpara-Obra_B line operated.
- On the operation of SPS, 500 MW Unit-2 at Anpara-D tripped and ~220 MW & ~80 MW generation backdown occurred at Anpara-C & D respectively. 1 unit of Anpara C which was supposed to trip on SPS operation couldn’t trip due to issue in SPS logic communication at Anpara C end.
- As per SCADA, total generation backdown of ~780 MW occurred at Anpara C & D during the event.
- As reported, Anpara-C shall plan the inspection of SPS trip signal communication issue at their end and rectify the issue at the earliest.

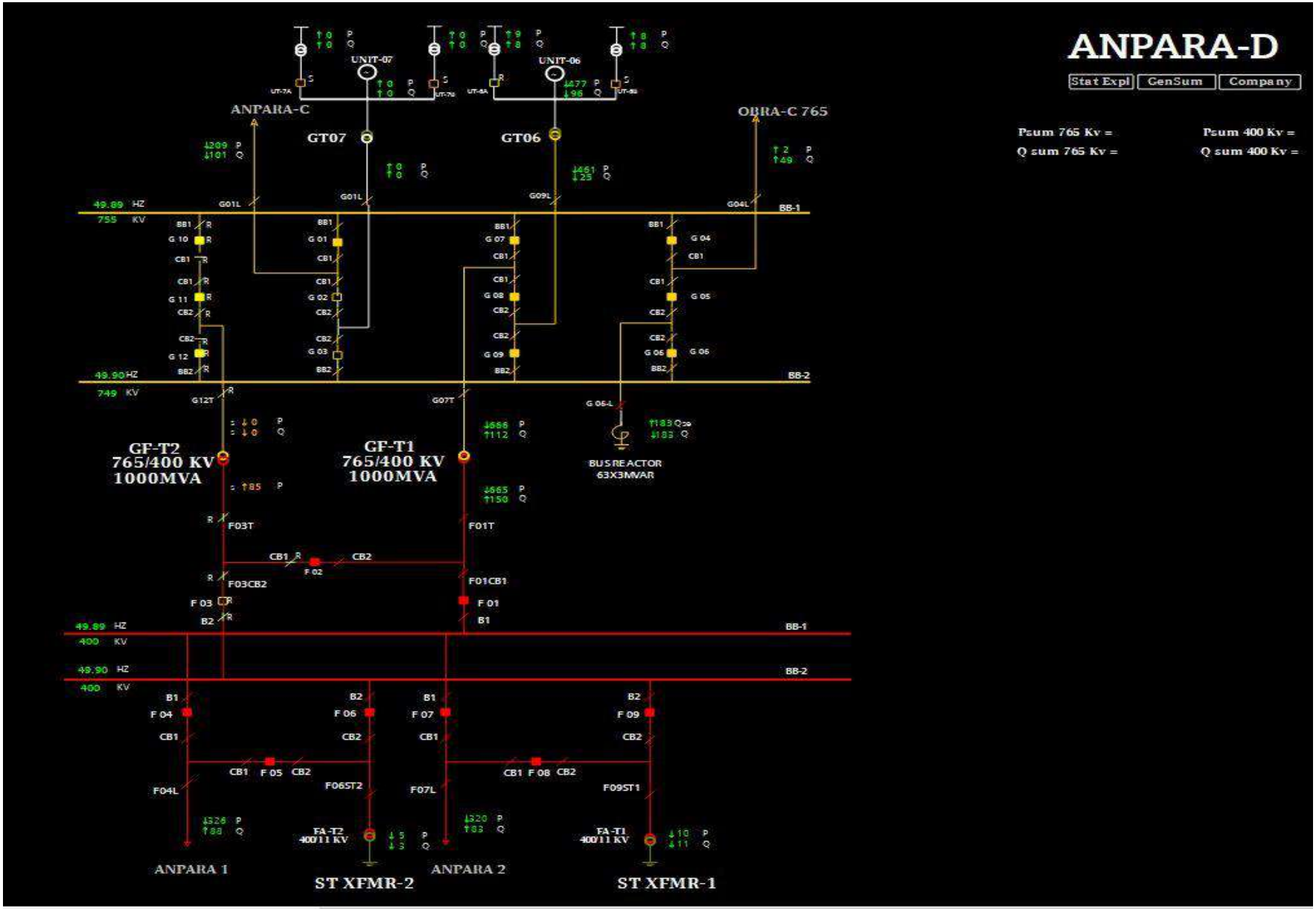
Network connectivity of Anpara Complex



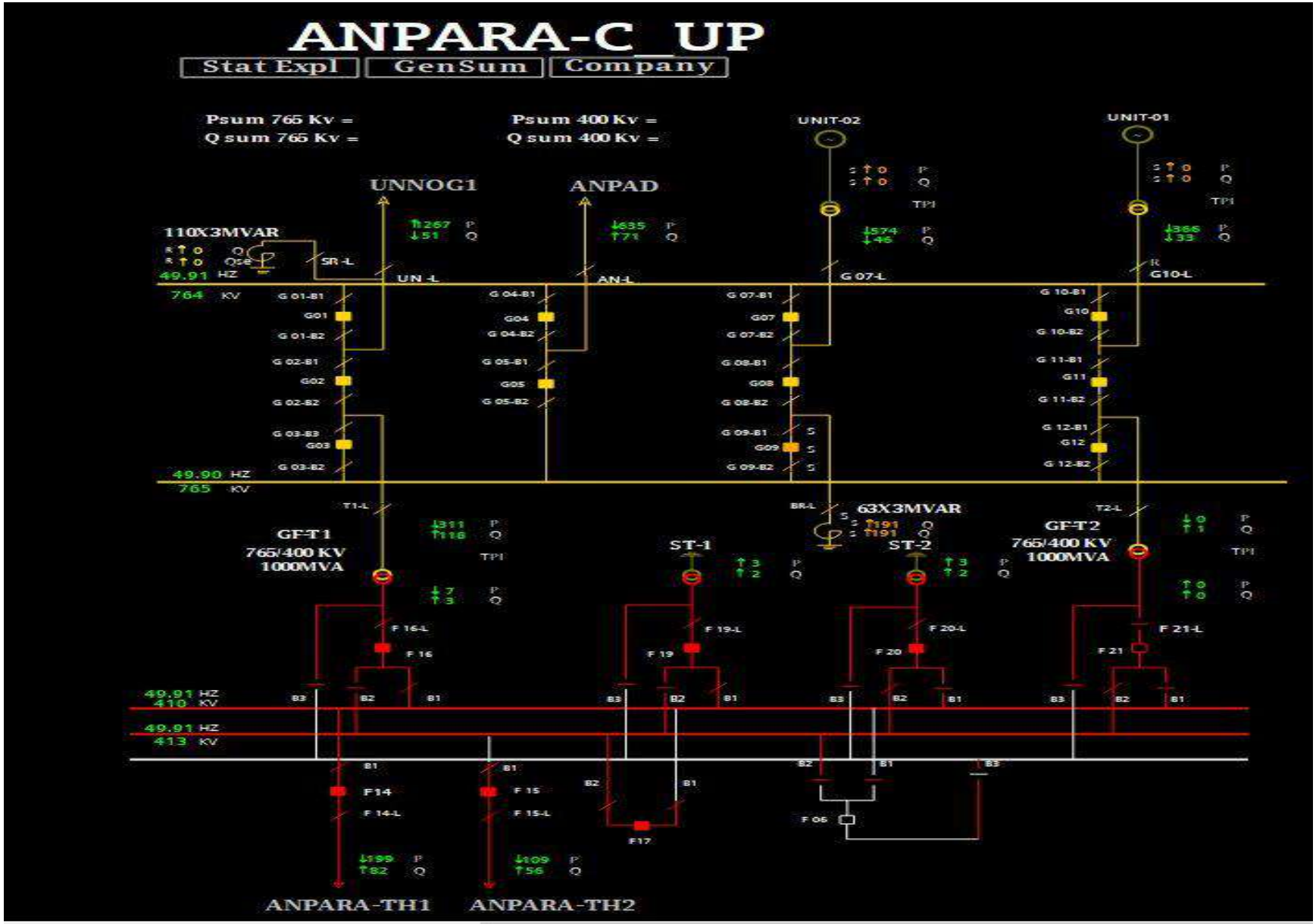
SLD of 765/400 kV Anpara-D(UP) before the event



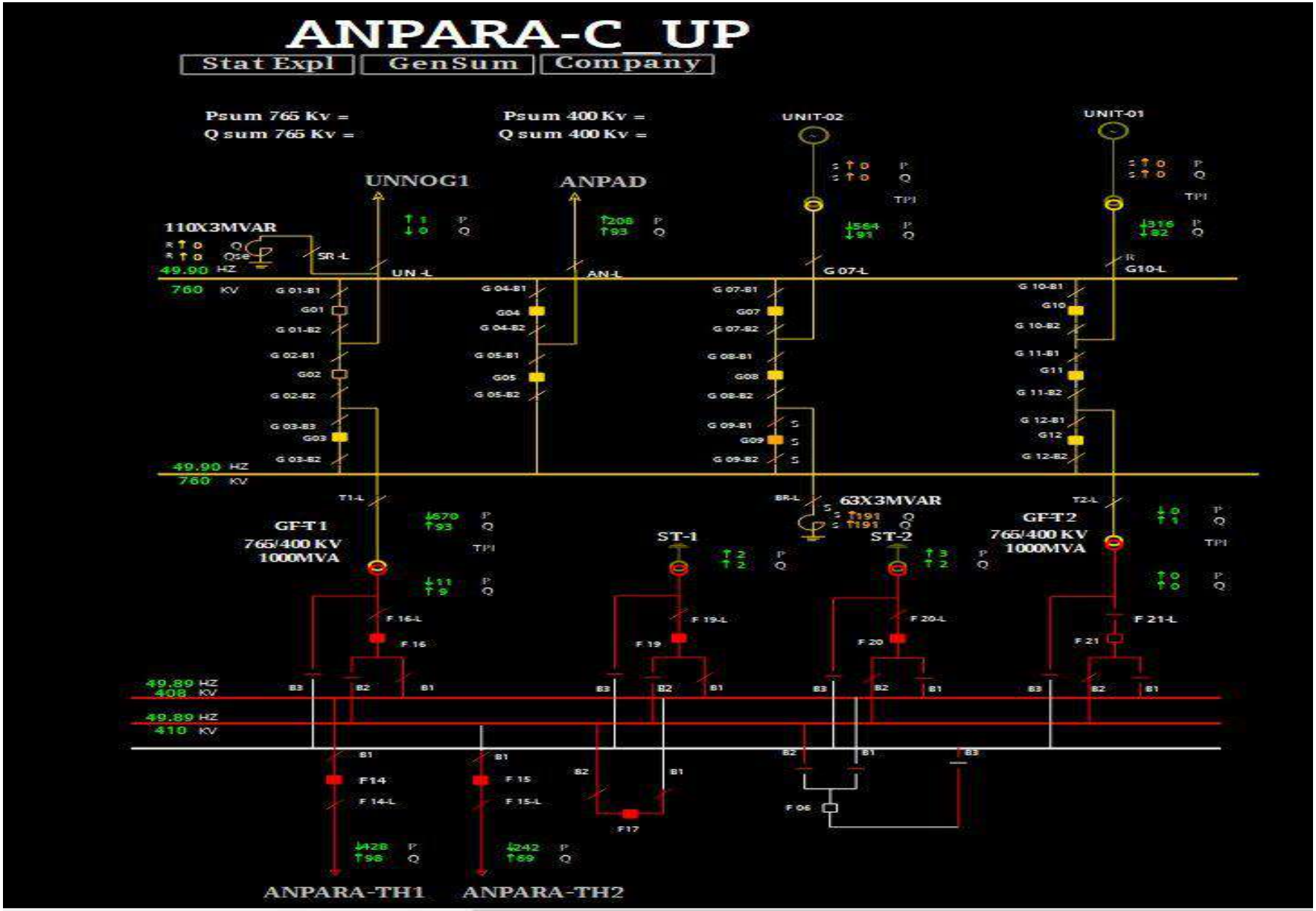
SLD of 765/400 kV Anpara-D(UP) after the event



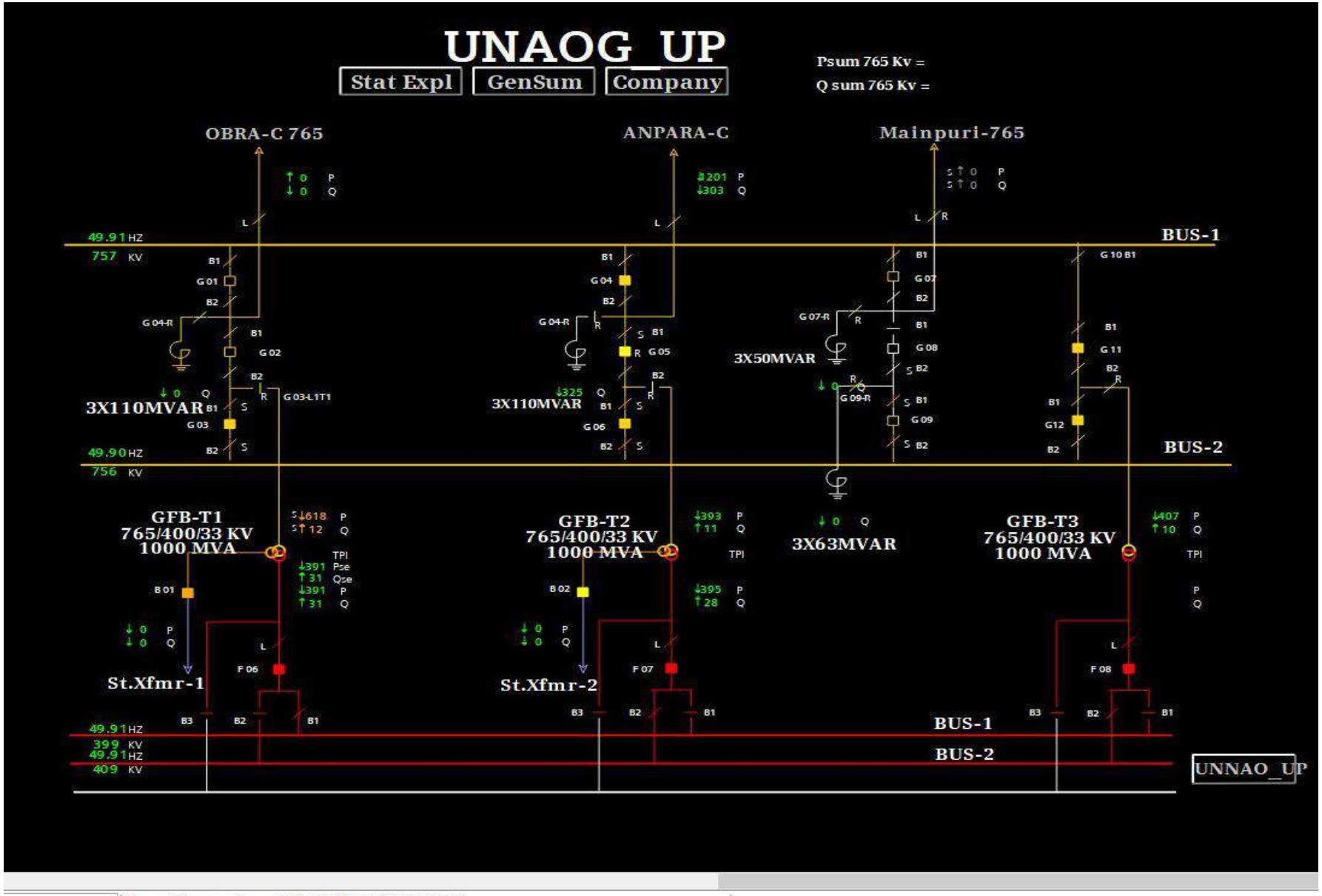
SLD of 765/400 kV Anpara-C(UP) before the event



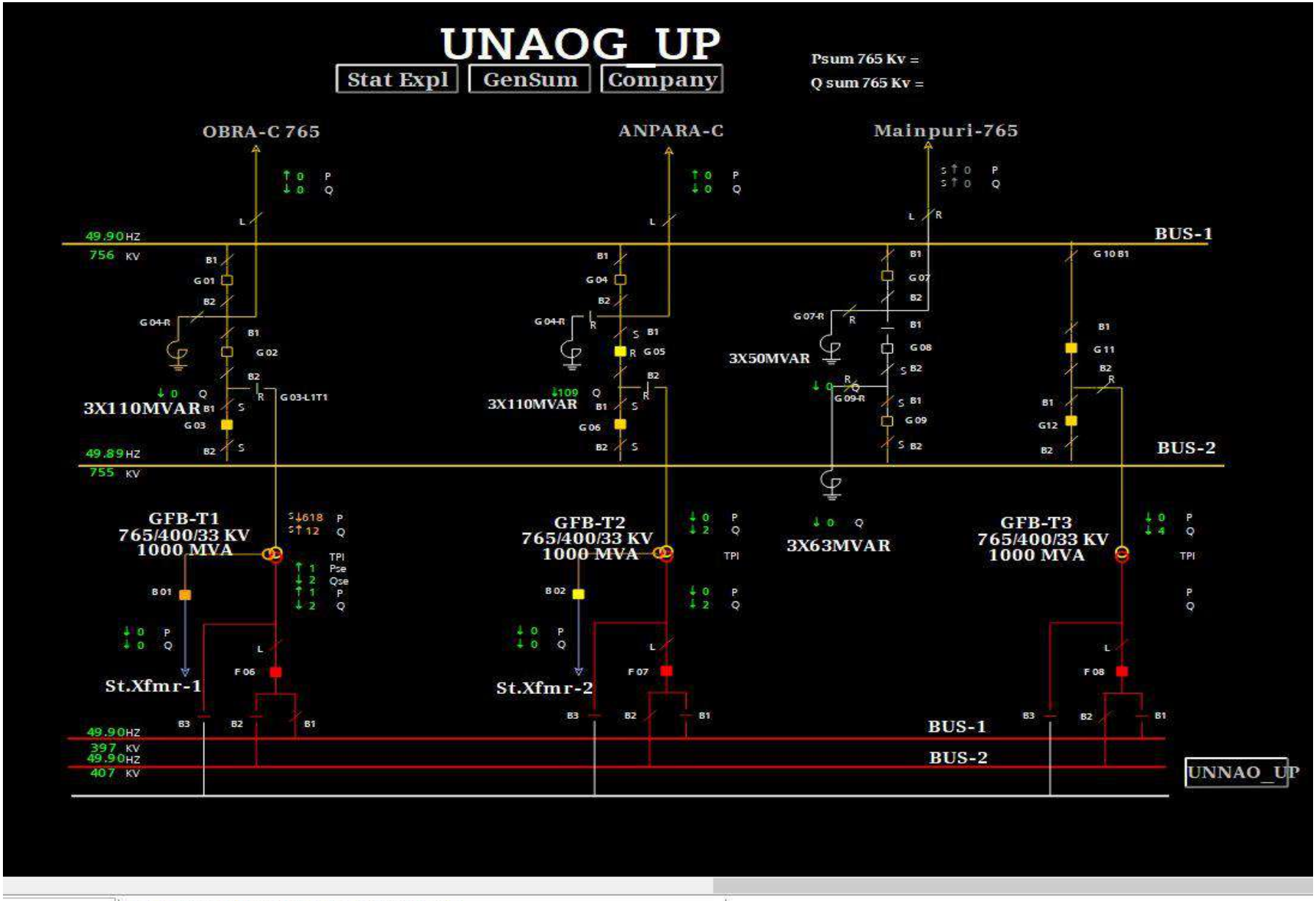
SLD of 765/400 kV Anpara-C(UP) after the event



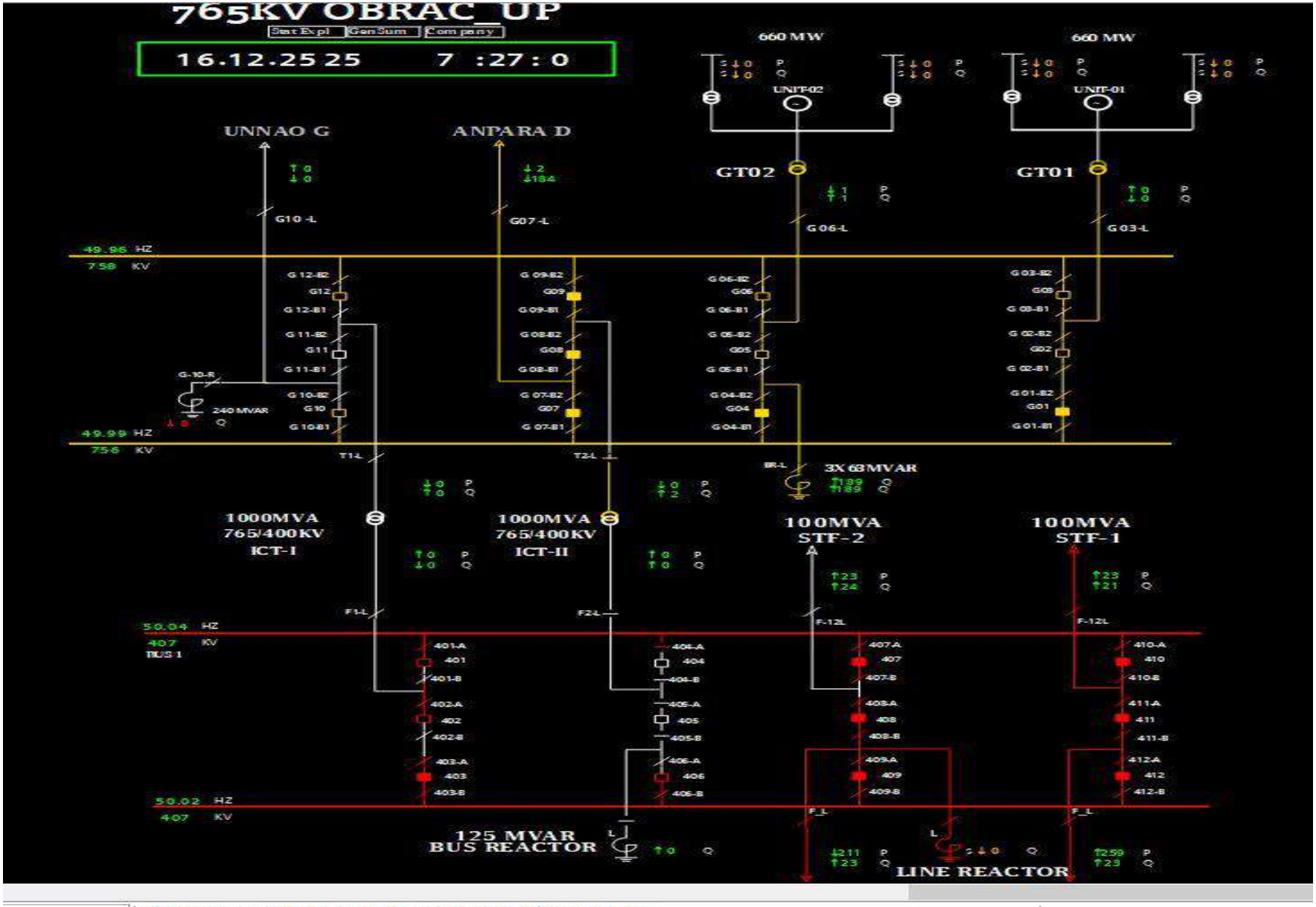
SLD of 765/400 kV Unnao(UP) before the event



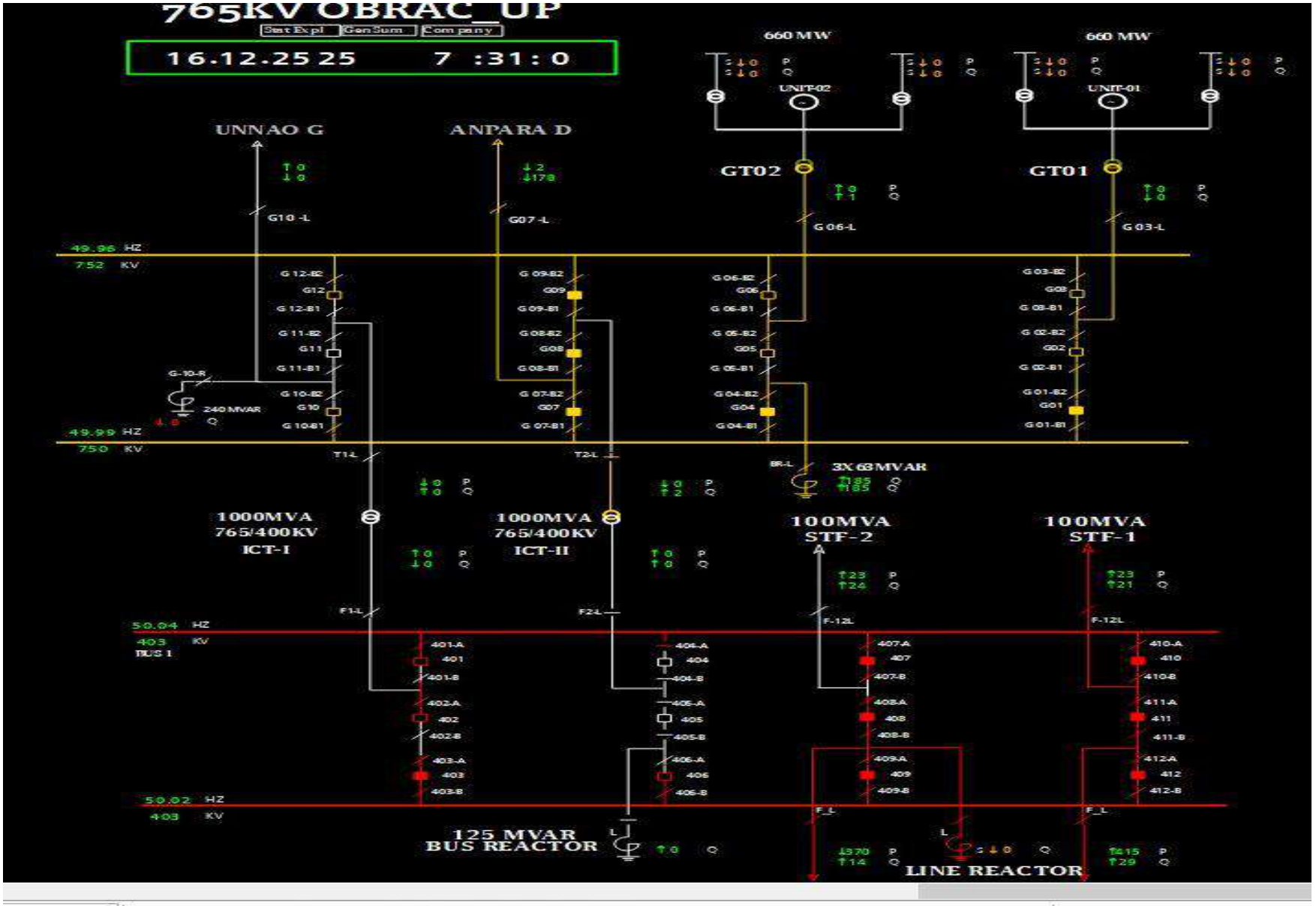
SLD of 765/400 kV Unnao(UP) after the event



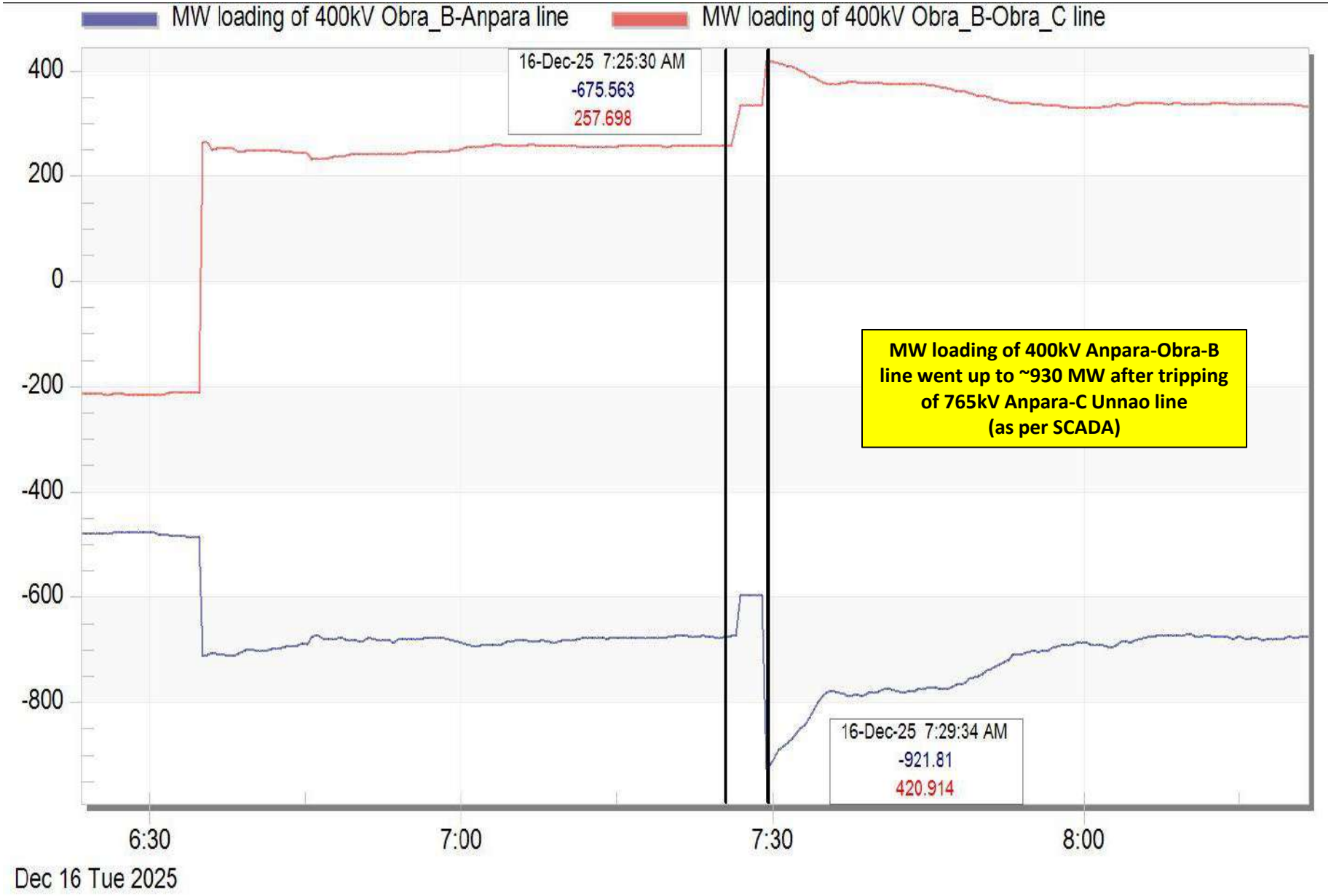
SLD of 765/400 kV Obra_C(UP) before the event



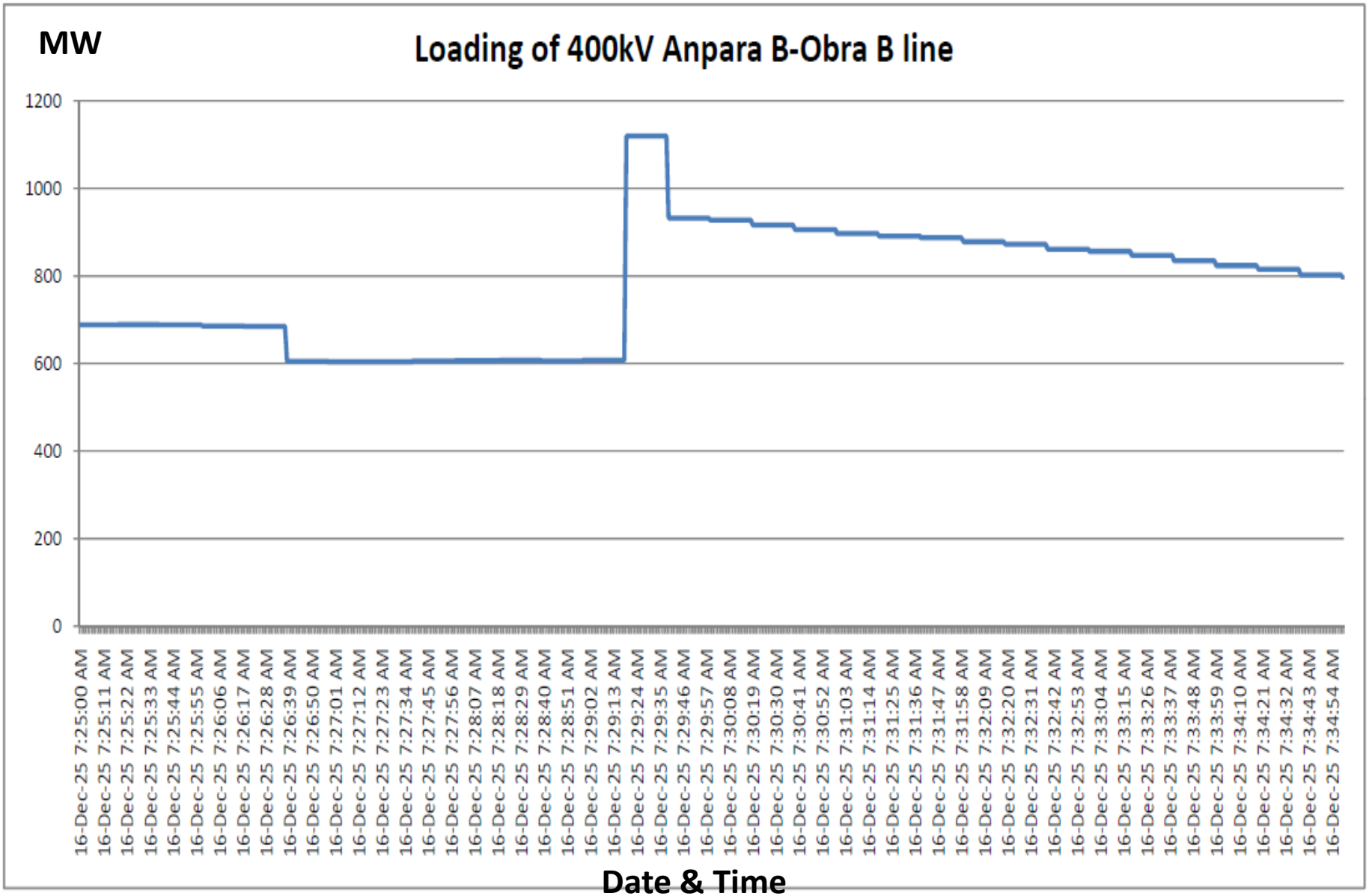
SLD of 765/400 kV Obra_C(UP) after the event



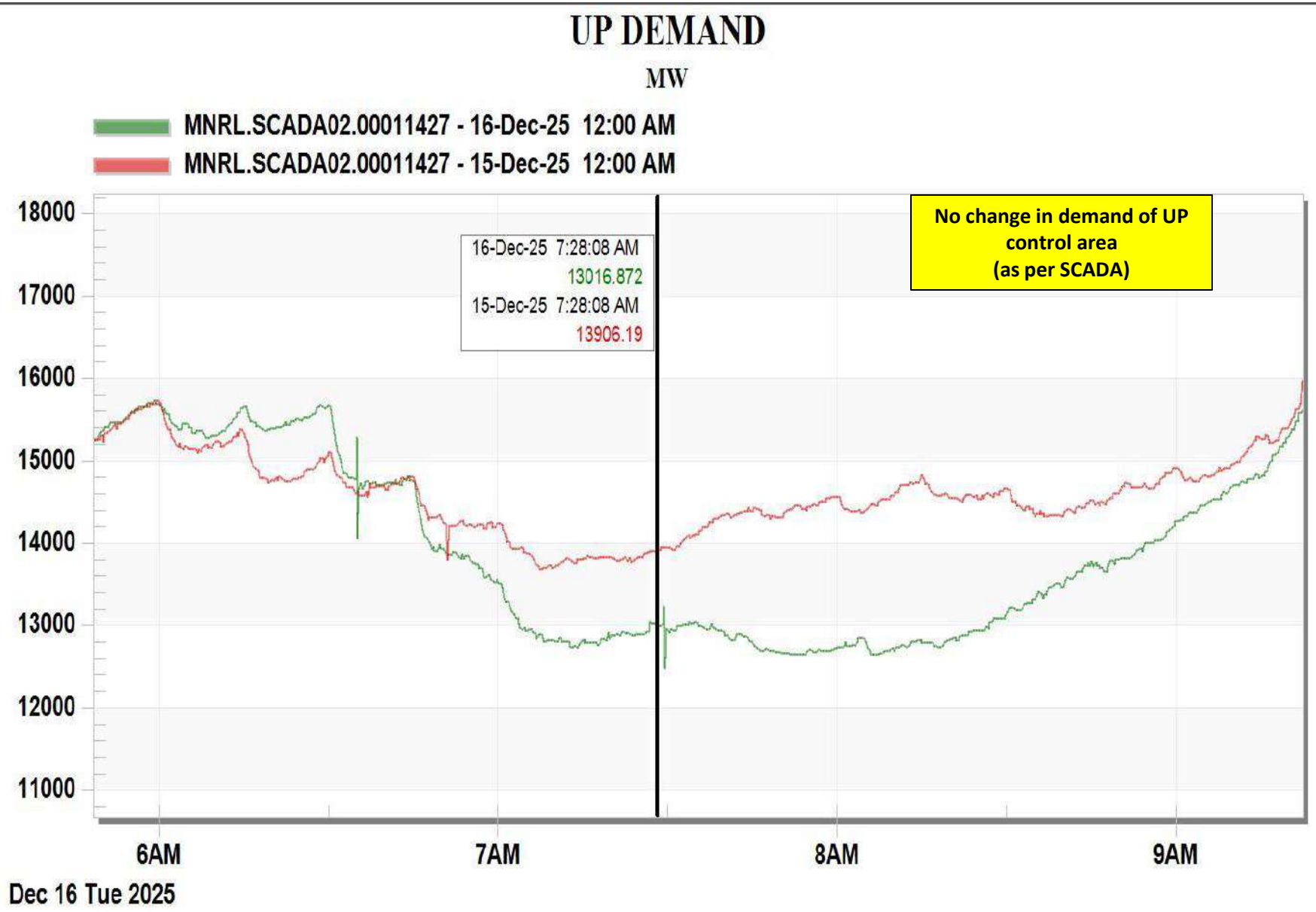
MW loading of lines during the event



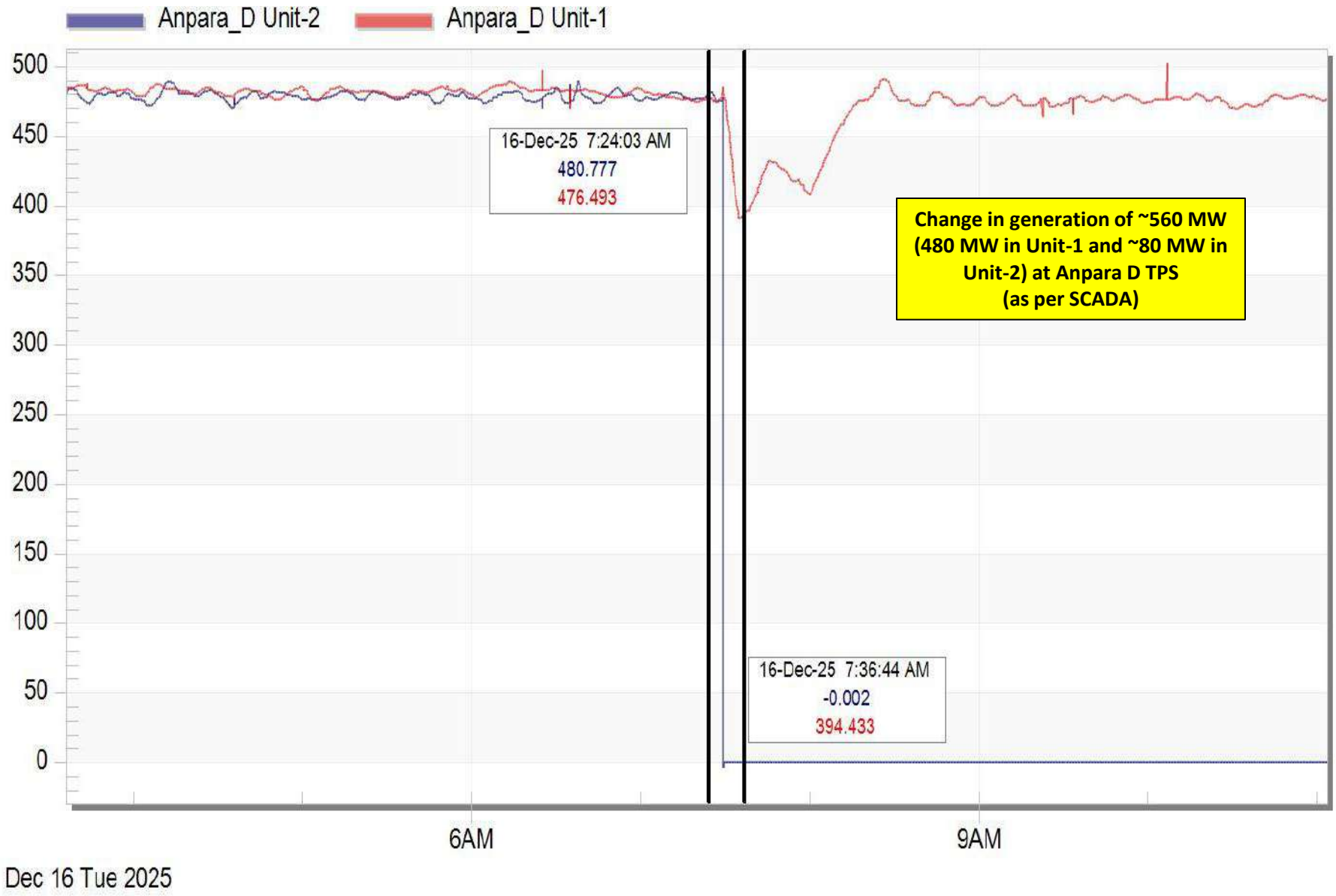
Line loading data received from SLDC-UP



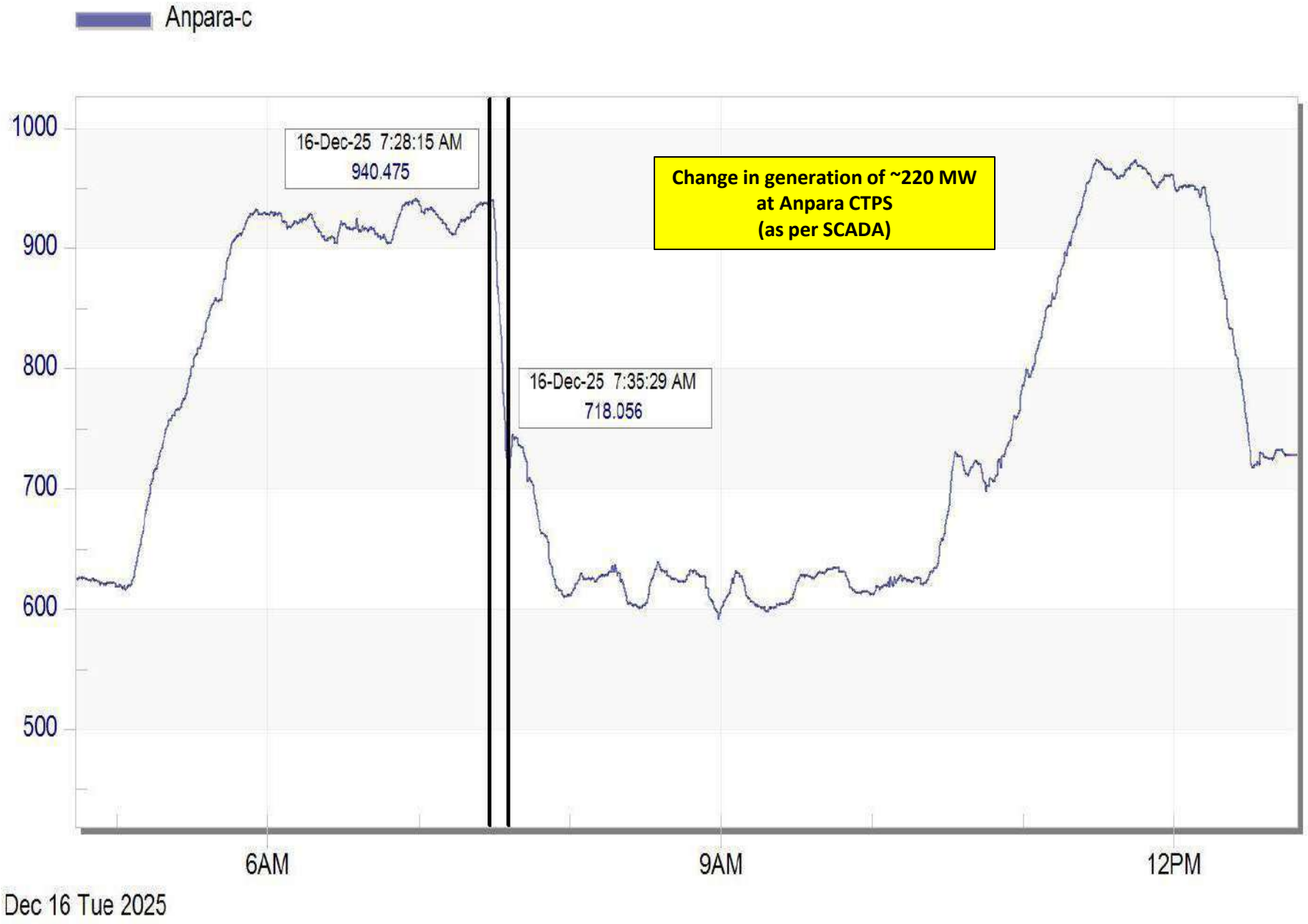
UP demand during the event



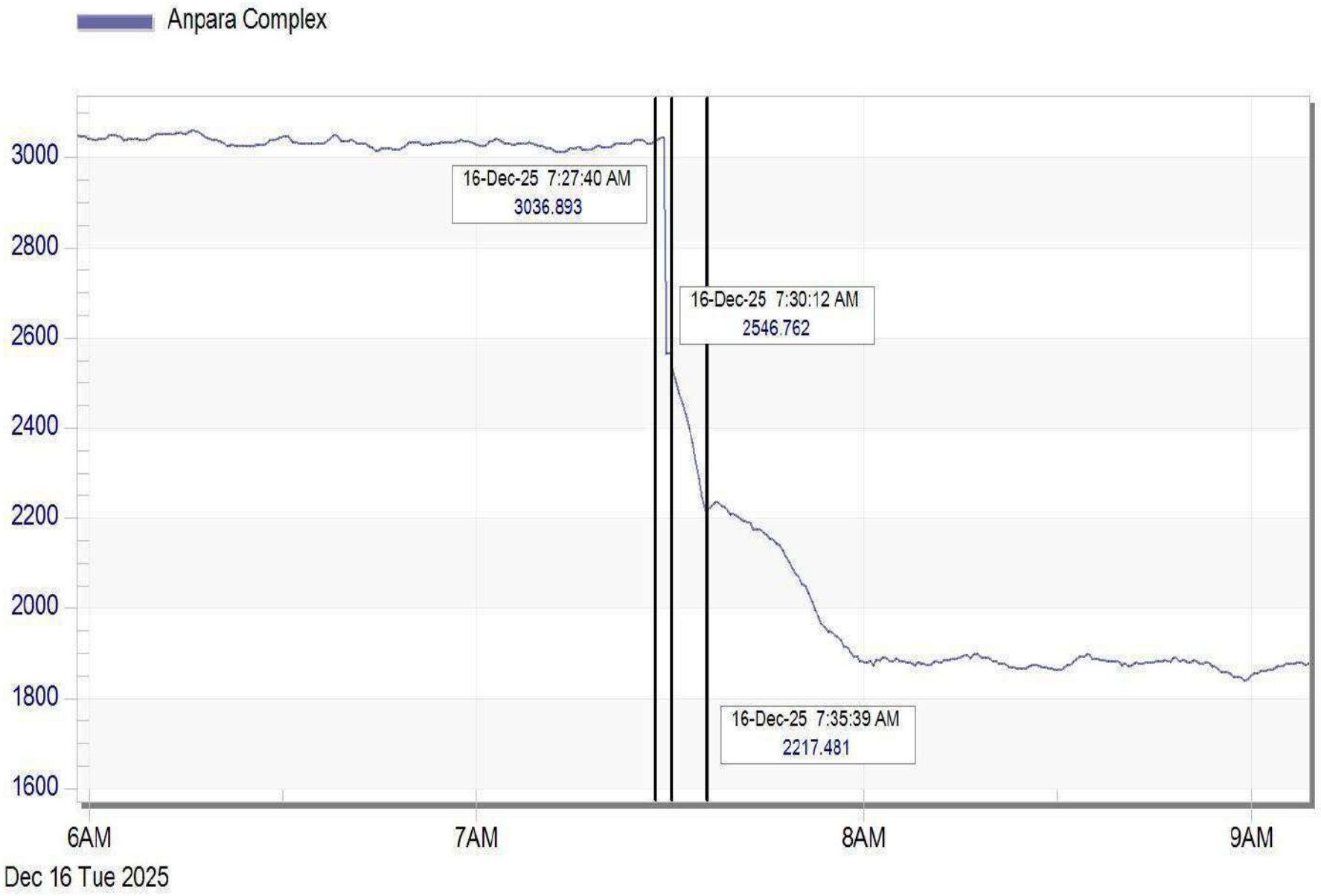
Anpara D TPS generation during the event



Anpara C TPS generation during the event

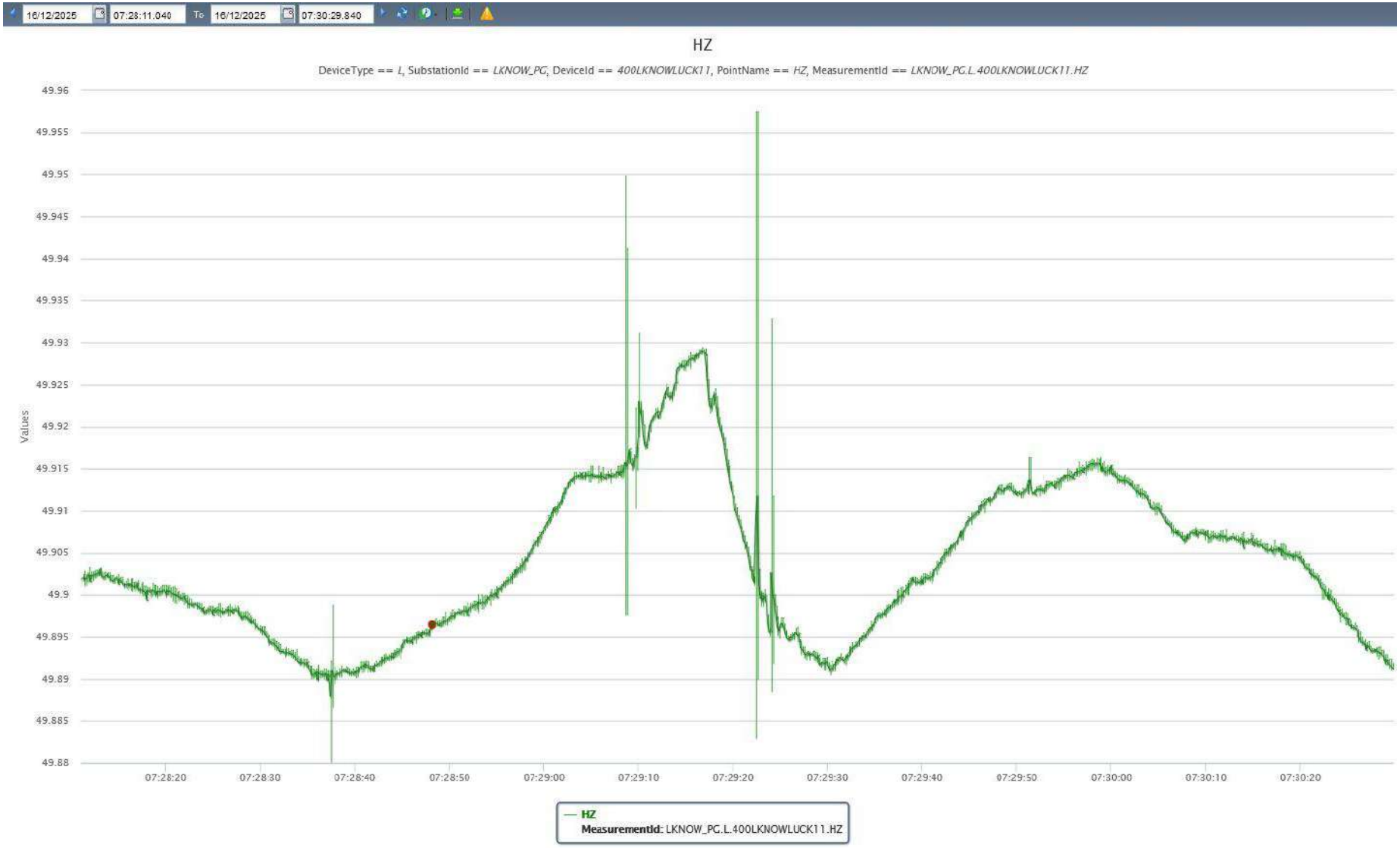


Anpara Complex generation during the event



PMU Plot of frequency at Lucknow(PG)

07:29 hrs/16-Dec-25



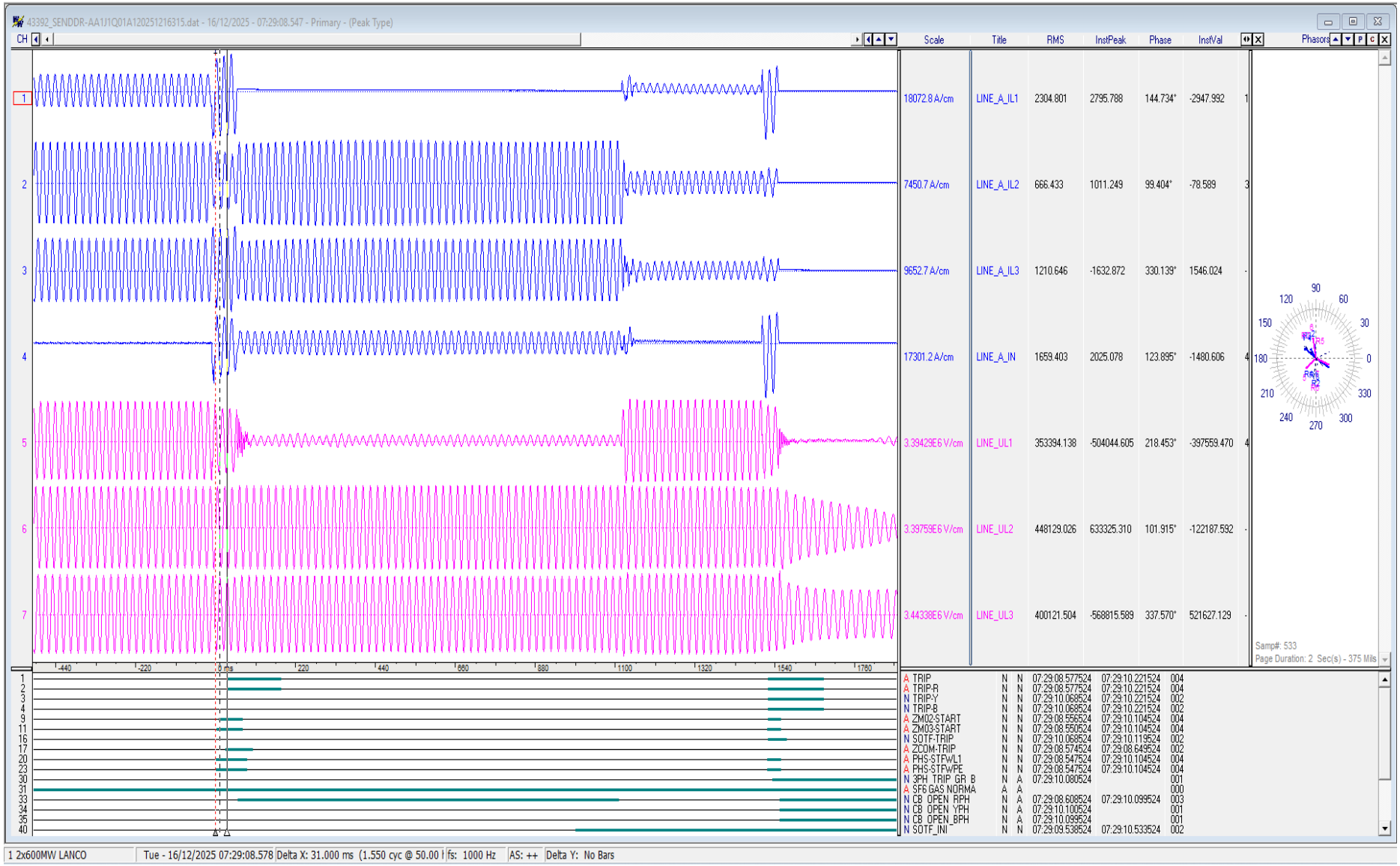
PMU Plot of phase voltage magnitude at Lucknow(PG)

07:29 hrs/16-Dec-25

PMU Plot of phase voltage magnitude at Lucknow(PG)

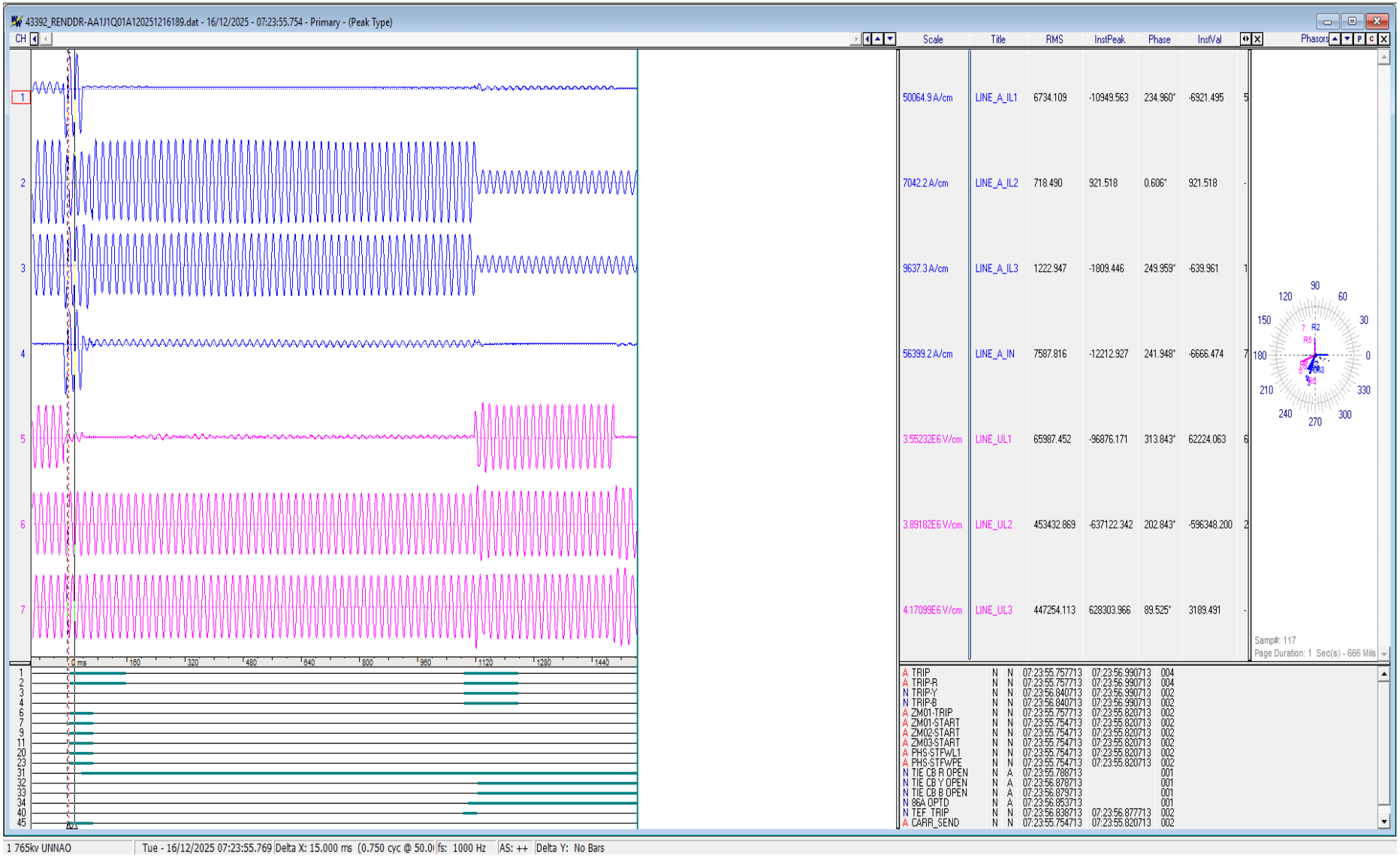
07:29 hrs/16-Dec-25

DR of 765kV Anpara_C(end)-Unnao line



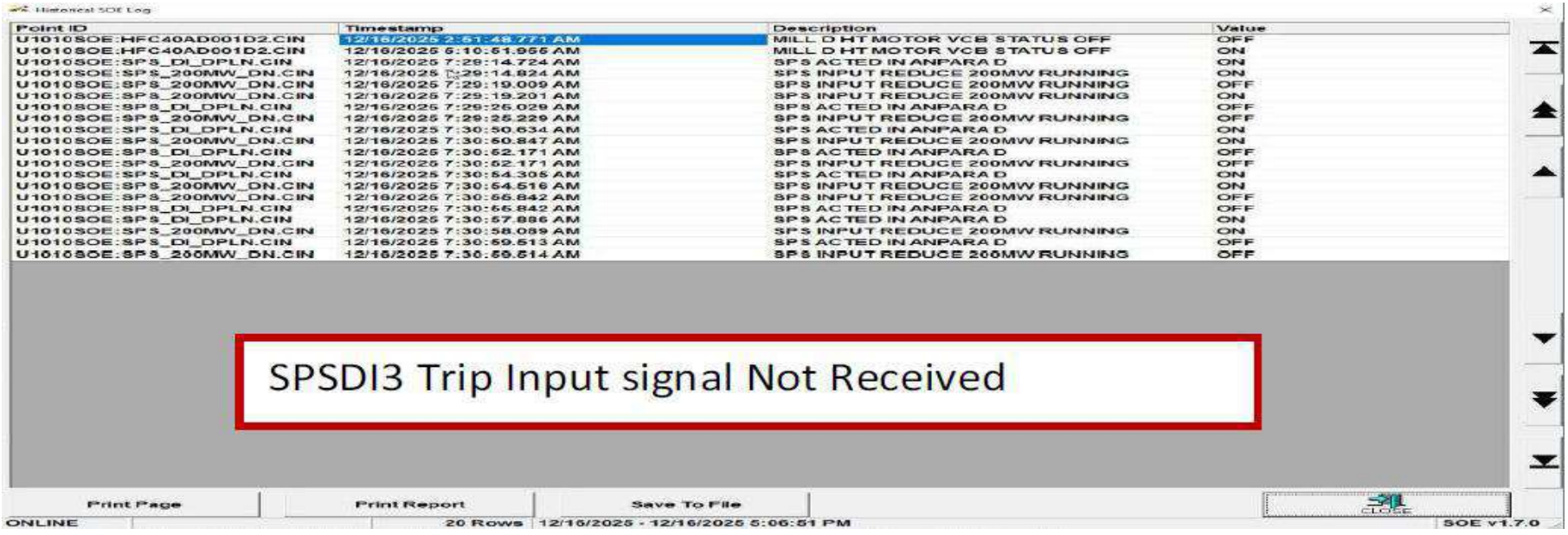
07:27:08:280 hrs; R-N fault, line tripped after A/R operation, Ir=2.3kA

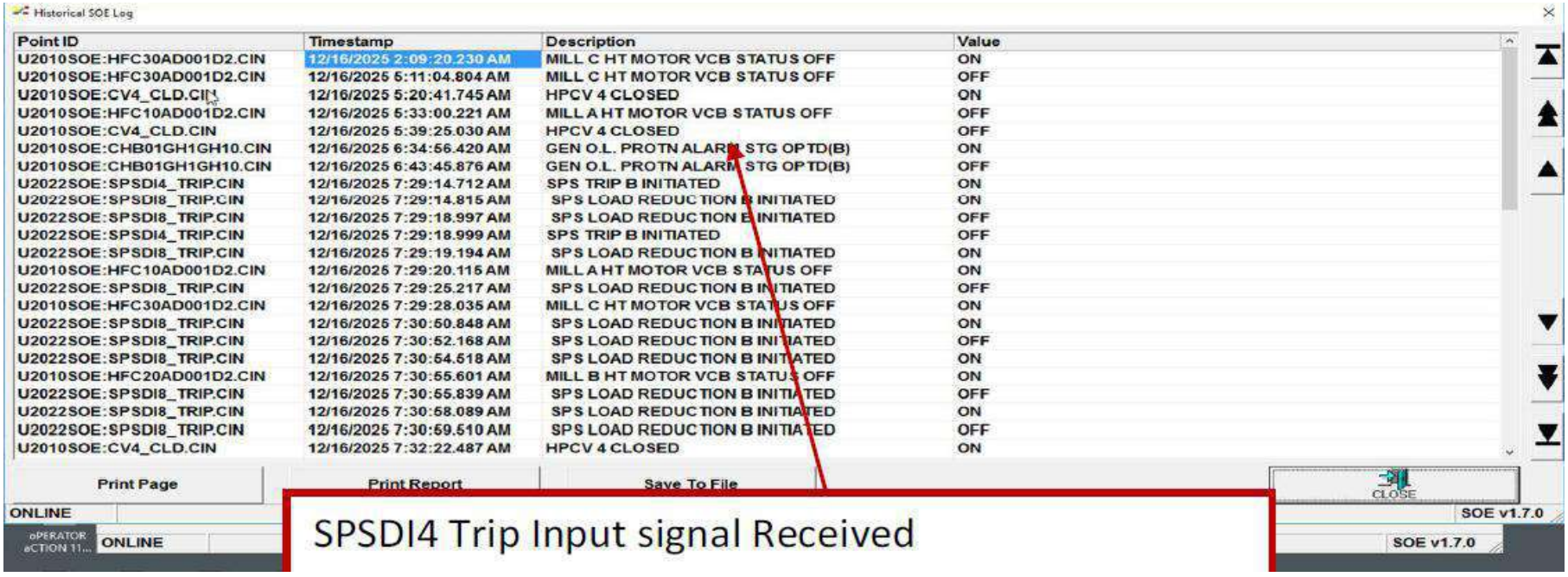
DR of 765kV Anpara_C-Unnao(end) line



- ✓ R-N fault, line tripped after A/R operation, Ir=6.78kA
- ✓ DR Time not synced, time window is also not as per standard.

SPS Event logger details at Anpara-C





SCADA SOE

Time	Station Name	Voltage	Element Name	Element Type	Element Status	Remarks
07:29:05,612	UNAOG_UP	765kV	04ANPAC	Circuit Breaker	Open	Main CB at Unnao end of 765kV Anpara C -Unnao line opened
07:29:08,607	ANPAC_UP	765kV	01UNAOG	Circuit Breaker	disturbe	
07:29:08,609	ANPAC_UP	765kV	02T1UNAO	Circuit Breaker	disturbe	
07:29:09,351	ANPAC_UP	765kV	02T1UNAO	Circuit Breaker	Open	Tie CB at Anpara C end of 765kV Anpara C -Unnao line opened
07:29:09,674	ANPAC_UP	765kV	01UNAOG	Circuit Breaker	Close	Main CB at Anpara C end of 765kV Anpara C -Unnao line closed (A/R)
07:29:10,099	ANPAC_UP	765kV	01UNAOG	Circuit Breaker	Open	Main CB at Anpara C end of 765kV Anpara C -Unnao line opened
07:29:21,220	ANPAD_UP	765kV	03U07	Circuit Breaker	Open	Main CB of 500 MW Unit-2 at Anpara D TPS opened
07:29:21,223	ANPAD_UP	765kV	02ANPU07	Circuit Breaker	Open	Tie CB of 500 MW Unit-2 at Anpara D TPS opened

Points of Discussion

i. Disturbance recorder at Unnao end is not standardized (time sync issue and time window is less).
ii. Issue w.r.t. SPS operation at Anpara-C end need to be reviewed and corrected at the earliest possible.
iii. Remedial action taken report needs to be shared.

Multiple element tripping event at 765kV Obra_C TPS (UP) at : 06:34 hrs on 16.12.2025

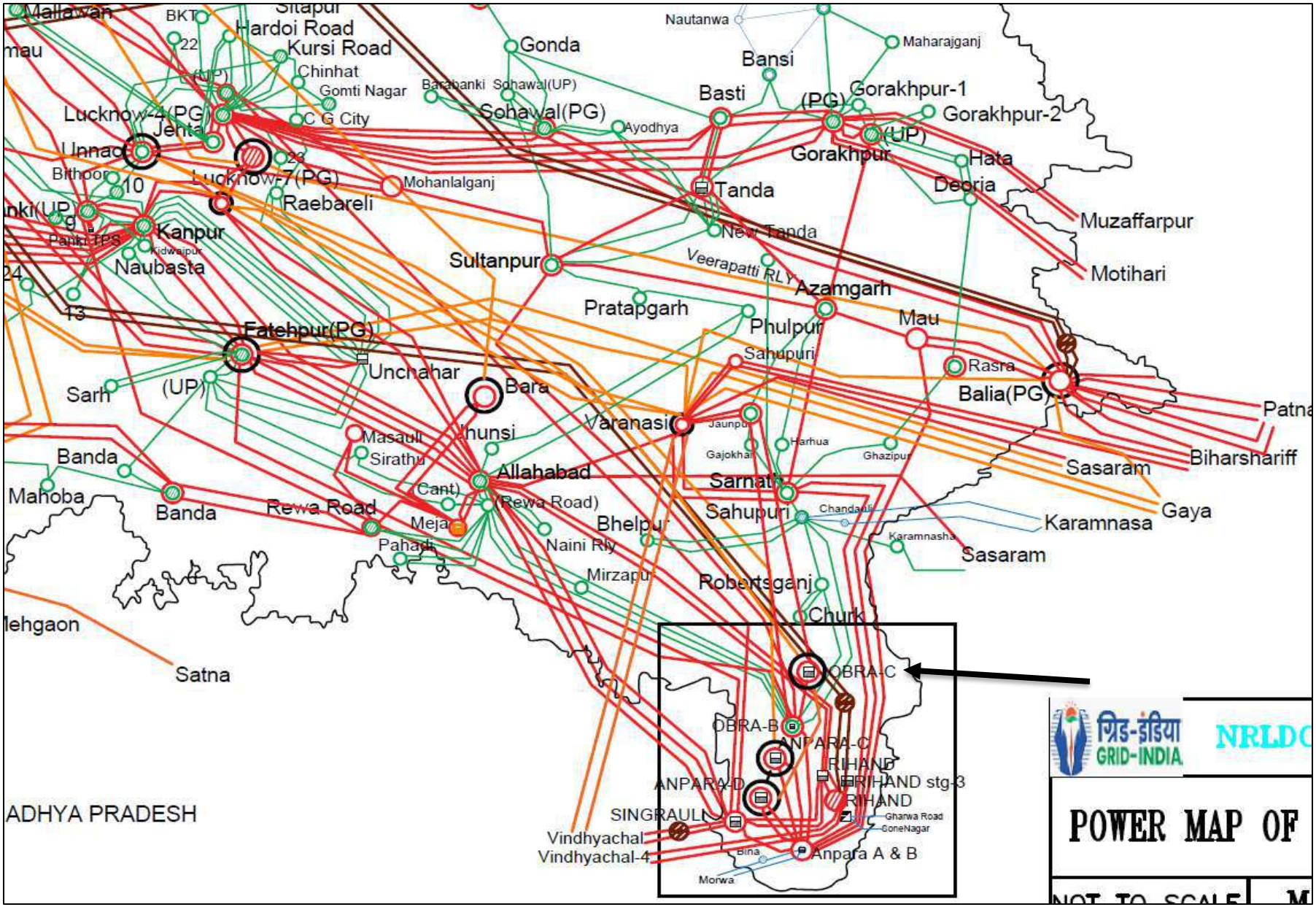
Tripped Elements

S. No	Name of Elements	Outage Time	Revival Time	Reason of tripping
1.	765 KV Obra_C_TPS-Unnao (UP) Ckt	06:34 hrs	18:48 hrs	Y-N fault
2.	660 MW Unit-1 at Obra_C TPS (UP)		05:25 hrs, 17.12.2025	Tripped at the same time on earth fault protection
3.	660 MW Unit-2 at Obra_C TPS (UP)		19:04 hrs	
4.	765/400kV 1000 MVA ICT-1 at Obra_C(UP)		10:11 hrs	

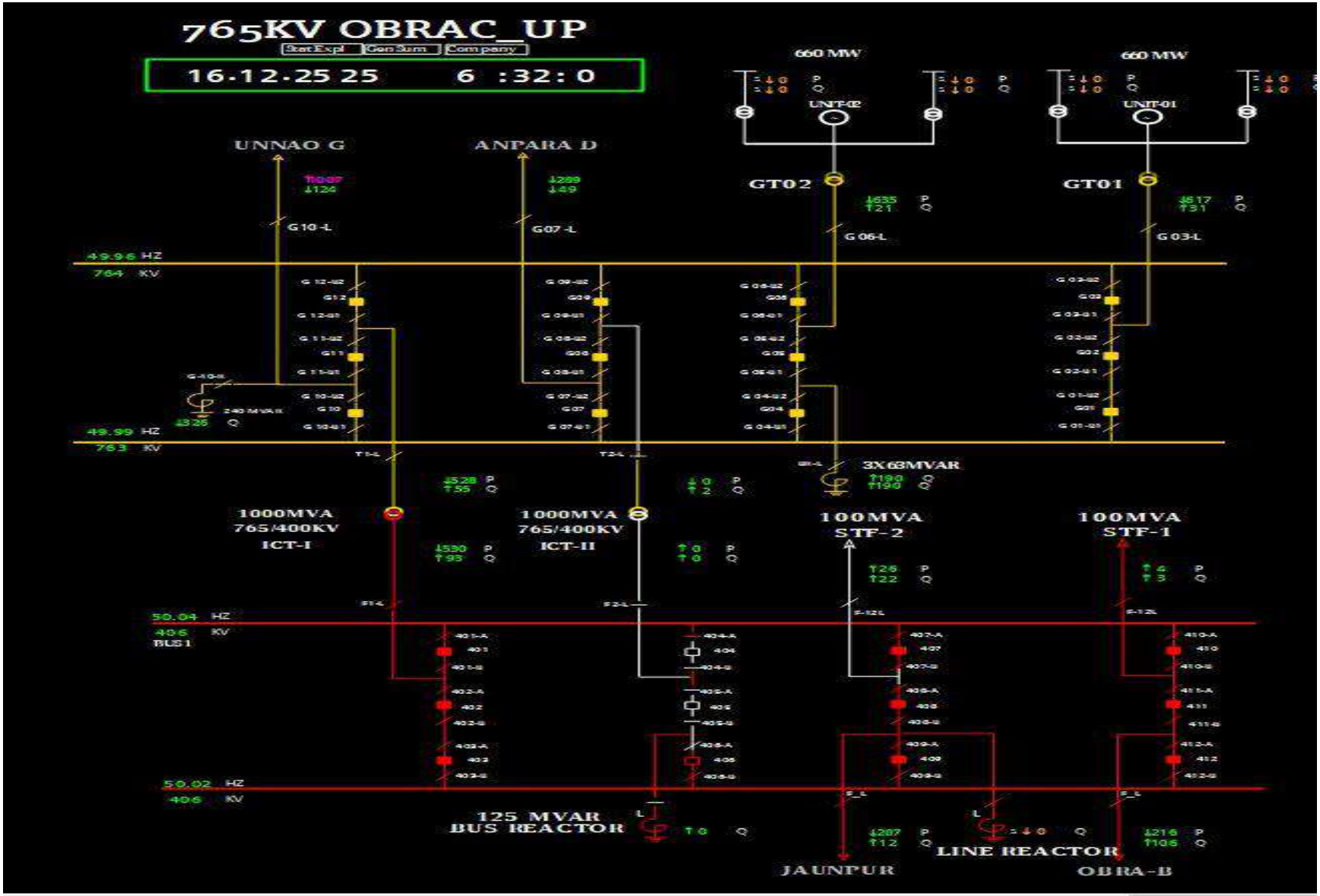
Brief details of the event

- During antecedent condition, both the 660 MW unit-1& at Obra C TPS were in service and generating ~617 MW & ~635 MW respectively.
- As reported, at 06:34 hrs, 765kV Obra_C-Unnao line tripped on Y-N fault. As reported, fault distance was ~18.5km from Unnao end and ~328km from Obra_C end. Fault current was ~1.8kA from Obra_C end and 9.5 km from Unnao end.
- As per PMU at Lucknow(PG) and DR received, Y-N fault which cleared within 100msec is observed.
- At the same time, 660 MW Unit-1&2 at Obra_C TPS and 765/400kV 1000 MVA ICT-1 at Obra_C (UP) also tripped. As reported, Units and ICT-1 tripped on earth fault protection operation.
- As per SCADA, change in generation of ~1250 MW occurred at Obra C TPS during the event.

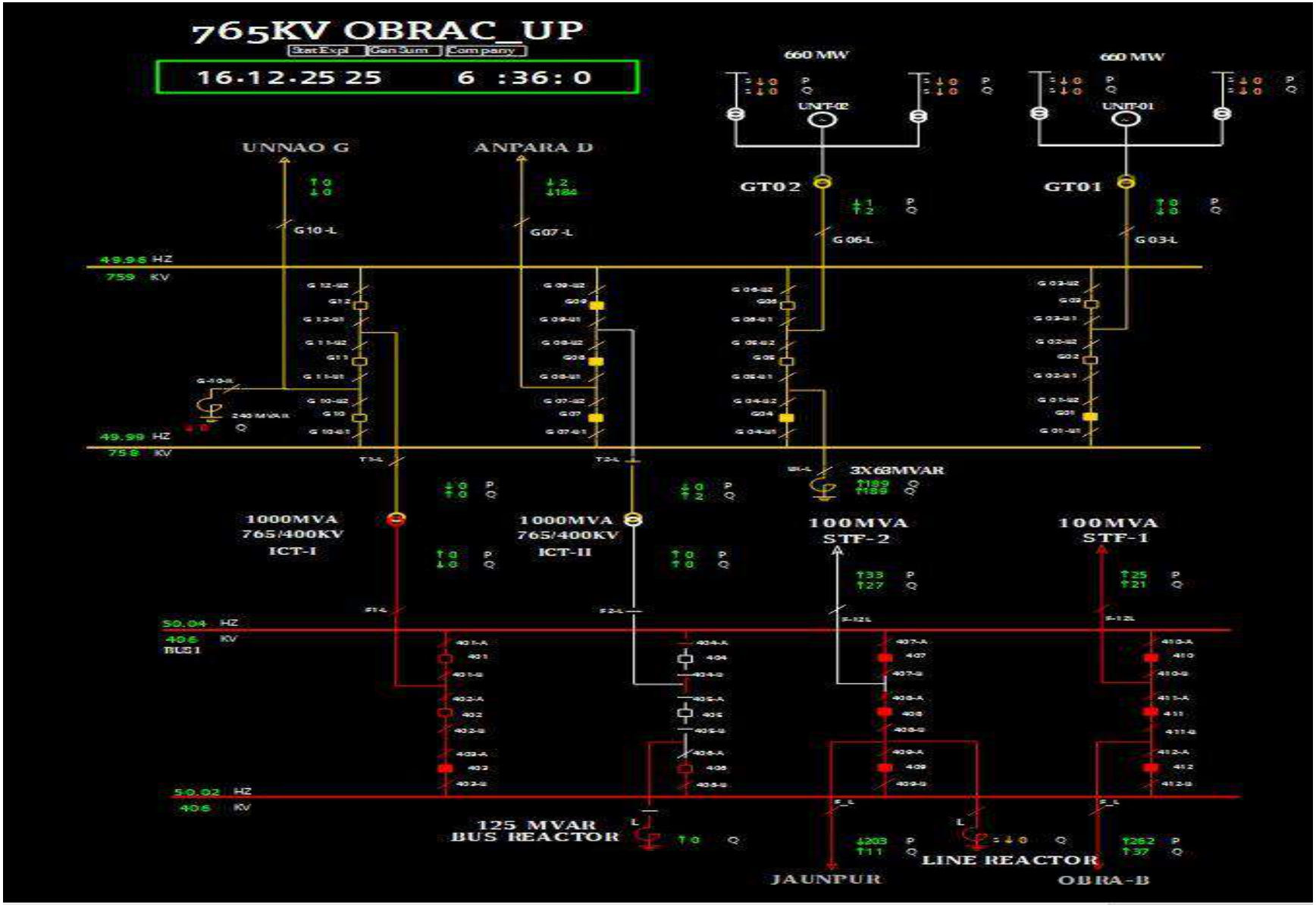
Network connectivity of Anpara Complex



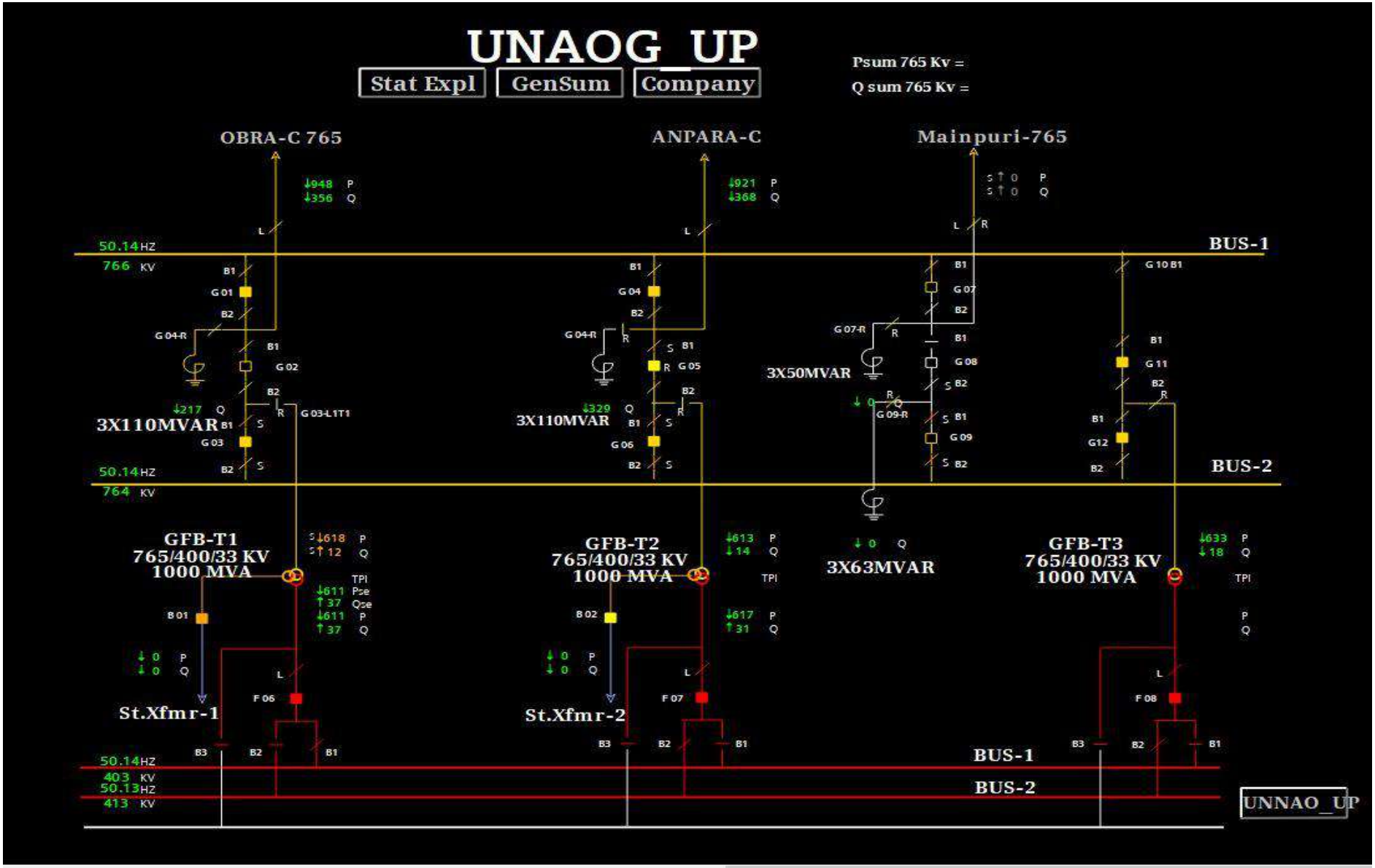
SLD of 765/400 kV Obra_C TPS(UP) before the event



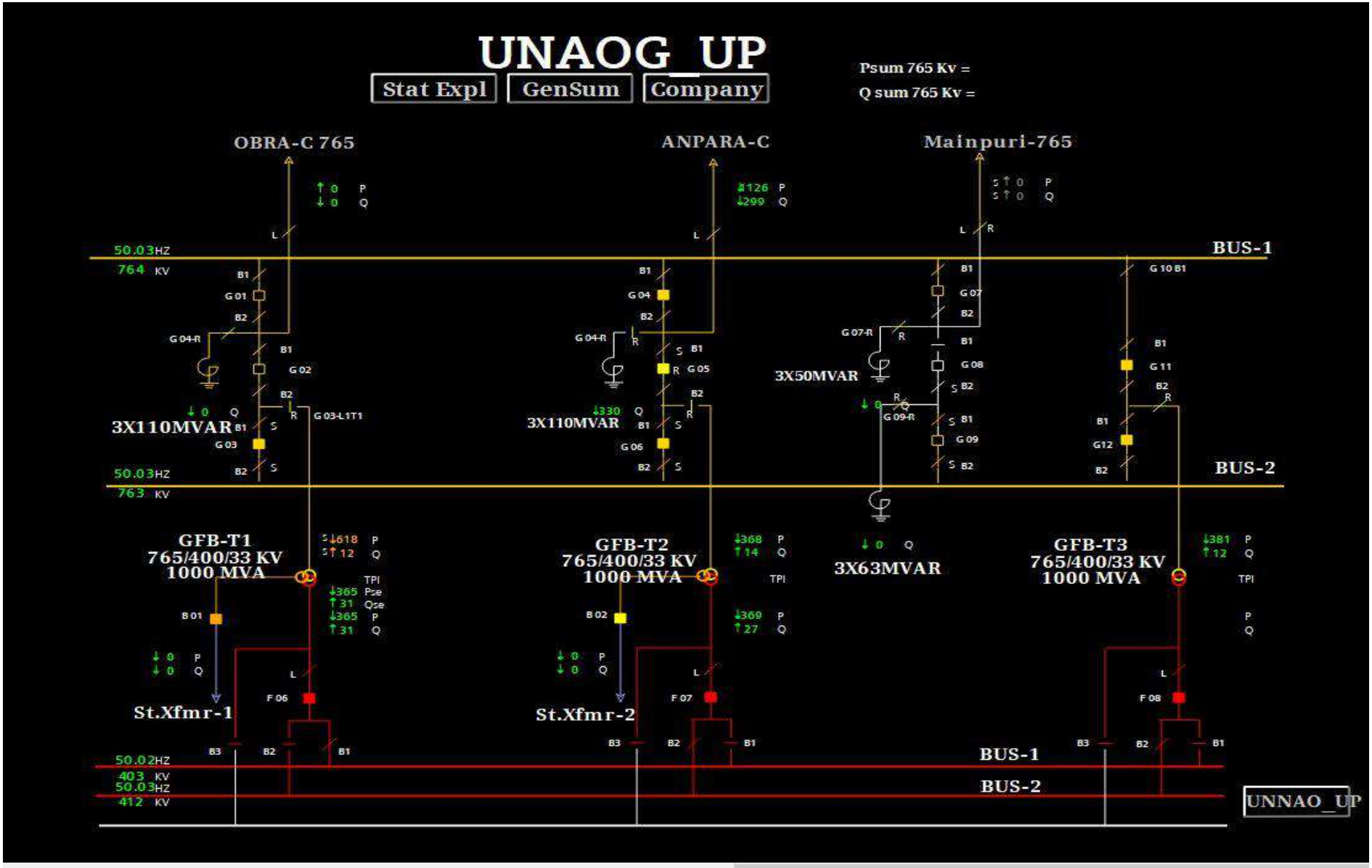
SLD of 765/400 kV Obra_C TPS(UP) after the event



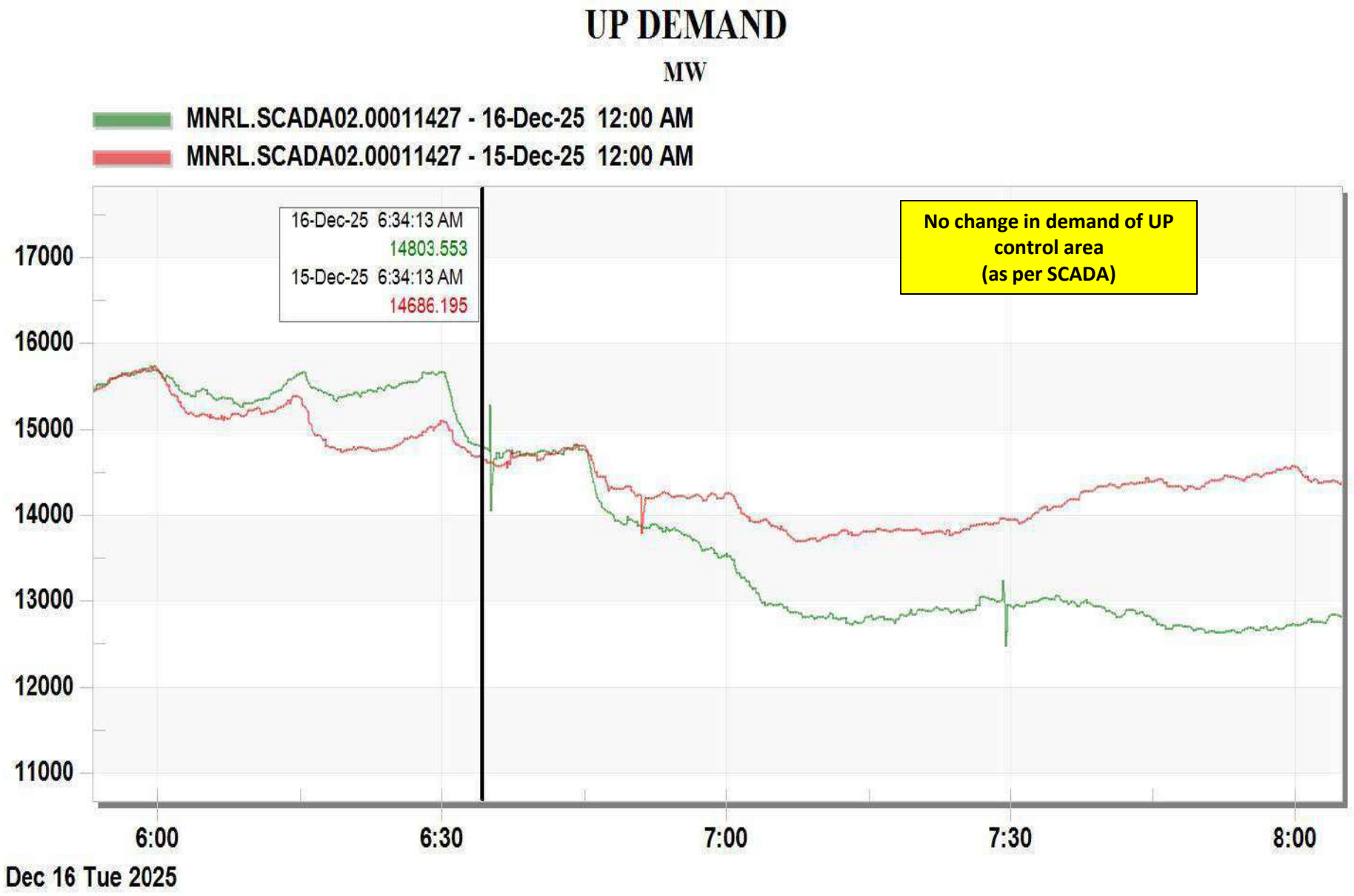
SLD of 765/400 kV Unnao(UP) before the event



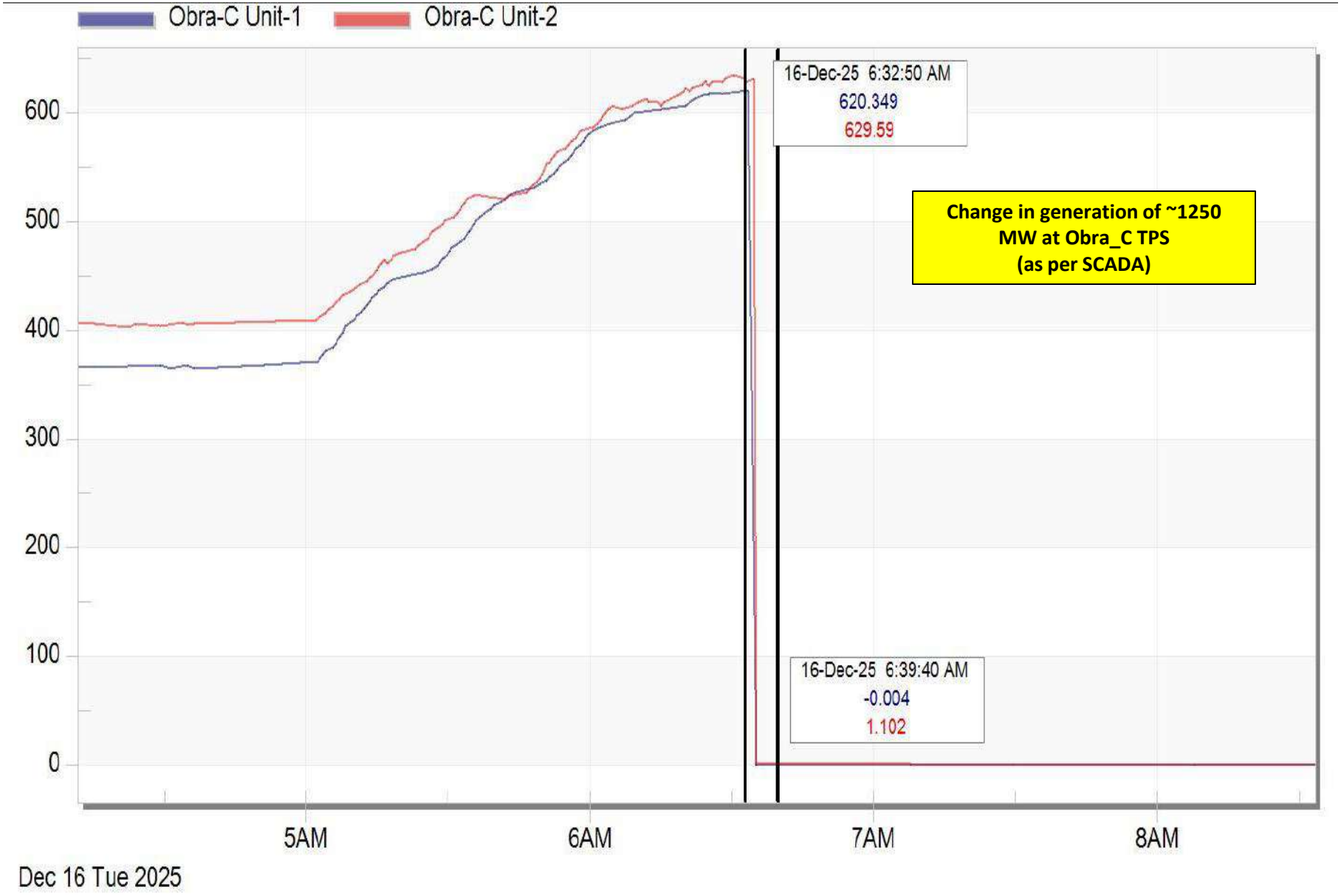
SLD of 765/400 kV Unnao(UP) after the event



UP demand during the event



Obra_C TPS generation during the event



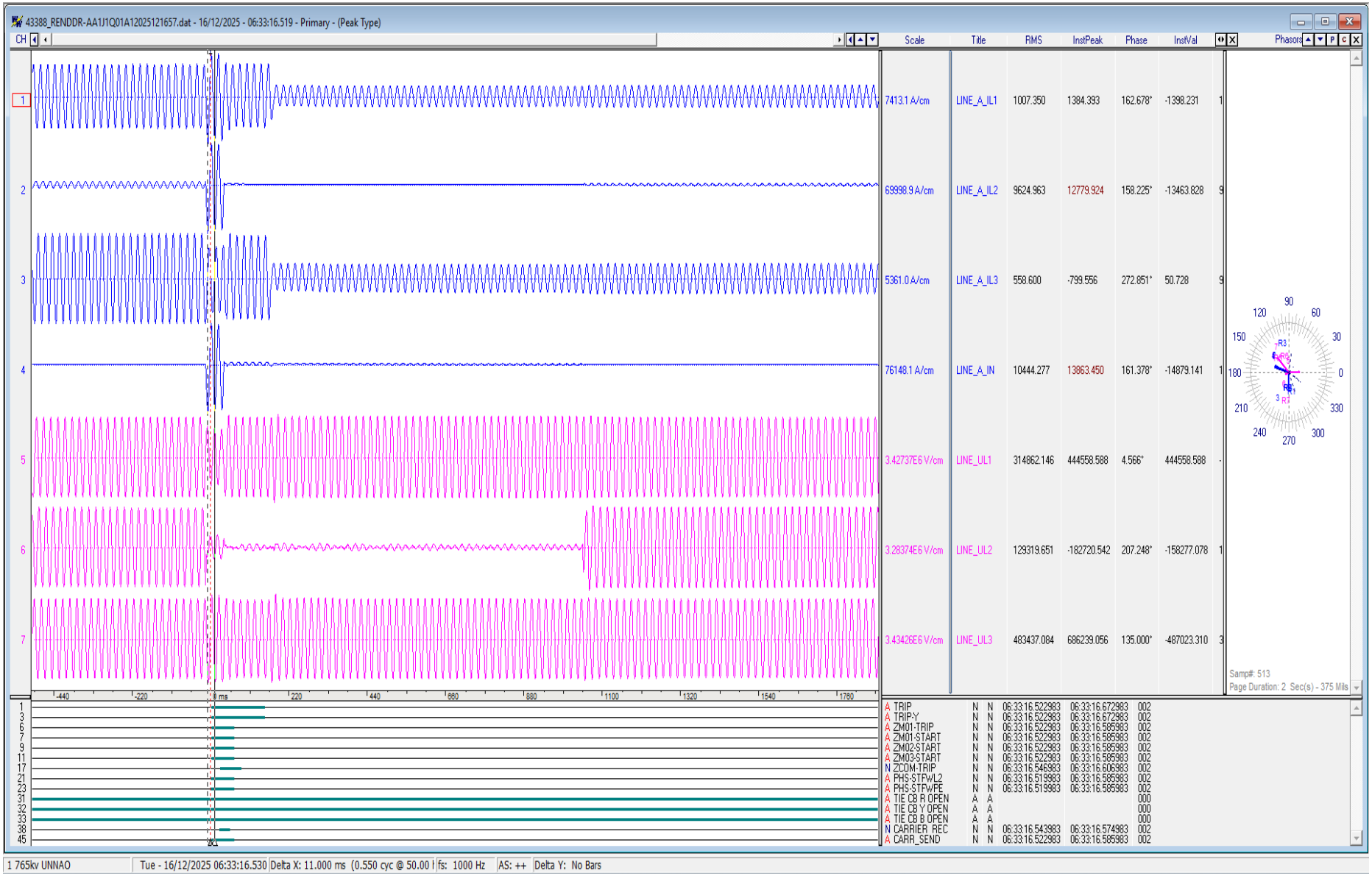
PMU Plot of frequency at Lucknow(PG)

06:34 hrs/16-Dec-25

PMU Plot of phase voltage magnitude at Lucknow(PG)

06:34 hrs/16-Dec-25

DR of 765kV Obra_C-Unnao(end) line



06:33:16:530 hrs (time not synced); Y-N fault, line tripped from Unnao end only, A/R successful at Obra_C end; Iy:9.6kA

SCADA SOE

Time	Station Name	Voltage	Element Name	Element Type	Element Status	Remarks
06:34:41,151	UNAOG_UP	765kV	01OBRAC	Circuit Breaker	Open	Main CB at Unnao(UP) end of 765 KV Obra_C_TPS-Unnao (UP) Ckt opened
06:34:45,080	OBRAC_UP	765kV	11UNNT1	Circuit Breaker	disturbe	
06:34:45,083	OBRAC_UP	765kV	10UNAOG	Circuit Breaker	disturbe	
06:34:46,102	OBRAC_UP	765kV	10UNAOG	Circuit Breaker	Close	Main CB at Obra_C(UP) end of 765 KV Obra_C_TPS-Unnao (UP) Ckt auto-reclosed
06:34:46,283	OBRAC_UP	765kV	11UNNT1	Circuit Breaker	Open	Tie CB at Obra_C(UP) end of 765 KV Obra_C_TPS-Unnao (UP) Ckt opened
06:34:46,898	OBRAC_UP	765kV	11UNNT1	Circuit Breaker	Close	Tie CB at Obra_C(UP) end of 765 KV Obra_C_TPS-Unnao (UP) Ckt auto-reclosed
06:34:57,396	OBRAC_UP	765kV	05BRGT2	Circuit Breaker	Open	Tie CB at Obra_C(UP) end of 660 MW GT2 at 765 Obra_C opened
06:34:57,396	OBRAC_UP	765kV	06GT2	Circuit Breaker	Open	Main CB at Obra_C(UP) end of 660 MW GT2 at 765 Obra_C opened
06:34:57,416	OBRAC_UP	765kV	03GT1	Circuit Breaker	Open	Main CB at Obra_C(UP) end of 660 MW GT1 at 765 Obra_C opened
06:34:57,418	OBRAC_UP	765kV	02SPRGT1	Circuit Breaker	Open	Tie CB at Obra_C(UP) end of 660 MW GT1 at 765 Obra_C opened
06:34:57,423	OBRAC_UP	400kV	02T1SPR	Circuit Breaker	Open	Tie CB at 400kV side of 765/400kV 1000MVA ICT-1 at Obra_C(UP) opened
06:34:57,428	OBRAC_UP	400kV	01T1	Circuit Breaker	Open	Main CB at 400kV side of 765/400kV 1000MVA ICT-1 at Obra_C(UP) opened
06:34:57,432	OBRAC_UP	765kV	11UNNT1	Circuit Breaker	Open	Tie CB at 765kV side of 765/400kV 1000MVA ICT-1 at Obra_C(UP) opened
06:34:57,433	OBRAC_UP	765kV	12T1	Circuit Breaker	Open	Main CB at 765kV side of 765/400kV 1000MVA ICT-1 at Obra_C(UP) opened
06:34:57,763	OBRAC_UP	765kV	10UNAOG	Circuit Breaker	Open	Main CB at Obra_C(UP) end of 765 KV Obra_C_TPS-Unnao (UP) Ckt opened

Points of Discussion

i. Reason of tripping of 660 MW Unit-1&2 at Obra_C and 765/400kV 1000 MVA ICT-1 at Obra_C (UP) need to be shared. As line fault cleared within 100msec, Unit and ICT shouldn't have tripped. Earth fault protection setting need to be reviewed. SLDC-UP may share the O/C E/F protection setting details of Units and ICT at Obra_C (UP).
ii. DR(.dat/.cfg) files of tripping of units and ICT at Obra_C need to be shared.
iii. Disturbance recorder at Unnao end (line DR) is not standardized (time sync issue).
iv. Remedial action taken report needs to be shared.

INCIDENT REPORT OF BOTH UNIT AND ICT TRIPPING ON 16.12.2025

CTPS, OBRA

1st Fault Occurrence

- Time: 06:25:08.694 hrs
- BAY: 710 UNNAO LINE
- Fault Type: Y-phase to Earth fault
- Protection Operated: Distance Protection – Zone 2
- Fault Current (Iy): 1.880 kA
- Fault Distance: 342.9 km
- Auto Reclose: Successfully operated

2nd Fault Occurrence

- Time: 06:34:45.845 hrs
- BAY: 710 UNNAO LINE
- Fault Type: Y-phase to Earth fault
- Protection Operated: Distance Protection – Zone 2
- Fault Current (Iy): 1.918 kA
- Auto Reclose: Successfully operated

3rd Fault Occurrence

- Time: 06:34:57.946 hrs
- Fault Type: Y-phase to Earth fault
- Fault Current (Iy): 1.890 kA
- Fault Distance: 328 km
- Auto Reclose: Not operated (AR reclaim time not completed)
- Carrier Signal: No carrier received from remote end
- Protection Operated: Zone 2 tripped after set time delay of 500 ms

SUBSEQUENT TRIPPINGS

- Due to sustained fault persisting for the Zone-2 time delay (500 ms), the following protections operated:
- **ICT-1 (Bay 712):**
  - ✓ Protection: EF1 (IN>2)
  - ✓ Set Current: 230 mA
  - ✓ Operating Time: 150 ms
- **GT-1 & GT-2:**
  - ✓ Protection: EF1 (IN>2)
  - ✓ Set Current: 500 mA Operating
  - ✓ Time: 100 ms

ACTION TAKEN

- EF1 IN>2 STAGE HAS BEEN DISABLED IN THE PROTECTION RELAY SETTINGS OF
- ICT-1
- GT-1 & GT-2
- EF1 (IN>1) STAGE SETTINGS HAVE BEEN MODIFIED IN ICT-1, GT-1 & GT-2 RELAYS TO ENSURE BETTER COORDINATION AND TO AVOID UNNECESSARY TRIPPING DURING REMOTE LINE FAULTS.

OBSERVATION & ANALYSIS

- Repeated Y-phase earth faults occurred on Unnao Line within a short duration.
- Auto reclose operated successfully during the first two instances.
- During the third occurrence, AR could not operate due to reclaim time restriction.
- Absence of carrier signal from the remote end caused the relay to trip in Zone-2 after 500 ms.
- Sustained fault duration resulted in earth fault current flow through the system, leading to the operation of EF1 (IN>2) protection of ICT-1, GT-1, and GT-2.

Multiple element tripping event at 220/66kV South Wazirabad(DTL) at 10:39 hrs on 29.12.2025

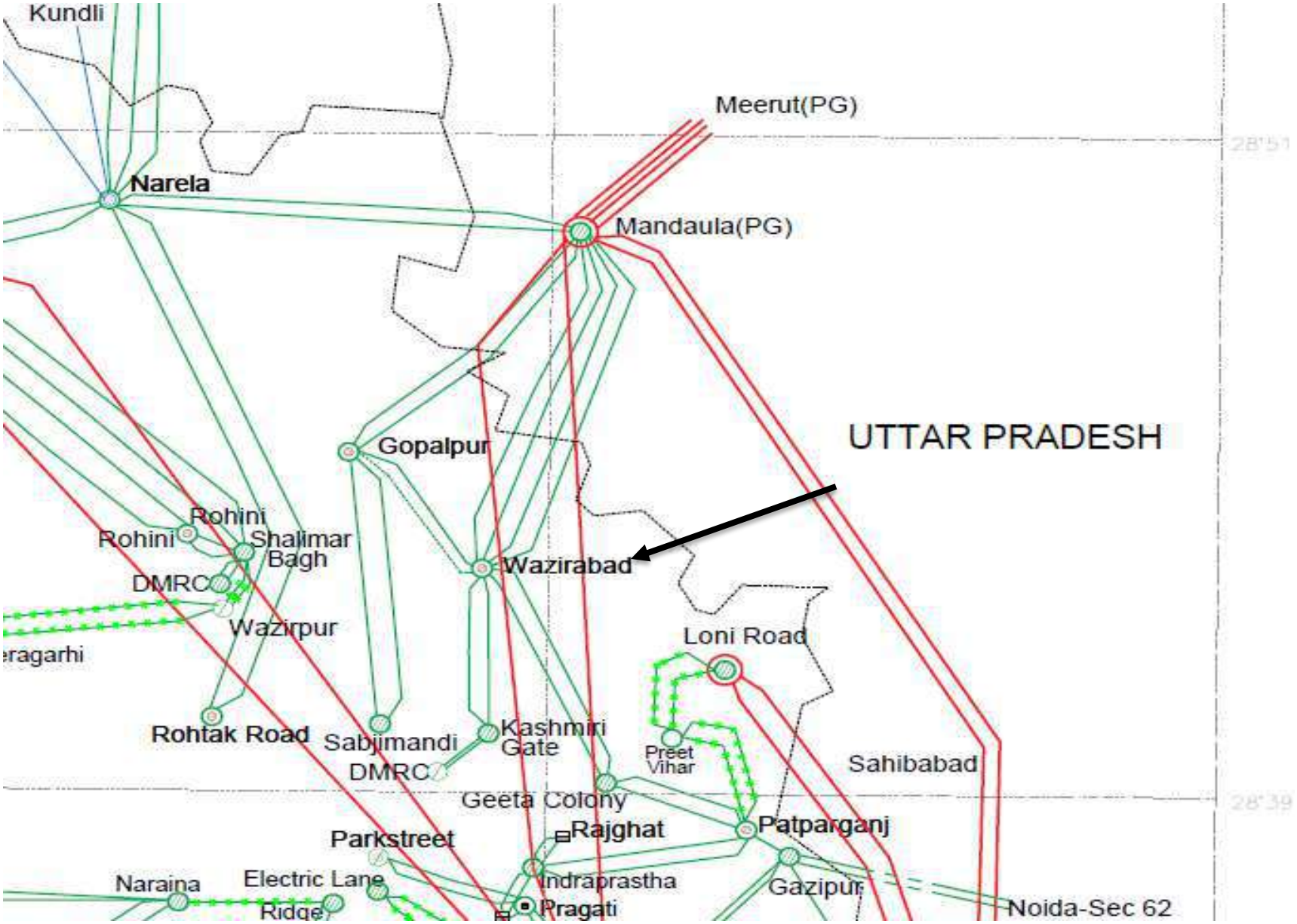
Tripped Elements

S. No	Name of Elements	Outage Time	Revival Time	Reason of tripping
1.	220/66 KV 100 MVA ICT-1 at South Wazirabad(DTL)	10:39 hrs	18:23 hrs	R-Y-B three phase fault
2.	220/66 KV 160 MVA ICT-2 at South Wazirabad(DTL)		10:59 hrs	
3.	220/66 KV 100 MVA ICT-3 at South Wazirabad(DTL)		10:59 hrs	
4.	220/66 KV 160 MVA ICT-4 at South Wazirabad(DTL)		10:59 hrs	

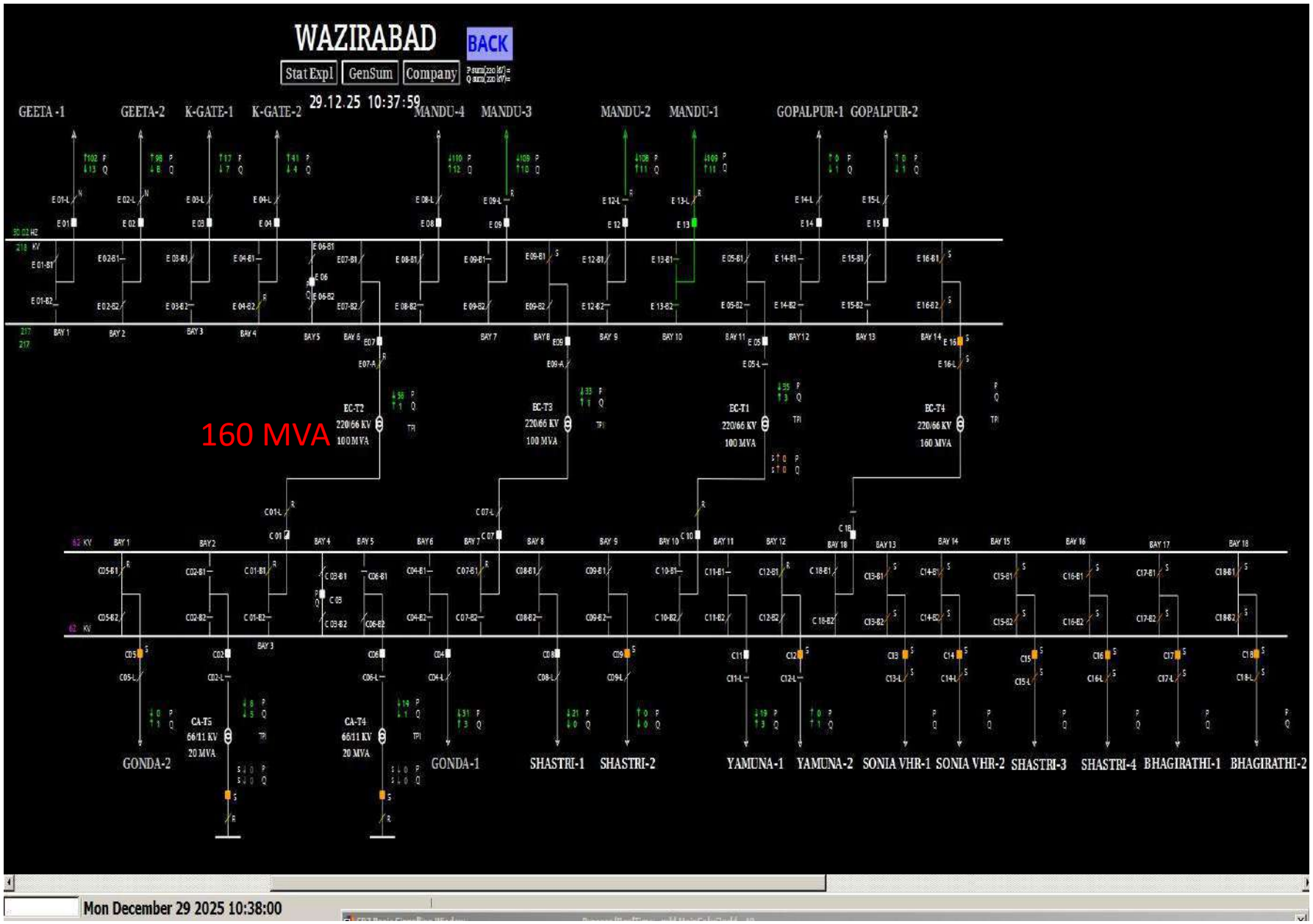
Brief details of the event

- 220/66kV South Wazirabad(DTL) has double main Bus arrangement at 220kV side.
- As reported, at 10:39hrs, during bus shifting operation of 66/11kV 20 MVA transformer at South Wazirabad(DTL), bus fault occurred at 66kV bus. On this fault, all four 220/66kV ICTs at 220kV South Wazirabad(DTL) tripped on overcurrent earth fault protection operation.
- As per PMU at Mandola(PG), R-Y-B three phase fault with delayed clearance of ~600 msec is observed.
- As per DR of ICTs at South Wazirabad(DTL), R-B fault converted into R-Y-B fault with delayed clearance of fault ~600 msec is observed. All four ICTs tripped on overcurrent earth fault protection operation. In case of ICT-3, no significant fault current is observed in phase currents, persistent ~100 A unbalanced current is observed in neutral.
- As per SCADA, change in demand of ~200 MW in Delhi control area is observed. However, as reported by SLDC Delhi load loss of ~160 MW occurred in Delhi control area.

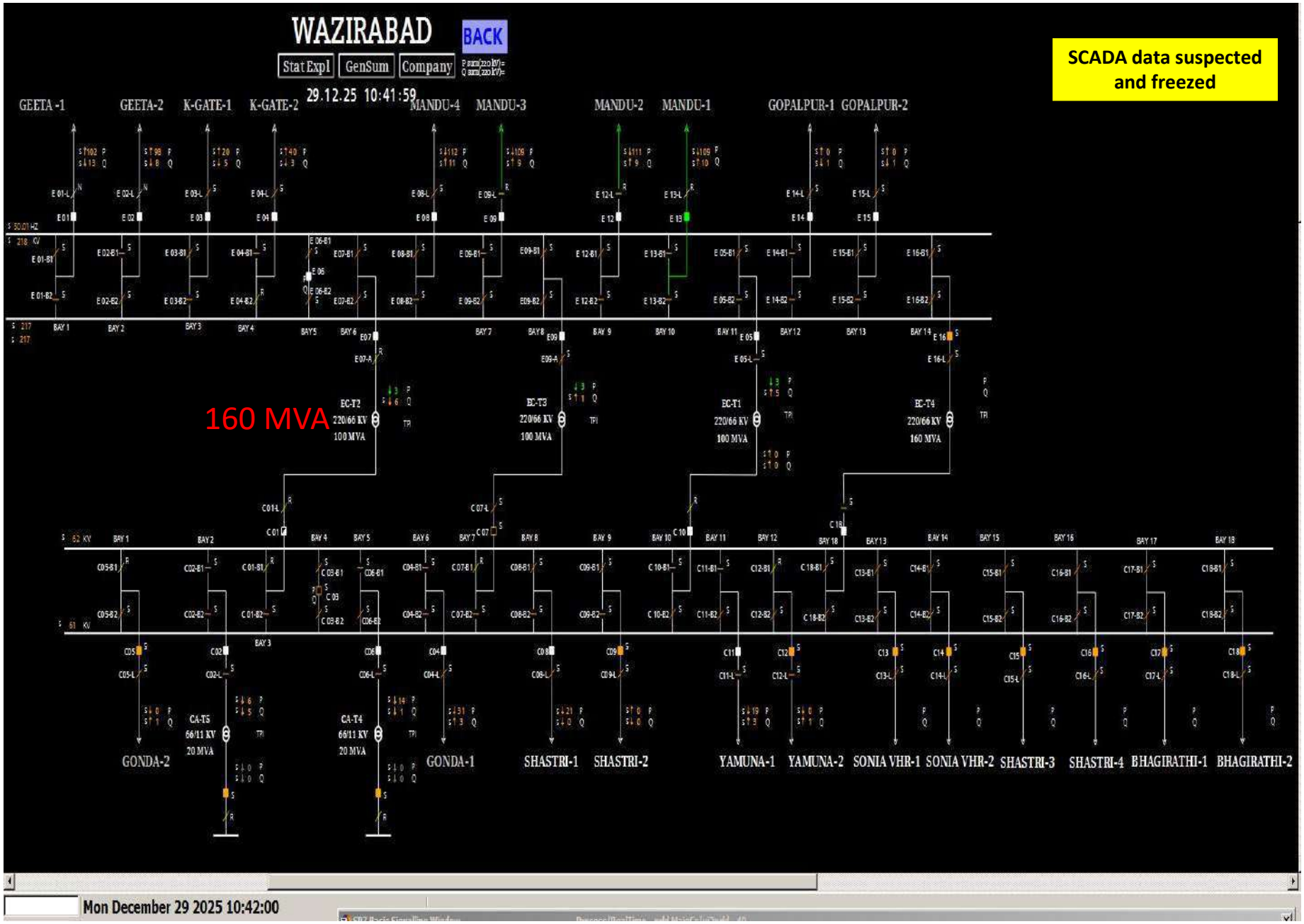
Network connectivity of Anpara Complex



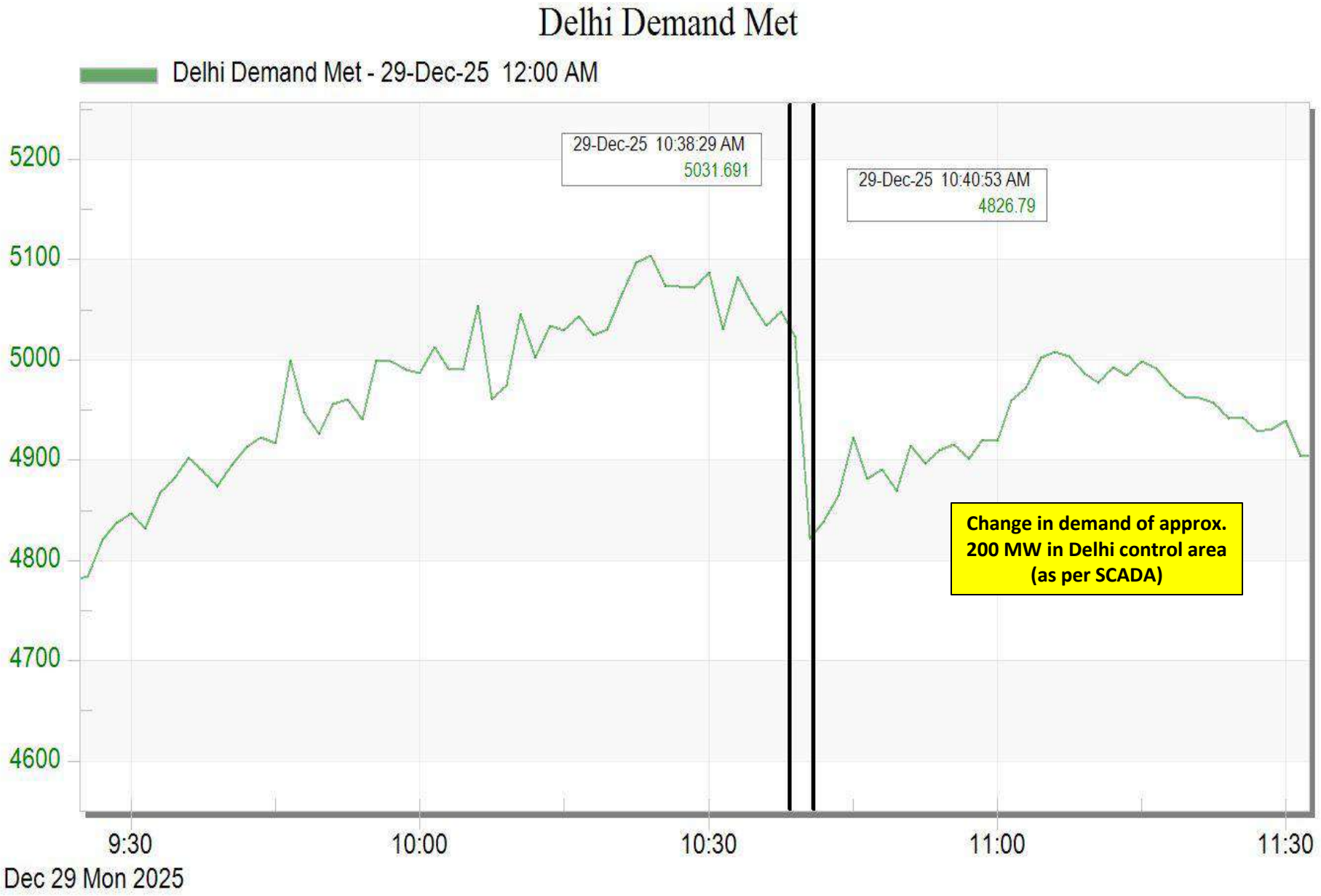
SLD of 220/66kV South Wazirabad(DTL) before the event



SLD of 220/66kV South Wazirabad(DTL) after the event



Delhi Demand during the event

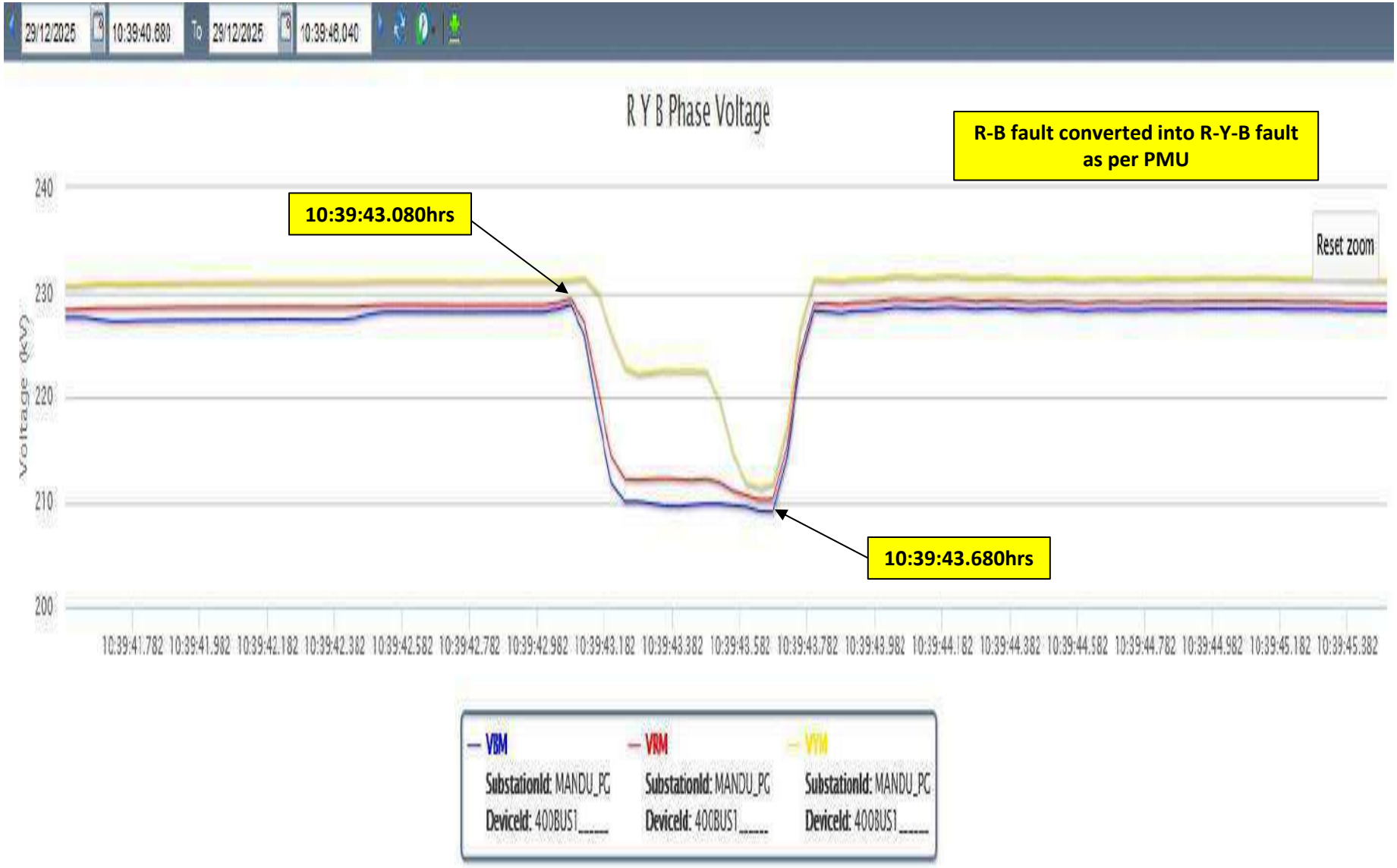


PMU Plot of frequency at Mandola(PG)

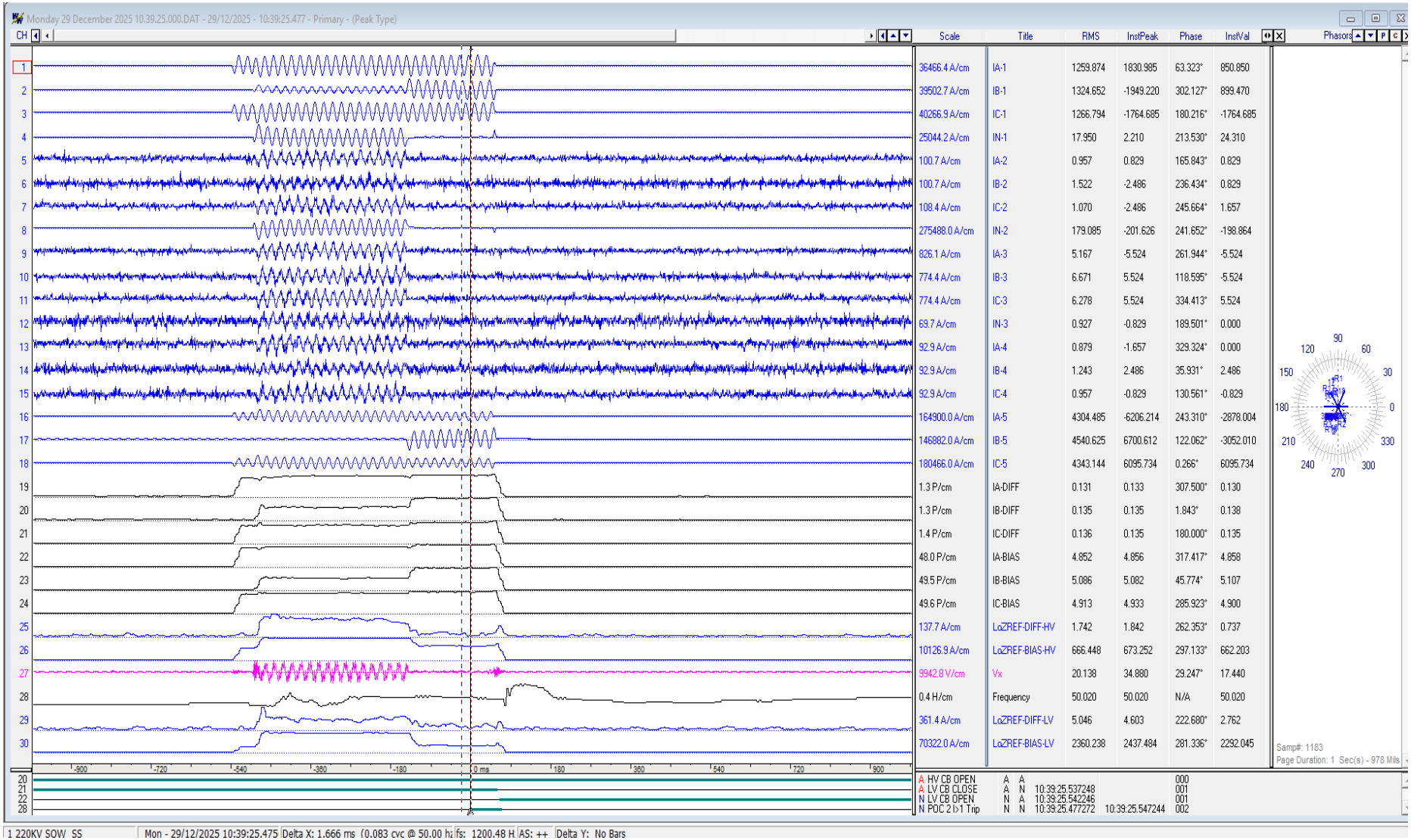
10:39 hrs/29-Dec-25

PMU Plot of phase voltage magnitude at Mandola(PG)

10:39 hrs/29-Dec-25

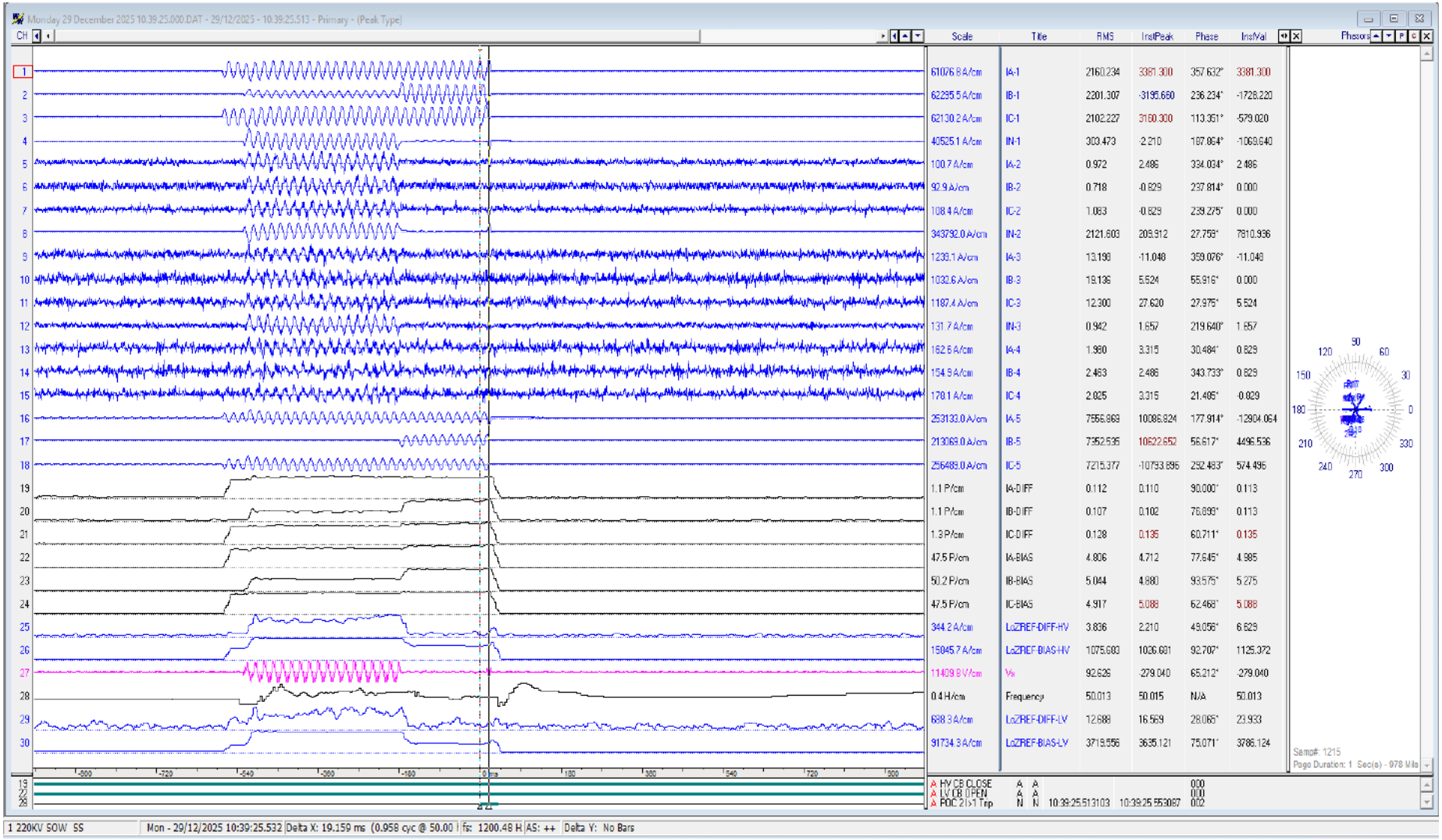


DR of 220/66kV 100 MVA ICT-1 at South Wazirabad(DV)



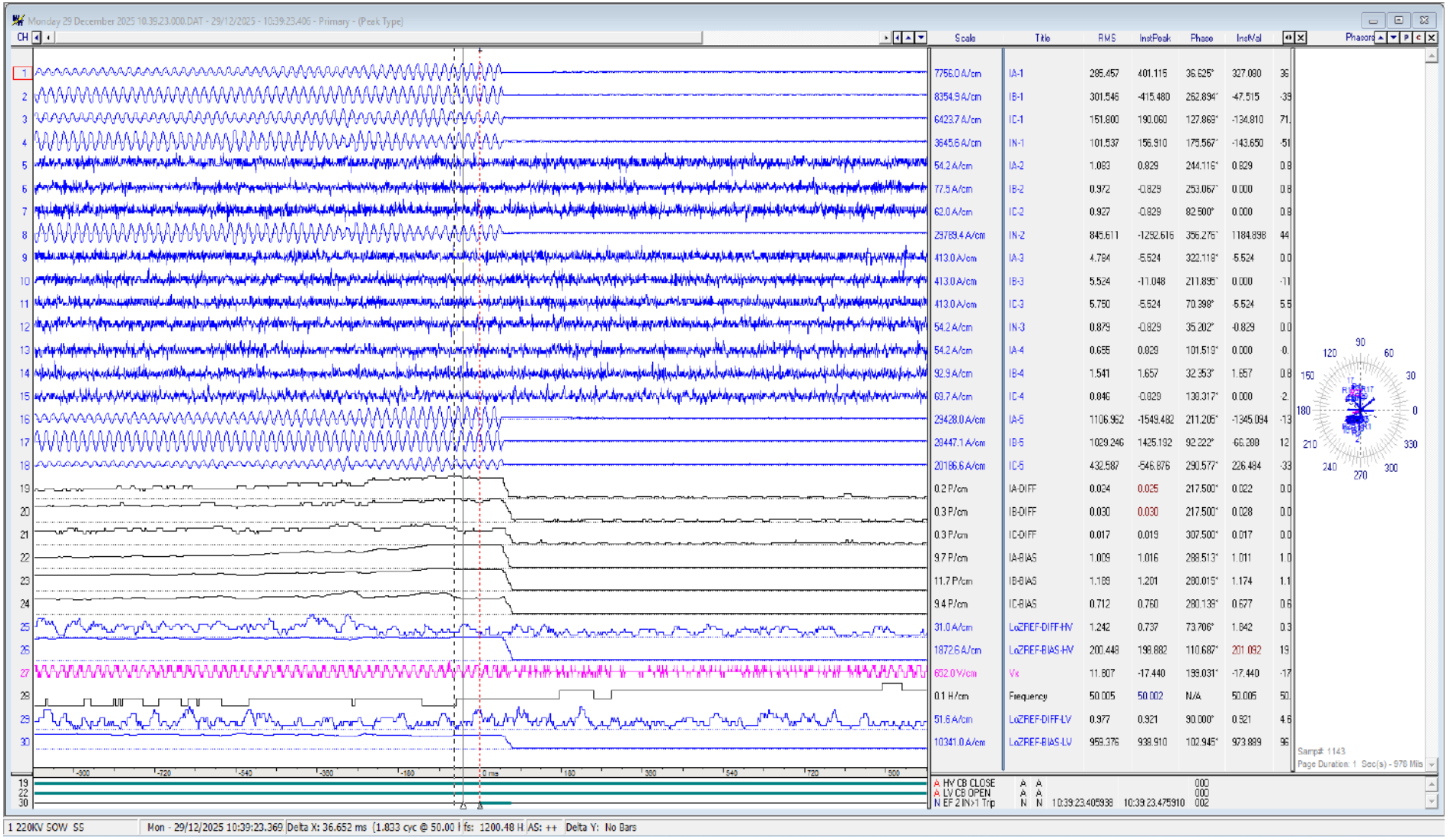
- R-B fault converted into R-Y-B fault
- Overcurrent earth fault protection operated
- Fault clearance time:~600msec

DR of 220/66kV 160 MVA ICT-2 at South Wazirabad(DV)



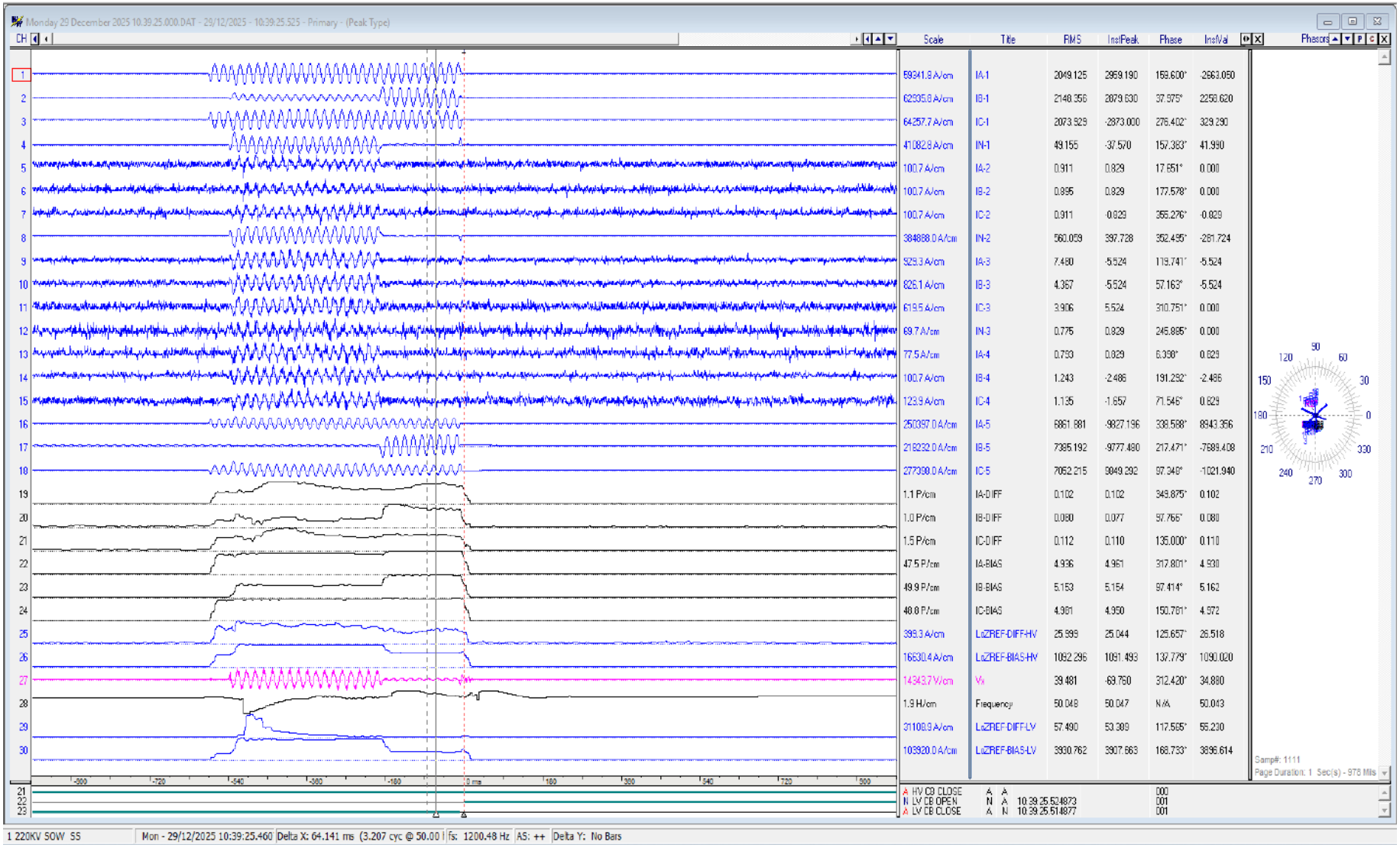
- R-B fault converted into R-Y-B fault
- Overcurrent earth fault protection operated
- Fault clearance time:~600msec

DR of 220/66kV 100 MVA ICT-3 at South Wazirabad(DV)



- No significant fault current observed in phases; ~100A persistent neutral current is observed
- Overcurrent earth fault protection operated

DR of 220/66kV 160 MVA ICT-4 at South Wazirabad(DV)



- R-B fault converted into R-Y-B fault
- Overcurrent earth fault protection operated
- Fault clearance time:~600msec

SCADA SOE

Time	Stattion Name	Voltage	Element Name	Element Type	Element Status	Remarks
10:38:31,968	SOWZIRABAD	66kV	03MBC	Circuit Breaker	Open	
10:38:48,708	SOWZIRABAD	66kV	07T3	Circuit Breaker	Open	CB at 66kV side of 220/66kV 100 MVA ICT-3 at Wazirabad opened

Points of Discussion

i. Reason of occurrence of fault on 66kv bus at South Wazirabad(DTL).
ii. As per DR of ICT-3, no significant fault current is observed in phases. Reason of the same need to be shared.
iii. SCADA data of South Wazirabad(DTL) got freezed after the tripping event. Healthiness of SCADA data needs to be ensured.
iv. Remedial action taken report needs to be shared.

Presentation on DTL Tripping analysis for tripping dated 29th Dec. 2025 in Delhi Area

INTRODUCTION

1. Time & Date of Event: - 10:39 Hrs. 29-12-2025

2. Substation affected along with voltage level: - 220 kV South of Wazirabad (SOW), DTL.

3. Brief event summary: - Tripping occurred at 220 kV SOW on dt.-29.12.2025 at 10:39 hrs. during 66 kV bus changing operation.

4. 220 kV Bus arrangement at 220 kV SOW during the time of incident:-

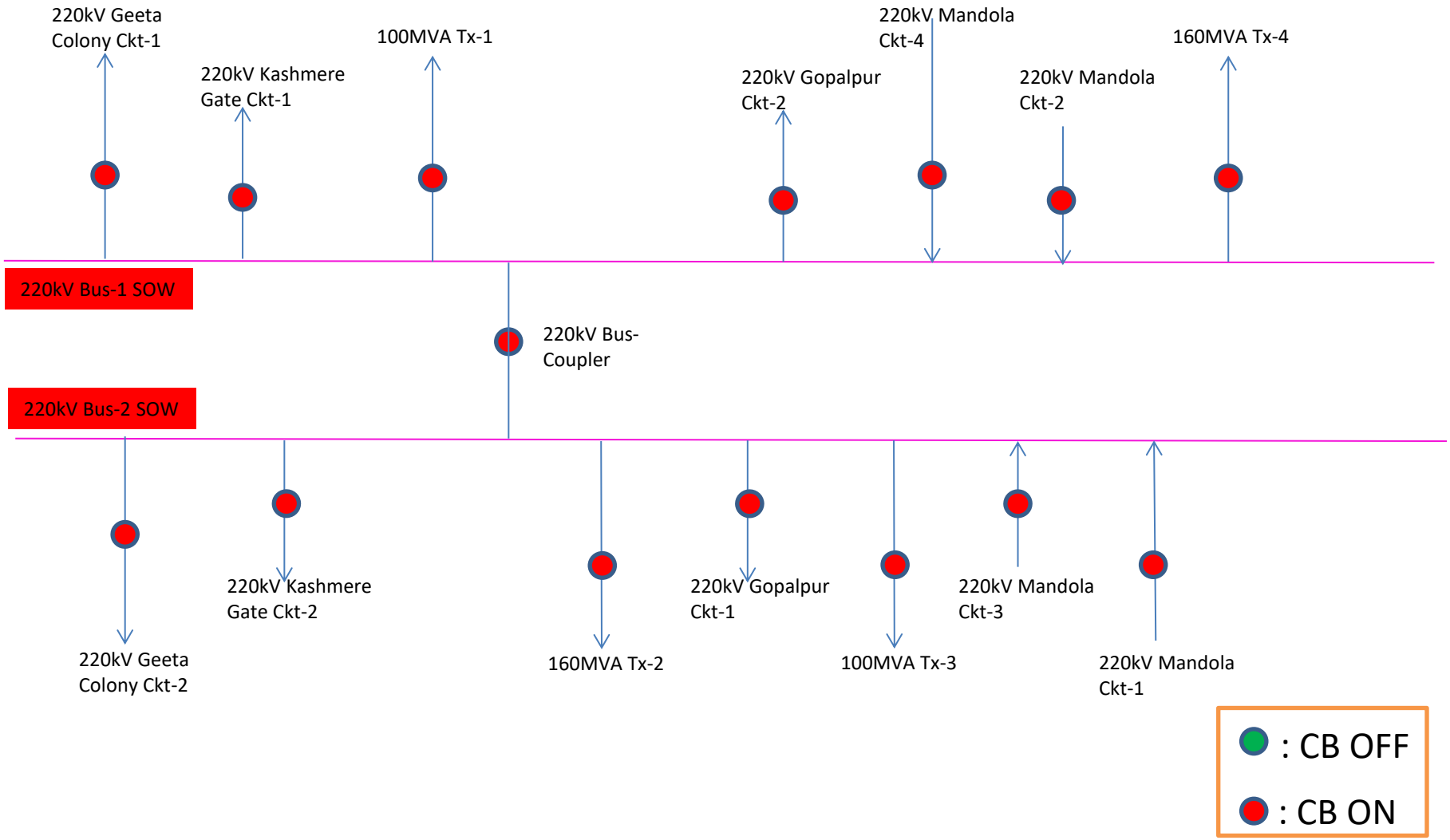
220 kV SOW has double main Bus arrangement at 220 kV side.

220kV Bus-1: 220kV Geeta Colony Ckt-1, 220kV Kashmere Gate Ckt-1, 100MVA Tx-1, 220kV Gopalpur Ckt-2, 220kV Mandola Ckt-4, 220kV Mandola Ckt-2, 160MVA Tx-4

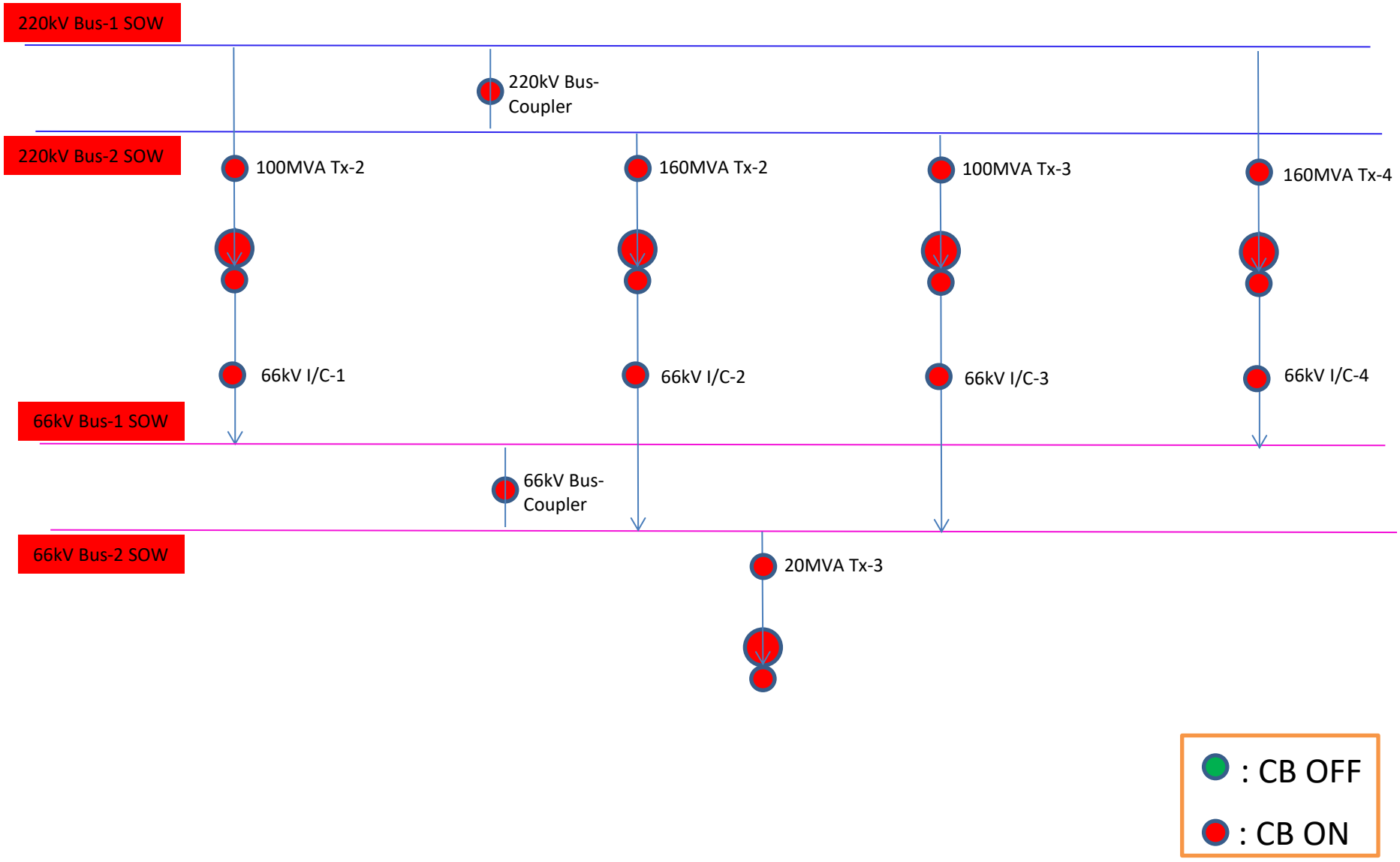
220kV Bus-2: 220kV Geeta Colony Ckt-2, 220kV Kashmere Gate Ckt-2, 160MVA Tx-2, 220kV Gopalpur Ckt-1, 100MVA Tx-3, 220kV Mandola Ckt-3, 220kV Mandola Ckt-1

220kV Bus Coupler was in closed position

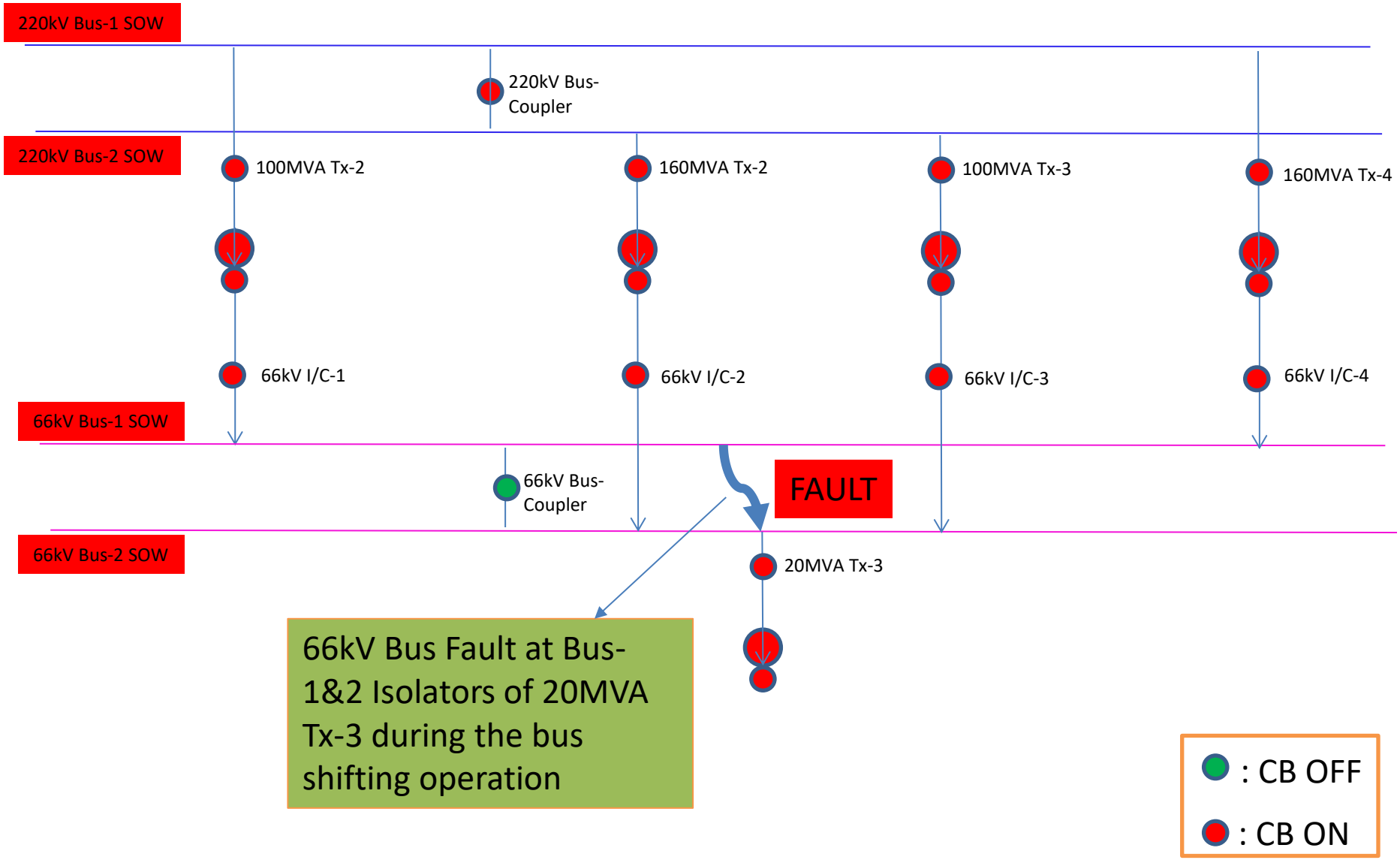
Pre-fault system configuration SLD-220kV



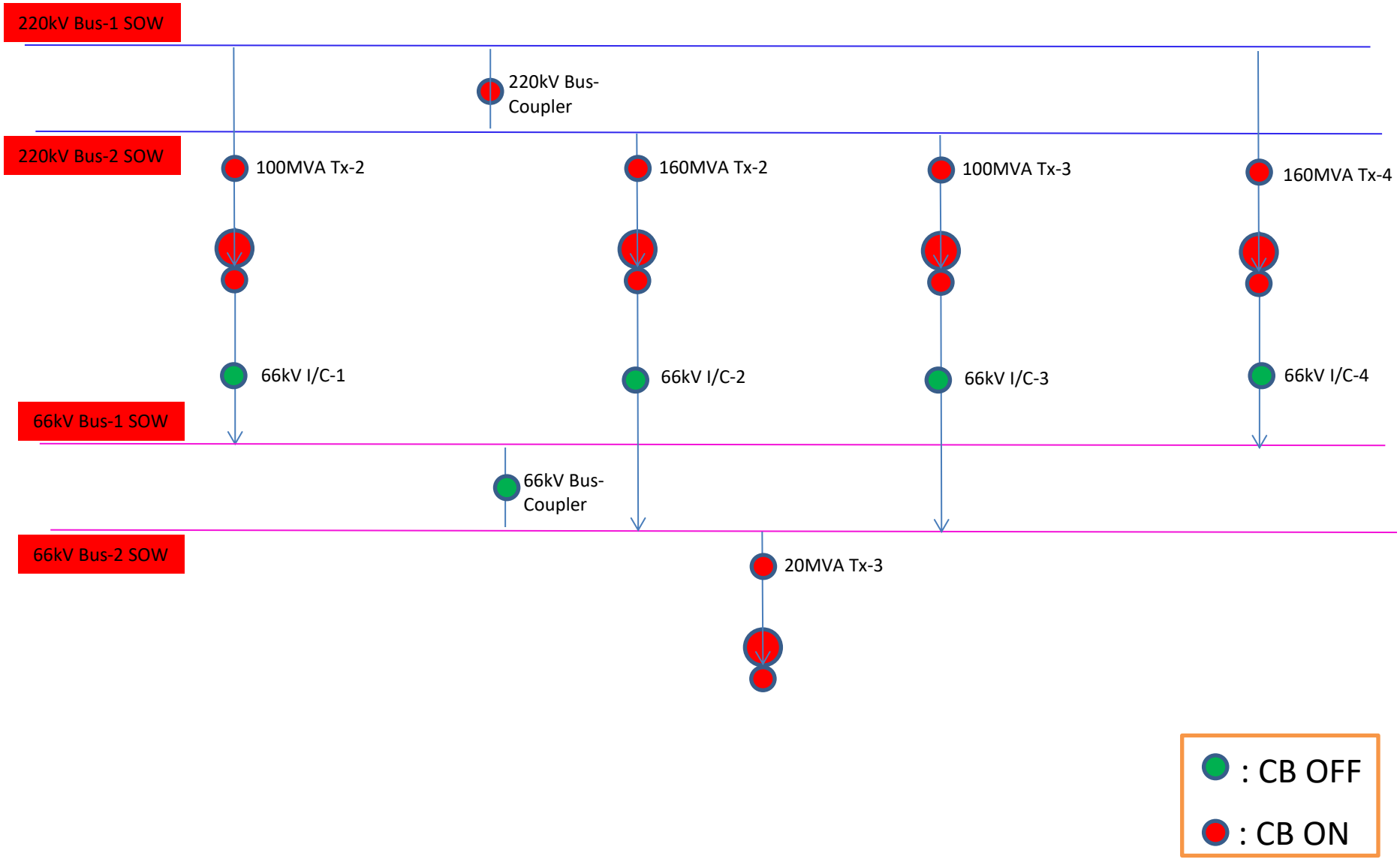
Pre-fault system configuration SLD-66kV



During-fault system configuration SLD-66kV



Post-fault system configuration SLD-66kV



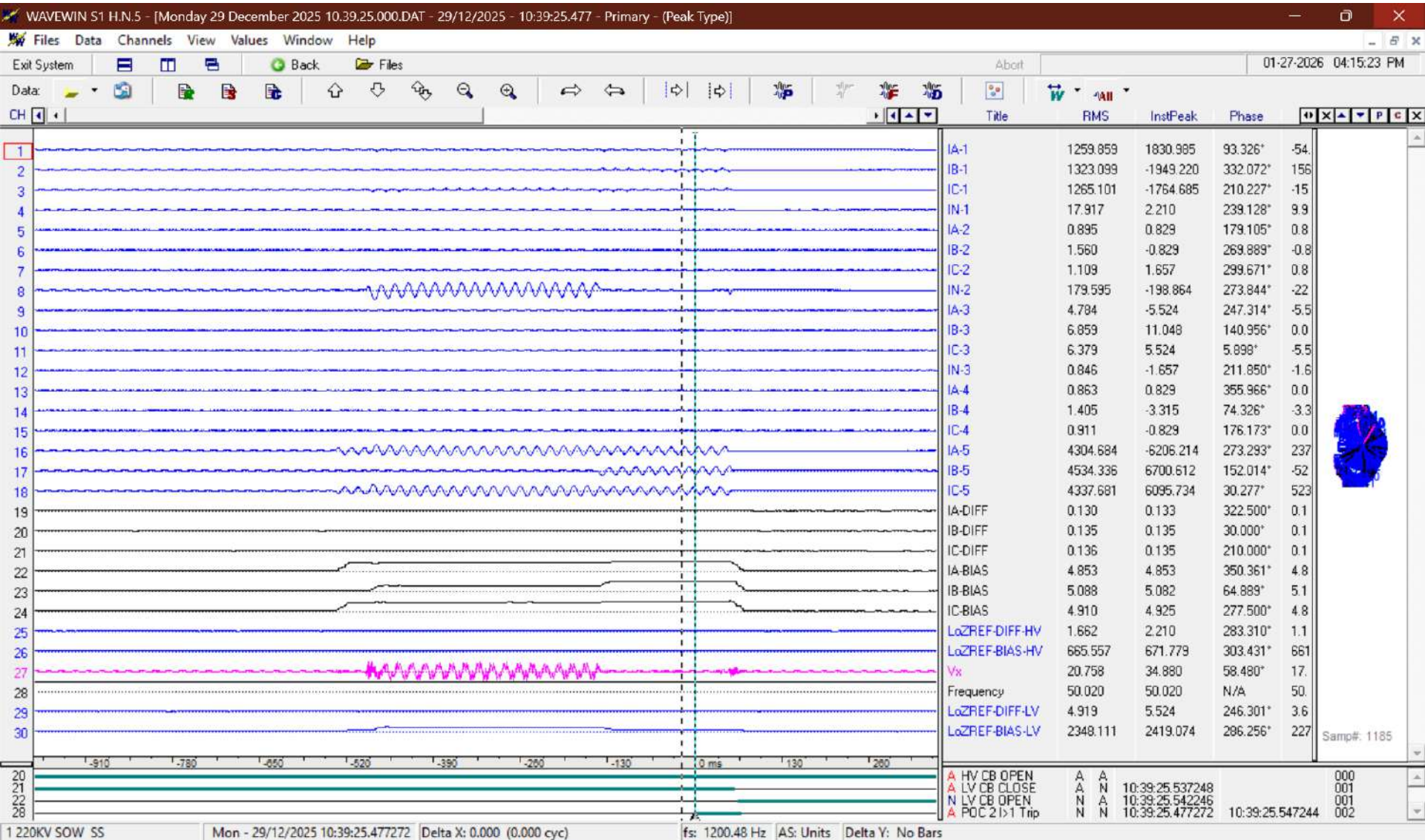
Tripping details:-

S. No.	Name of the element tripped	Date/Time of Tripping	Relay Indications	Remarks
1	66 kV Incomer-1 of 100 MVA Tr-1	29.12.2025 at 10:39 hrs.	Overcurrent prot.	3-phase symmetrical fault of 4.5 kA magnitude cleared after 530 ms on O/C prot.
2	66 kV Incomer-2 of 160 MVA Tr-2	29.12.2025 at 10:39 hrs.	Overcurrent prot.	3-phase symmetrical fault of 7 kA magnitude cleared after 550 ms on O/C prot.
3	66 kV Incomer-3 of 100 MVA Tr-3	29.12.2025 at 10:39 hrs.	Earthfault prot.	1000 Amp. current in LV neutral side.
4	66 kV Incomer-4 of 160 MVA Tr-4	29.12.2025 at 10:39 hrs.	Overcurrent & Earthfault prot.	3-phase symmetrical fault of 7 kA magnitude cleared after 580 ms on O/C, E/F prot.

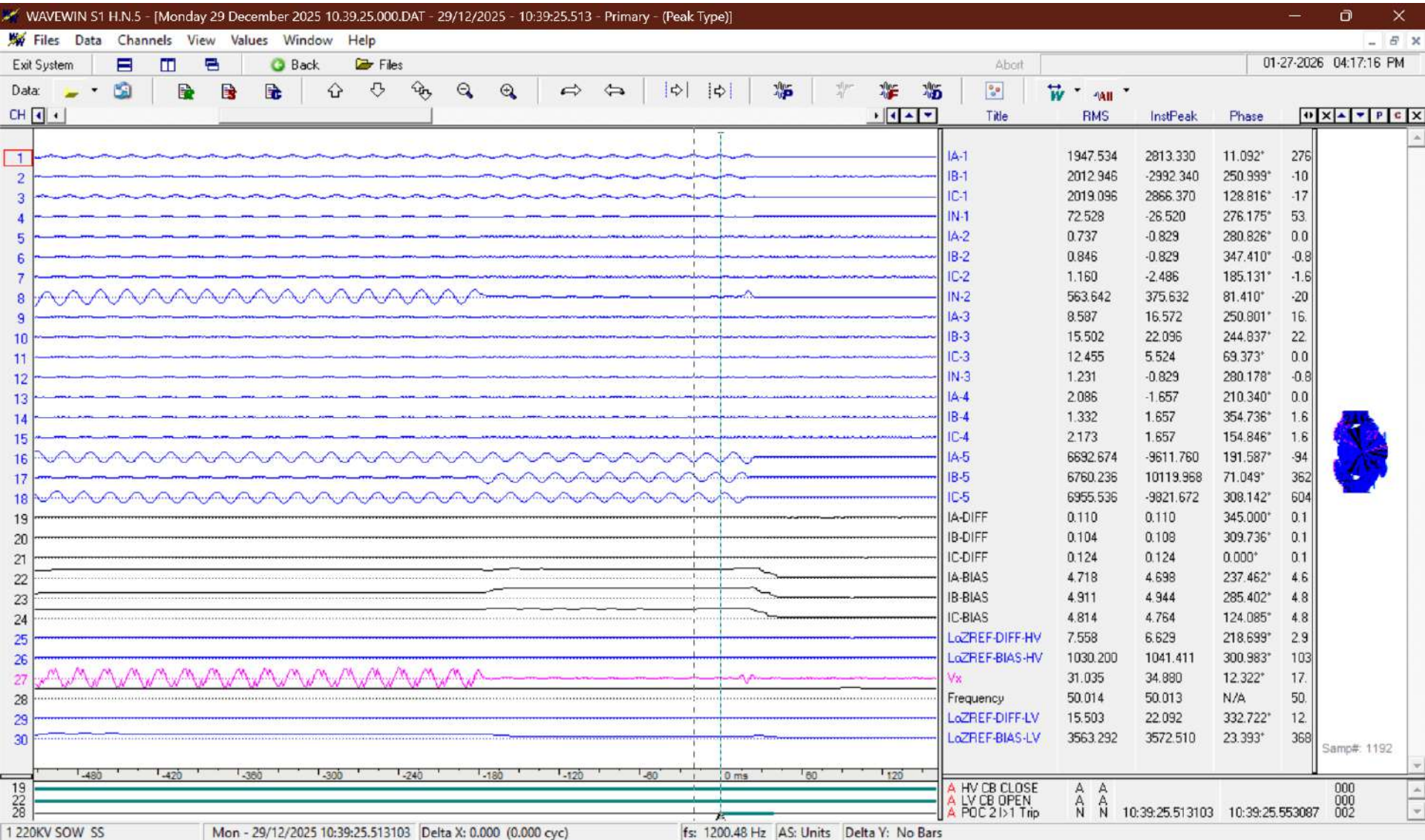
Tripping Analysis:-

All the 4 nos. 66 kV Incomers tripped on the above relay indication due to 66 kV bus fault occurred during the bus shifting operation of 66/11 kV, 20 MVA Tr. The same was attended thereafter.

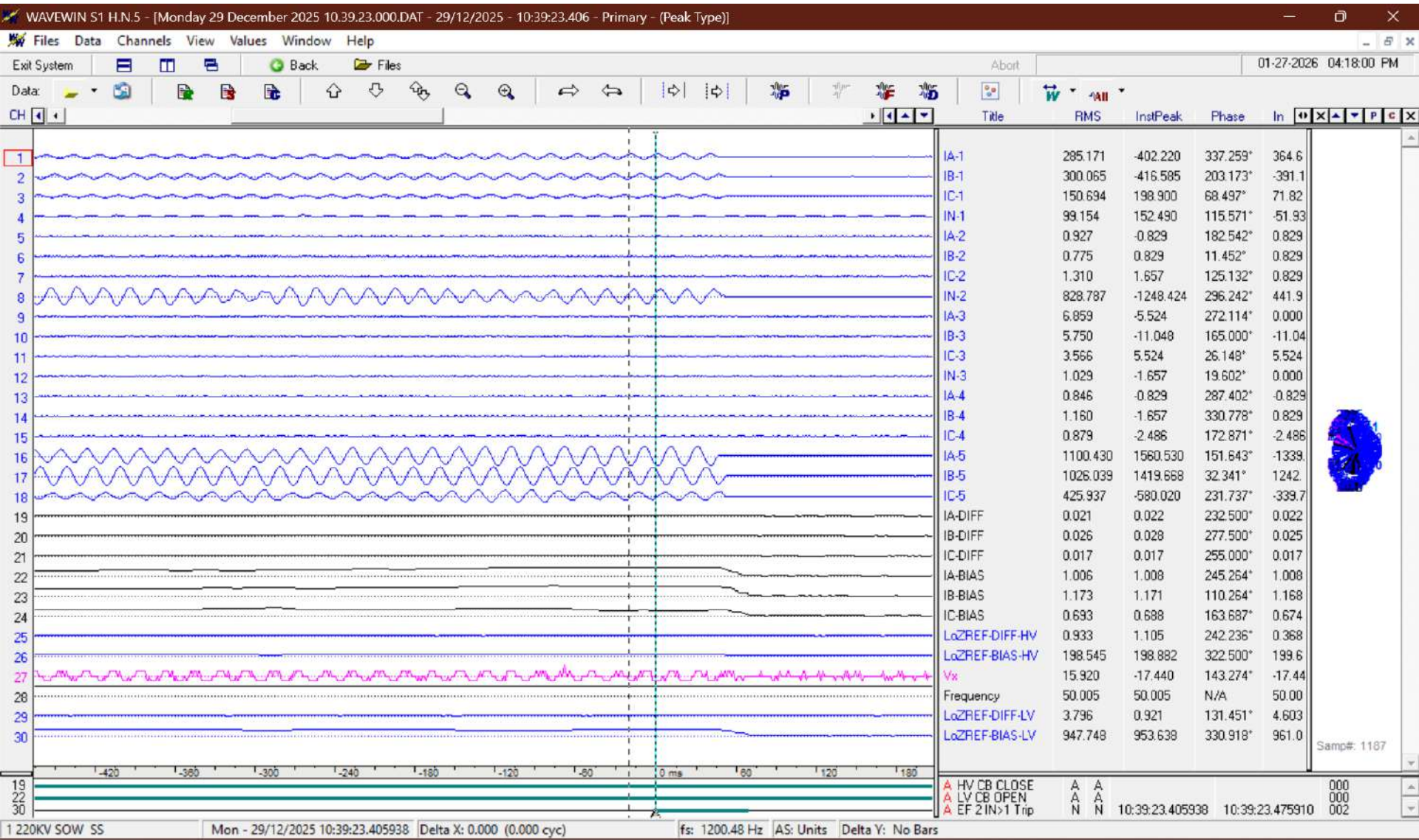
DR of 66kV I/C-1 was tripped off at 220kV SOW at 10:39 Hrs. on 29/12/2025



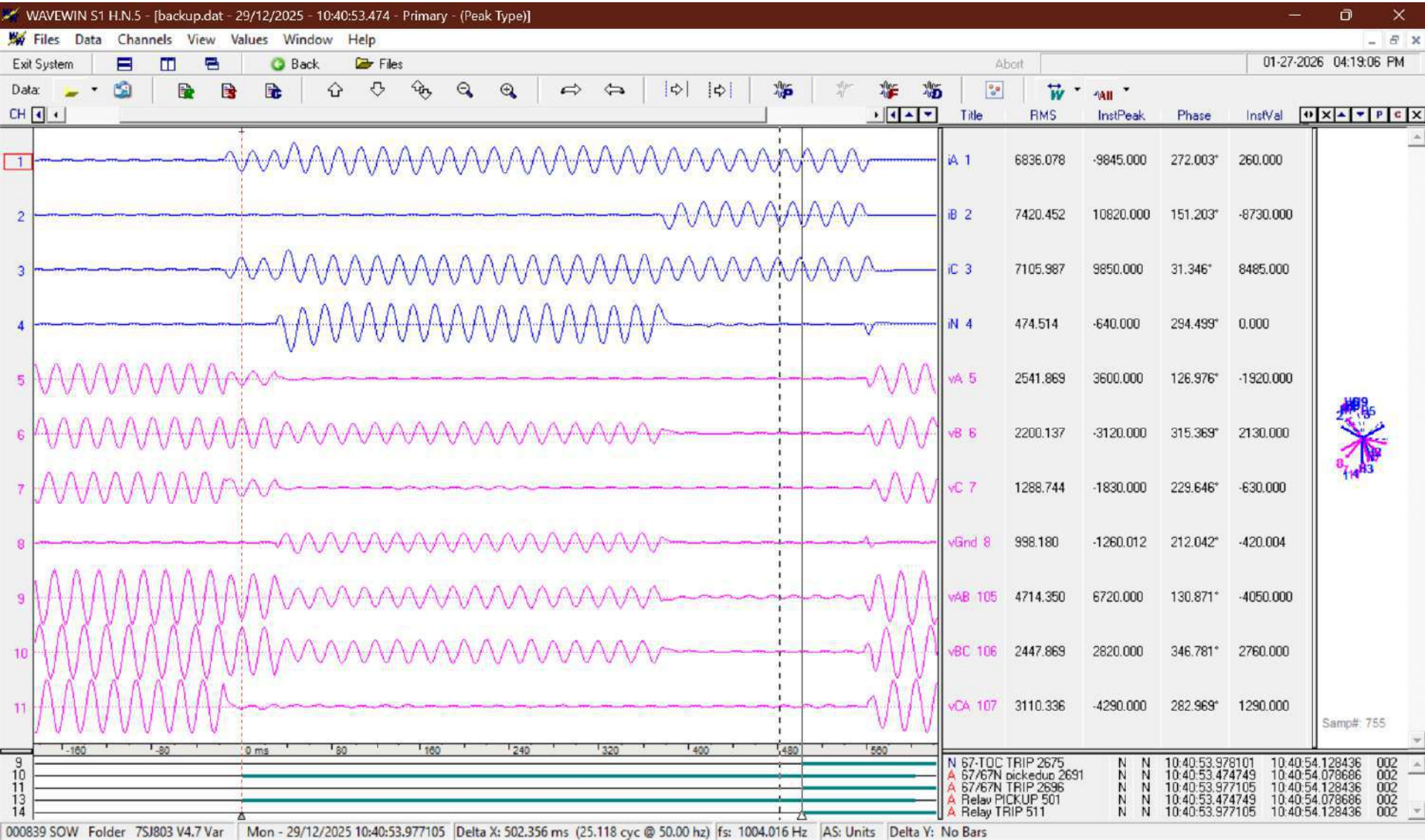
DR of 66kV I/C-2 was tripped off at 220kV SOW at 10:39 Hrs. on 29/12/2025



DR of 66kV I/C-3 was tripped off at 220kV SOW at 10:39 Hrs. on 29/12/2025



DR of 66kV I/C-4 was tripped off at 220kV SOW at 10:39 Hrs. on 29/12/2025



Sr No	Element Name	Outage Date	Outage Time	Reason
1	400 KV Amritsar(PG)-Makhu(PS) (PSTCL) Ckt-1	16-Dec-25	06:42	Phase to earth fault R-N
		17-Dec-25	05:01	Phase to earth fault R-N
		19-Dec-25	07:58	Phase to earth fault R-N
		29-Dec-25	07:09	Phase to earth fault Y-N
		31-Dec-25	08:12	Phase to earth fault R-N
2	220 KV Anta(NT)-Lalsote(RS) (PG) Ckt-1	27-Dec-25	04:04	Phase to earth fault R-N
		27-Dec-25	23:19	Phase to earth fault R-N
		28-Dec-25	00:15	Phase to earth fault R-N
		30-Dec-25	19:58	Phase to earth fault R-N
3	220 KV Ballabhgarh(BB)-Badarpur(NT) (BB) Ckt-2	14-Dec-25	03:59	Phase to earth fault Y-N
		15-Dec-25	00:38	Phase to earth fault Y-N
		18-Dec-25	00:52	Phase to earth fault R-N
		28-Dec-25	22:55	Phase to earth fault R-N
4	220 KV Khara(UP)-Saharanpur(PG) (UP) Ckt-1	18-Dec-25	10:13	Phase to earth fault R-N
		20-Dec-25	01:49	Phase to earth fault Y-N
		23-Dec-25	02:25	Transient fault
		28-Dec-25	05:49	Phase to earth fault B-N
5	400 KV Muzaffarnagar-Ataur (UP) Ckt-1	17-Dec-25	06:51	Auto-Reclosure Problem
		19-Dec-25	01:15	Phase to Ground Fault R-N
		26-Dec-25	06:09	Phase to Ground Fault R-N
		27-Dec-25	03:16	Bus Bar Protection Operated
6	250 MW (PSP) TEHRI HPS - UNIT 6	15-Dec-25	12:45	Closed cooling water (CCW) line flow water meter clogged.
		22-Dec-25	11:00	QSD due to fault in main dewatering valve
		31-Dec-25	22:30	PRV trip

Annexure-B.V

S. No.	Name of Transmission Element Tripped	Owner/ Utility	Outage		Load Loss/ Gen. Loss	Brief Reason (As reported)	Category as per CEA Grid standards	# Fault Clearance Time (>100 ms for 400 kV and 160 ms for 220 kV)	*FIR Furnished (YES/NO)	DR/EL provided in 24 hrs (YES/NO)	Other Protection Issues and Non Compliance (inference from PMU, utility details)	Remarks
			Date	Time								
1	400 KV Gorakhpur(PG)-Motihari(BS) (PG) Ckt-1	POWERGRID	01-Dec-25	09:21	Nil	Phase to Phase Fault R-B	NA	80 ms	Yes	Yes	-	As per PMU and DR, R-B phase to phase fault is observed. Fault was in Z-1 (54.8km(29%)) from Gorakhpur end and fault current was Ir & Ib= ~7.5kA.
2	765 KV Balia-Gaya (PG) Ckt-1	POWERGRID	01-Dec-25	14:20	Nil	Phase to Phase Fault Y-B	NA	80 ms	Yes	Yes	-	As per PMU and DR, Y-B phase to phase fault is observed. Fault was in Z-1 (14.1km(6%)) from Balia end and fault current was Iy & Ib= ~13.5kA.
3	765 KV Orai-Satna (PG) Ckt-1	POWERGRID	05-Dec-25	06:42	Nil	Phase to earth fault B-N	NA	80 ms	Yes	No	DR/EL not received	As per PMU, B-N phase to earth fault with unsuccessful A/R is observed.
4	400 KV Allahabad-Sasaram (PG) Ckt-1	POWERGRID	05-Dec-25	23:49	Nil	PLCC maloperation	NA	NA	No	No	FIR/DR/EL not received; PLCC maloperation	As per PMU, no fault in system is observed
5	400 KV Sahupuri(UP)-Biharshariff(PG) (PG) Ckt-1	POWERGRID	17-Dec-25	23:11	Nil	Phase to earth fault R-N	NA	80 ms	Yes	Yes	A/R non operation at Sahupuri end	As per PMU & DR, R-N phase to earth fault with no A/R operation at Sahupuri end is observed. Fault location was 1.5km from Sahupuri end fault current was 12.6km.
6	400 KV Allahabad-Sasaram (PG) Ckt-1	POWERGRID	18-Dec-25	00:31	Nil	Phase to earth fault Y-N	NA	80 ms	No	No	FIR/DR/EL not received	As per PMU, Y-N phase to earth fault with unsuccessful A/R is observed.
7	220 KV Auraiya(NT)-Malanpur(MP) (PG) Ckt-1	MPSEBL	18-Dec-25	01:07	Nil	Phase to earth fault R-N	NA	80 ms	No	No	FIR/DR/EL not received	As per PMU, R-N fault with no A/R is observed.
8	765 KV Balia-Gaya (PG) Ckt-1	POWERGRID	18-Dec-25	13:10	Nil	Phase to earth fault Y-N	NA	NA	No	No	FIR/DR/EL not received	As per PMU, no fault is observed in the system.
9	765 KV Balia-Gaya (PG) Ckt-1	POWERGRID	23-Dec-25	02:01	Nil	Phase to earth fault R-N	NA	80 ms	No	No	FIR/DR/EL not received	As per PMU, two consecutive R-N phase to earth faults (within reclaim time) is observed.
10	400 KV Balia-Biharshariff (PG) Ckt-2	POWERGRID	23-Dec-25	05:57	Nil	Phase to earth fault B-N	NA	80 ms	No	No	FIR/DR/EL not received	As per PMU, B-N phase to earth fault with unsuccessful A/R is observed.
11	800 KV HVDC Kurukshetra(PG) Pole-1	POWERGRID	30-Dec-25	12:17	Nil	Tripped /Blocked on Converter differential.	NA	NA	No	No	FIR/DR/EL not received	As per PMU, fluctuation in voltage and no fault in system is observed.

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

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

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

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

Reporting of Violation of Regulation for various issues for above tripping

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

REPORT ON TRIPING AT KANPUR 400 KV SUBSTATION ON 05.01.26 AND 07.01.26

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A. Tripping of all elements of 400 kV at 00:28 Hrs. on 05.01.26

I. Sequence of events during tripping

1. 400 KV Kanpur-Ballabhgarh-1 line was opened on voltage regulation from Ballabhgarh end. DT received at Kanpur end in Channel-1 only.
2. Main and tie CB of 400 KV Kanpur-Ballabhgarh-1 line opened on receipt of DT.

S. No.	Element tripped	CB opened	TImestamp
1	400 kV Kanpur-Ballabhgarh-1	416-52	00:28:11.482
		417-52	00:28:11.485

3. **From DR it is observed that after opening of circuit breakers, current and voltage reduced in all 03 phases, however, after around 1.2 sec., B phase voltage increased to normal value and current increased up to 300 A and then kept fluctuating around value of 200 A.**
4. RAICA relay is used for BFR protection in above bay. Setting of BFR protection is 200 A (primary).
5. As current value was fluctuating around LBB operated signal was getting high and reset several times.
6. Bus bar trip due to BFR back trip was issued for 400 kV Bus-2 at 00:28:13.513.

S. No.	Timestamp	Protection operated
1	00:28:13.513	Bus-2 busbar protection operated (due to LBB backtrip)

7. Thereafter trip was issued to all circuit breakers connected to Bus-2. **All circuit breakers opened except 426-52 (Main CB of ICT-1). 426-52 relay did not open due to faulty 96 relay**.

S. No.	Element	Timestamp	CB opened
1	Tie CB of bus reactor connected to Bus-2 through future bay	00:28:13.540	408-52
2	Main CB of 400 KV Kanpur-Kanpur GIS-2 line	00:28:13.545	429-52
3	Main CB of 400 KV Kanpur-Allahabad line	00:28:13.547	432-52
4	Main CB of 400 KV Kanpur-Auraiya-2 line	00:28:13.552	414-52
5	Main CB of 400 KV Kanpur-Ballabhgarh-3 line	00:28:13.554	420-52

8. Since 426-52 CB did not open on BFR back trip, fault on Bus-2 due to 417 bay circuit breaker was being continuously fed through 426-52 circuit breaker.
9. **Thereafter, after a delay of around 45 sec.** fault current in B phase jumped to 9 kA and remaining elements connected to 400 kV Bus-1 also tripped as per below –

S. No.	Element	CB opened	Timestamp	Protection operated	Fault current (B phase)
1	400 KV Kanpur-Ballabhgarh-2	413-52	00:28:58.137	Line did not trip from Kanpur end. Tie CB opened on tripping of 400 kV Kanpur-Auraiya-2. Main CB did not open from Kanpur end. Line opened from remote end on Z2.	1.13 kA
2	400 KV Kanpur-Ballabhgarh-3	420-52 419-52	00:28:13.554 00:28:58.330	Line did not trip from Kanpur end. Main CB opened on BFR back trip. Tie CB opened on	1.13 kA

				tripping of 400 kV Kanpur-Auraiya-1. Line opened from remote end on Z2.	
3	400 kV Kanpur-Auraiya-1	418-52 419-52	00:28:58.330 00:28:58.330	Main-1 Micom relay tripped on Z4 protection.	2.07 kA
4	400 kV Kanpur-Auraiya-2	413-52	00:28:58.137	Main-1 Micom relay tripped on Z4. Main CB already opened on BFR back trip. Line was charged from Auraiya end.	2.05 kA
5	400 kV Kanpur-Agra	415-52	00:28:59.334	Main-1 Micom relay tripped on Z4.	1.74 kA
6	400 kV Kanpur-Allahabad	431-52	00:28:58.322	Zone-4 operated in Main-1 REL and Main-2 Micom.	1.88 kA
7	ICT-1	426-52 425-52	00:28:58.334 00:28:58:349	BUI protection operated in Zone-4.	2.27 kA

10. In addition to above elements, following elements fed fault current but did not trip –
    a. ICT-2 – 2.24 kA
    b. 400 KV Kanpur-Kanpur GIS-1 – 4.46 kA
    c. 400 KV Kanpur-Kanpur GIS-2 – 4.44 kA
11. **During above fault instance, 400 KV Kanpur-Ballabhgarh-1 recorded fault current of 9.12 kA in forward direction**.
12. Fault in Bus-2 due to failure of 417 circuit breaker cleared after tripping of ICT-2. However, due to blast in CB, flash over spread to adjacent Bus-1 R phase and caused fault in Bus-1. Following elements which were still connected fed the fault in Bus-1 and then tripped.

S. No.	Element	CB opened	Timestamp	Protection operated	Fault current (R phase)
1	ICT-2	430-52	00:28:59.539	IV Overcurrent	2.75 kA
2	400 KV Kanpur-Kanpur GIS-2		00:29:00.244	Tripped from GIS end on Zone-3	4.55 kA
3	400 KV Kanpur-Kanpur GIS-1		00:29:00.249	Tripped from GIS end on Zone-3	4.47 kA

Figure 1Flashover marks on Bus-1 R phase after 417 CB blast

13. Busbar Zone-1 or Zone-2 protection did not operate. Checkzone operated event time stamp as per NTAMC SOE are as below –

S. No.	Timestamp	Event
1	00:28:57.804	Check zone Operated
2	00:28:58.369	Check zone Reset
3	00:28:58.699	Check zone Operated
4	00:29:00.288	Check zone Reset

14. From above check zone events it is observed that check zone protection operated in both events of bus fault, i.e., fault of Bus-1 and Bus-2.
15. Following 220 kV elements also tripped from other end during above fault. These elements were charged from Kanpur end.
    a. 220 kV Kanpur-Sikandra
    b. 220 kV Kanpur-Rania
    c. 220 kV Kanpur-Naubasta
16. Sequence of restoration of elements is attached at Annexure-1.

II. Details of restoration activity

1. Following equipment were found damaged after CB blast in 417 bay –
    a. 417 bay B phase circuit breaker was completely damaged due to blast.
    b. 417 bay B phase CT bellow was damaged and oil was spilled.

Figure 2 Damaged B phase CT and CB

    c. 417 bay Y phase circuit breaker interrupter porcelain cover was damaged.

Figure 3 Damaged porcelain on Y phase CB

d. 417 bay B phase CT cables were damaged due to flashover.

Figure 4 Damaged CT cables

e. 417 line bay jack bus porcelain insulators in Y phase were damaged.

Figure 5 Damaged insulator discs of line bay jack bus

f. 417-89 bus side isolator jumper dropper from jack bus was damaged.

Figure 6 417-89 bus side isolator jumper dropper from jack bus was damaged

g. 417-89 bus side isolator bus side female contact was damaged.

2. All the above damaged equipment were new with healthy spares and 417 bay was taken in service at 12:09 Hrs. on 14.01.2026.

III. Discrepancies observed during tripping

1. Following discrepancies observed on 05.01.26 –

S. No.	Element wise discrepancy	Remarks
1.	400 kV Kanpur - Ballabhgarh-1 a. DT received in only one channel. b. DT received event is not logged in DR as DT receive relay third coil used for event logger is faulty.	a. To be checked at Ballabhgarh end as counter did not increment in DTPC at Kanpur end. b. Spare relay is not available. Said coil is used for event logger and tripping is extended to CB through other coil. Matter already reported to RHQ-AM via email dtd. 08.03.25.
2.	400 kV Kanpur - Ballabhgarh-2 a. Both relay did not issue trip in Zone-4.	a. From Siprotec relay DR it is seen that relay did sense fault in reverse zone, but fault impedance was not within the Zone-4 reach. Reverse zone reach may be reviewed.
3.	400 kV Kanpur - Ballabhgarh-3 a. Both relay did not issue trip in Zone-4.	a. From Siprotec relay DR it is seen that relay did sense fault in reverse zone, but fault impedance was not within the Zone-4 reach. Reverse zone reach may be reviewed.
4.	400 kV Kanpur - Auraiya-1 a. Main-2 REL relay did not operate on Z4.	a. Issue is taken up with OEM.
5.	400 kV Kanpur - Auraiya-2 a. Main-2 REL relay did not operate on Z4	a. Issue is taken up with OEM.
6.	400 kV Kanpur - Agra	

	a. Agra Main2 Siemens relay did not operate on Z4.	a. Distance protection started in reverse direction but did not issue trip. As fault instance DR is not triggered, impedance seen by relay could not be cross checked.
7.	400 KV Kanpur-Kanpur GIS-1 and 400 KV Kanpur-Kanpur GIS-2 a. Did not operate on Z4	a. In 400 KV Kanpur-Kanpur GIS-1 and 2 lines, line CVT is installed after series line reactor towards line side. Therefore, impedance of series reactor is read by distance relays in reverse direction. This is reflected in higher voltages read by line protection relay in these lines as compared to other lines in case of bus fault. In event of 07.01.26, there was solid earthed (Bus-2 earth switch was closed) three phase ground fault on bus. The fault voltage and current read by these line relays is around 72 kV and 6 kA respectively, which translates to impedance of 12 ohm, same as rating of series reactor. As series reactor is not considered in calculation of Z4 reach, lines did not trip on Z4.
8.	ICT-1 a. 96 relay did not operate on LBB backtrip	a. 96 relay was found faulty. However, relay was healthy during bus bar testing in 2021.
9.	400 kV Bus-1 a. Bus bar protection did not operate.	a. Checkzone protection had operated. In addition, input CT neutral point was found loose from test plug during testing on 06.01.2026. Value of stabilizing resistance was also set very high as per communication received from RHQ-AM in 2021. However, bus bar protection was found healthy during testing on 06.01.2026 after reducing the value of stabilizing resistance.
10.	400 kV Bus-2 a. Bus bar protection did not operate.	b. Due to high stabilizing resistance set as per RHQ-AM instruction, it is anticipated that bus bar protection did not operate. However, bus bar protection was found healthy during testing on 07.01.2026 after reducing the value of stabilizing resistance.

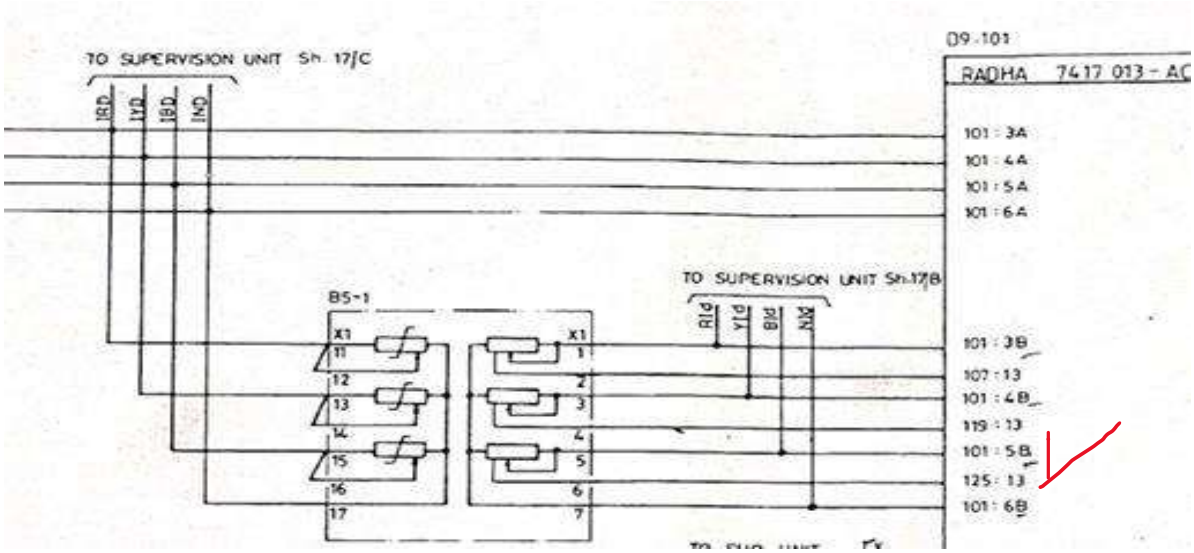
The above-mentioned discrepancies were investigated and RCA for the same is as follows:

1. **Non operation of 400kV Bus Bar protection 1**

High impedance Electrostatic bus bar differential relay (RADHA, Make: ABB) is used in the bus bar protection scheme. S/D of 400kV Bus-1 was taken on 06.01.26 respectively to check and test the said bus bar protection relay along with the scheme. During checking & testing following discrepancies were identified in Bus- Bar protection scheme that led to its non-operation.

- CT Neutral connection of the bus bar relay for Bus-1 was found loose at the relay terminal (101:6B).
- Stabilizing resistance was set to 6.5K Ohm in place of 470 Ohm

After rectification of the above discrepancies, the bus bar protection scheme is operating properly.



2. **Non-opening of 426 Main Bay of ICT-1 on LBB of 417 Bay (Connected to Bus-2)**

ABB make heavy-duty, bistable (throw-over / latching) auxiliary **96 relays (Model RXMVB4)** is used along with High impedance electrostatic bus bar differential relay (RADHA, Make: ABB) in 426 Bay to extend the tripping to it's circuit breaker in case of operation of bus bar differential protection and main bay LBB.

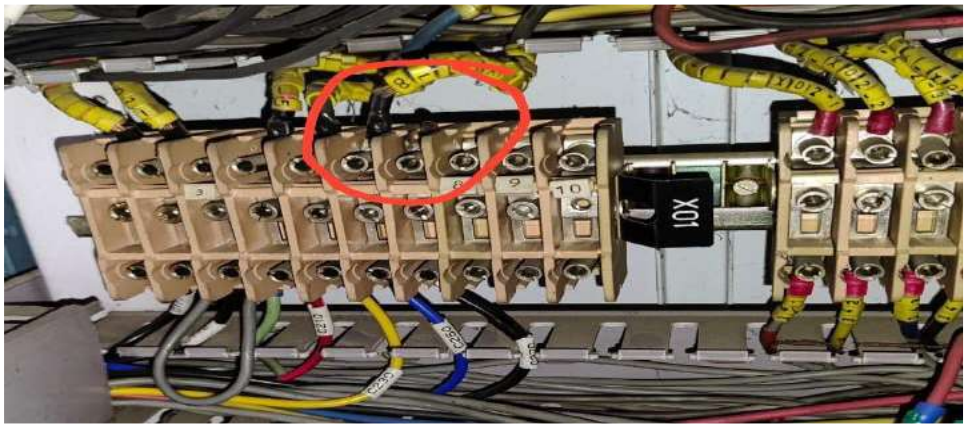
Faulty 96 relay of 426 Bay was replaced with spare relay.

3. **Non-operation of Backup impedance & IV Earth Fault protection of 400kV ICT-2**

S/D of ICT-2 is required taken to test and check for non-operation of Backup Impedance protection & IV Earth Fault protection.

Moreover, IV O/C & E/f relay (LV OC/EF relay) CT neutral wire was found damaged from its lug which led to tripping of ICT-2 on IV O/C protection in place of I/V Earth fault protection. Same was rectified by replacing the damaged of neutral wire.

However, CVT secondary ckt upto BUP relay of ICT 2 is to be checked as there was voltage difference between B-Ph Bus Voltage recorded in Back-up impedance relay of ICT#1 (B-N: 46kV) and ICT#2 (B-N: 90kV) at the time of tripping. BUP relay of ICT 2 got started at the time of fault, however did not trip as fault got out of its zone, probably due to more voltage read as compared to ICT 1.



B. Tripping of all elements of 400 kV at 16:47 Hrs. on 07.01.26

I. Sequence of events during tripping

1. On 07.01.2026, Bus-2 was taken under shutdown at 12:12 Hrs. for bus bar protection testing.
2. At 16:47 Hrs., turn buckles of both conductors of jack bus connecting Bus-1 to main bays 424 and 427 failed at 427 bay end and jack bus fell over Bus-1 and Bus-2. Bus-2 was already under shutdown and earthed. This caused to 3 phase to ground fault on Bus-1.

Figure 7 Damaged jack bus fell on Main bus-1 and 2

Figure 8 Damaged turn buckles

3. Details of tripping of 400 kV elements at Kanpur end is as below –

S. No.	Element	CB opened	Timestamp	Protection operated	Fault current (R, Y, B phase)
1.	400 KV Kanpur-Ballabhgarh-1	416-52	16:47:53.925	Main-1 and Main-2 protection operated on Z4. Main bay was already under shutdown.	1.4 kA, 1.4 kA, 1.4 kA
2.	400 KV Kanpur-Ballabhgarh-2	412-52 413-52	16:47:53.931 16:47:53.930	Main-2 protection operated on Z4.	1.6 kA, 1.6 kA, 1.6 kA
3.	400 KV Kanpur-Ballabhgarh-3	419-52	16:47:53.945	Main-2 protection operated on Z4. Main bay was already under shutdown.	1.6 kA, 1.6 kA, 1.6 kA
4.	400 kV Kanpur-Auraiya-1		16:47:53.828	Line did not trip from Kanpur end as fault duration for Z4 reach in relay was for less than Z4 delay.	2.9 kA, 3.0 kA, 2.9 kA
5.	400 kV Kanpur-Auraiya-2		16:47:53.840	Line did not trip from Kanpur end as fault duration for Z4 reach in relay was for less than Z4 delay.	2.9 kA, 3.0 kA, 3.0 kA
6.	400 kV Kanpur-Agra	416-52 415-52	16:47:53.945 16:47:53.940	Main-1 and Main-2 protection operated on Z4.	2.3 kA, 2.3 kA, 2.3 kA
7.	400 kV Kanpur-Allahabad	431-52	16:47:53.936	Main-1 and Main-2 protection operated on Z4.	2.6 kA, 2.5 kA, 2.6 kA
8.	ICT-1	425-52	16:47:53.950	BUI protection operated on Z4.	2.0 kA, 2.0 kA, 2.0 kA

9.	ICT-2	430-52	16:47:53.960	BUI protection operated on Z4.	2.0 kA, 2.1 kA, 2.0 kA
10.	400 KV Kanpur-Kanpur GIS-2		16:47:54.934	Tripped from GIS end on Zone-3.	5.7 kA, 5.8 kA, 5.7 kA
11.	400 KV Kanpur-Kanpur GIS-1		16:47:54.927	Tripped from GIS end on Zone-3.	5.8 kA, 5.9 kA, 5.8kA

4. Events for Bus bar protection as per NTAMC SoE are as below –

S. No.	Timestamp	Event
1	16:47:53.405	Checkzone Operated
2	16:47:53.407	Busbar Zone-1 Operated
3	16:47:53.706	Busbar Zone-1 Reset
4	16:47:53.786	Busbar Zone-1 Operated
5	16:47:54.200	Checkzone Reset
6	16:47:54.947	Checkzone Operated
7	16:47:54.976	Checkzone Reset
8	16:47:54.996	Busbar Zone-1 Reset

5. Damaged jack bus was removed from 400 kV Bus-1 and Bus-2 and all elements were taken in service except bay no. 424, 425 and 427. These bays could not be taken in service as damaged jack bus connected these bay to main bus.
6. Sequence of events during restoration are attached at Annexure-II.

II. Details of restoration activity

1. Following equipment had become faulty during above tripping event –
   i. Jack bus connecting bay 424 and 427 in R phase.
   ii. Jumper droppers from jack bus on 424-89 and 427-89 isolators in R phase.
   iii. Bus side isolator contacts in R phase of 424-89 and 427-89 isolators.
   iv. Jack bus insulators at 427 bay end in R phase.
2. Both 424-89 and 427-89 isolators were repaired locally using available spare female contacts. Alignment of isolators was also disturbed and same was rectified.
3. For restoration of damaged jack bus, shut down of both 400 kV Bus-1 and Bus-2 was availed on 17.01.26.
4. During shutdown following activities were carried out –
   i. Replacement of jack bus conductor in R phase.
   ii. Replacement of jumper droppers from jack bus on 424-89 and 427-89 isolators in R phase.
   iii. Replacement of faulty gantry insulator string in R phase and faulty insulator disc observed in Y Phase.

Figure 9 Replacement of faulty insulators

   iv. Bypassing of yoke plate at 427 bay end using conductor.

Figure 10 Conductor fixed to bypass yoke plate

v. Replacement of existing separate T-connectors with connected T-connectors.

Figure 11 Replacement of existing separate T-connectors with connected T-connectors.

vi. Attending of observed hotspots in 414 89 (Bus side) R/Y/B Phase, 414 89 A (Line side) R Phase, 420 89 (Bus side) B Phase, 429 89 (Bus side) B Phase, 429 89 A (Line side) R/ Y/B Phase, 430 89 A (Line side) Y Phase, 430 89 (Bus side) Y/ B Phase.

vii. All elements were taken in service by 06:00 Hrs. on 18.10.26. Sequence of events during shutdown and restoration is attached at Annexure-III.

RCA for failure of insulator fittings and falling of Jack Bus on Main Buses:

I. 400 kV Bus-2 was under S/D and both Kanpur GIS lines were connected to Main Bus-1 through the Main Bay 427 (As both lines are in the same Dia). The jack buses of these lines and dropper connecting Jack bus to Main bus are of Twin Moose and the dropper connecting jack bus to isolators are of quad moose. The power flow in these lines just before fault was 550MW each (~800A each) i.e. ~1600A were flowing through the 427 bay and corresponding jack buses and droppers.

II. From above facts it is understood that twin moose jack bus can carry current of around (714 * 2= 1428 A) while quad moose conductor line will feed current of around (714 *4=2856 A). So whenever both 400 kV Kanpur GIS Line 1 & 2 are charged through only one bus during peak time of loading (from evening 15:00

PM to morning 07:00 AM), high load current of around 1600 A is fed through quad moose line conductor to twin moose jack bus. This load is greater than designed capacity of twin moose jack bus.

III. It is considered that due to high load on strung twin moose jack bus than its designed capacity, it would have impacted upon the connected nut/bolts of connectors of jumper droppers of isolator at jack bus end and thus due to high resistance developed through either of the isolator dropper, the part of the total current was passing through yoke plate / turn buckle assembly leading to hot spot at turn buckle assembly. This has led to failure of turn buckle leading to falling of jack bus.

IV. Further probably due to high fault current fed by all connectors/ feeders during 400 kv Bus fault of dated 05.01.2026, connectors would have further developed high resistance after feeding of fault current inside of substation.

V. Discrepancies observed during tripping

S. No.	Element wise discrepancy	Remarks
1.	400 KV Kanpur-Kanpur GIS-1 and 400 KV Kanpur-Kanpur GIS-2 a. Did not operate on Z4	b. In 400 KV Kanpur-Kanpur GIS-1 and 2 lines, line CVT is installed after series line reactor towards line side. Therefore, impedance of series reactor is read by distance relays in reverse direction. This is reflected in higher voltages read by line protection relay in these lines as compared to other lines in case of bus fault. In event of 07.01.26, there was solid earthed (Bus-2 earth switch was closed) three phase ground fault on bus. The fault voltage and current read by these line relays is around 72 kV and 6 kA respectively, which translates to impedance of 12 ohm, same as rating of series reactor. As series reactor is not considered in calculation of Z4 reach, lines did not trip on Z4.
2.	400 kV Bus-1 a. Bus bar protection did not operate.	a. Bus bar protection had operated, however, as Busbar Zone-2 protection in the same panel was under testing at the time and all elements were charged from single bus, Bus zone-1 tripping was blocked as precaution against maloperation.

The above-mentioned discrepancy related to Non operation of 400kV Bus Bar protection 2 on dated 05.01.2026 was rectified as below:

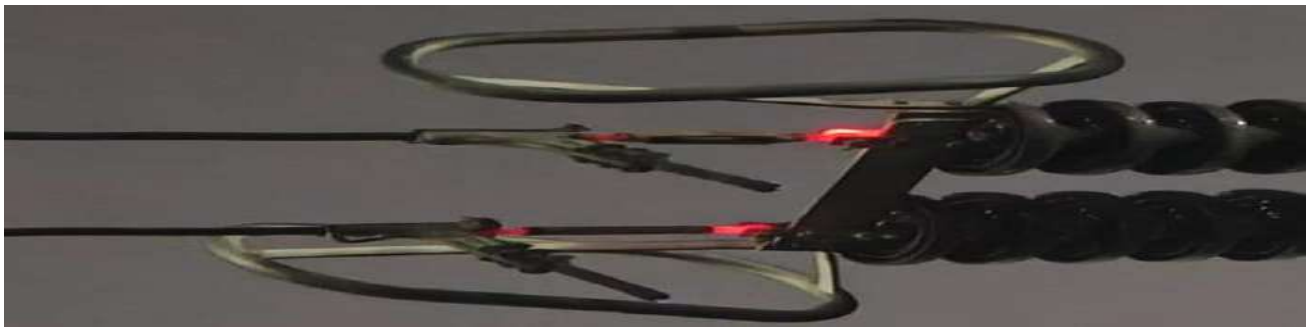
High impedance Electrostatic bus bar differential relay (RADHA, Make: ABB) used in the bus bar protection scheme. S/D of 400kV Bus-2 was taken on 07.01.2026 to check and test the said bus bar protection relay along with the scheme. During checking & testing following discrepancies were identified in Bus- Bar protection scheme that led to its non-operation.

- Stabilizing resistance was set to 6.5K Ohm in place of 470 Ohm

After rectification of the above discrepancy, the bus bar protection scheme is operating properly.

C. Emergency shutdown of 400 kV Bus-1 on 05.01.26 to attend hotspot in 427 bay jack bus

1. During restoration of Bus-2 after tripping at 00:28 Hrs. on 05.10.26, hotspot was observed in R phase jack bus of 427 bay and one turn buckle had broken off which led to detached turn buckle from one porcelain string. During this time jack bus was held at gantry through only 1 available porcelain string.
2. In order to reduce load on jack bus first 400KV Kanpur400-Kanpur GIS-1&2 were taken under emergency shutdown.
3. Thereafter, Bus-1 was also taken under emergency shutdown for replacement of R-phase turn buckles in jack bus.
4. Sequence of events during shutdown and restoration are attached at Annexure-IV.



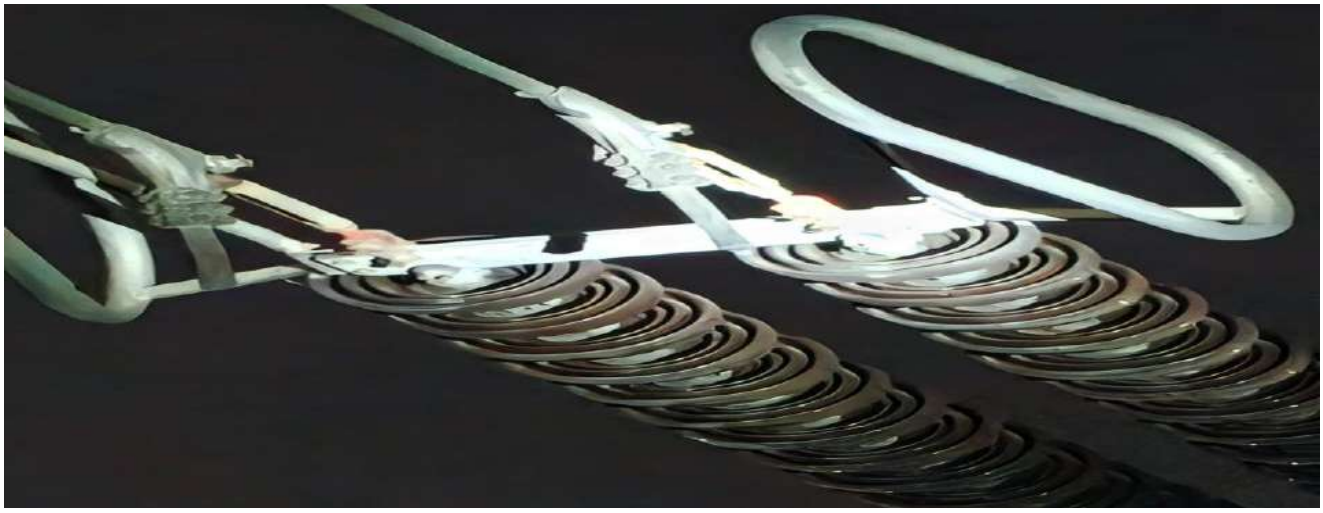


Figure 12 Damaged turn buckle

Figure 13 Damaged turn buckle

D. Emergency shutdown of 400 kV Bus-2 on 08.01.26 to attend hotspot in 429 bay turn buckle

1. After restoration of all elements after tripping on 07.01.26, thermovision scanning of yard was carried out on 08.01.26 morning.
2. During thermovision scanning, it was observed that in 429 bay, Y phase, jack bus turn buckle temperature was 189 deg. C. and isolator dropper temperature was 114 deg. C.

Figure 14 Hotspot in isolator dropper

Figure 15 Hotspot in jack bus turn buckle

3. Emergency shutdown of Bus-2 was availed to rectify above hotspot. Following activities were carried out during the shutdown –
    a. Bypassing of yoke plate in all 03 phases using conductor and PG clamps.

Figure 16 Bypassing of yoke plate in all 03 phases using conductor and PG clamps.

    b. Bypassing of T-connectors used in isolator droppers in all 03 phases using conductor and PG clamps.

Figure 17 Bypassing of T-connectors used in isolator droppers in all 03 phases

c. Replacement of turn buckle and T-connectors in Y phase.
d. Bypassing of T-connectors used in main bus droppers in all 03 phases using conductor and PG clamps.

Figure 18 Bypassing of T-connectors used in main bus droppers

Figure 19 PG clamp installation carried out in adverse weather conditions

4. Sequence of events during shutdown and restoration is attached at Annexure-V.

E. Emergency shutdown of 400 kV Bus-2 on 10.01.26 to attend hotspot in 420 bay turn buckle

1. During thermovision scanning, hotspot was observed in 420 bay B phase turn buckle. Shutdown of 400 kV bus-2 was availed on 10.01.26 to rectify the hotspot.

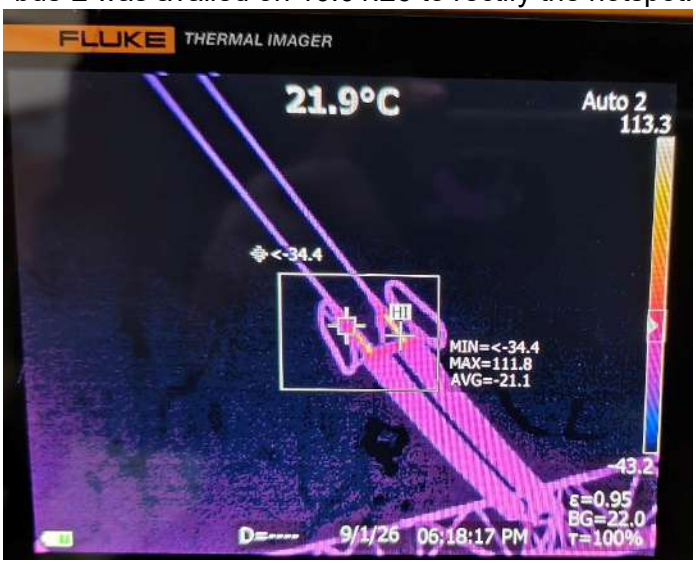


Figure 20 Hotspot in B phase jack bus turn buckle in 420 bay

2. During shutdown following activity was carried out –
    a. Bypassing of yoke plate in all 03 phases using conductor and PG clamps.
    b. Replacement of existing separate T-connectors with connected T-connectors.

Figure 21 420 bay jack bus after rectification work

3. Sequence of operation for shutdown and restoration is attached at Annexure-VI.

Annexure I – Sequence of restoration on 05.01.2026

S. No.	Date	Time	Name of element
1	05.01.2026	03:33 Hrs.	400KV Kanpur400-Kanpur GIS-1 charged 400KV Bus-1 charged
2	05.01.2026	03:36 Hrs.	400KV Kanpur-Auriya-1 charged
3	05.01.2026	03:44 Hrs.	400KV Kanpur400-Kanpur GIS-2 charged
4	05.01.2026	03:57 Hrs.	315MVA ICT-1 charged
5	05.01.2026	04:01 Hrs.	315MVA ICT-2 charged
6	05.01.2026	04:09 Hrs.	400KV Kanpur-Agra charged
7	05.01.2026	04:12 Hrs.	400KV Kanpur-Allahabad-1 charged
8	05.01.2026	04:35 Hrs.	400KV Kanpur-Ballabhgarh-3 charged
9	05.01.2026	04:44 Hrs.	400KV Kanpur-Ballabhgarh-2 charged
10	05.01.2026	04:48 Hrs.	400KV Kanpur-Auriya-2 charged
11	05.01.2026	04:50 Hrs.	125 MVAR charged
12	05.01.2026	07:44 Hrs.	400KV Bus-2 charged charged

Annexure II – Sequence of restoration on 07.01.2026

S. No.	Date	Time (Hrs.)	Name of element
1	07.01.2026	22:58	400KV Kanpur-Ballabhgarh-2 charged 400KV Bus-1 charged
2	07.01.2026	23:08	315MVA ICT-2 charged
3	07.01.2026	23:14	400KV Kanpur-Allahabad charged
4	07.01.2026	23:21	400KV Bus-2 charged
5	07.01.2026	23:28	400KV Kanpur-Agra charged
6	07.01.2026	23:37	400KV Kanpur400-Kanpur GIS-2 charged
7	07.01.2026	23:44	400KV Kanpur-Ballabhgarh-3 charged
8	07.01.2026	23:48	400KV Kanpur400-Kanpur GIS-1 charged
9	08.01.2026	00:01	400KV Kanpur-Ballabhgarh-1 charged
10	08.01.2026	00:03	400 kV Kanpur- Kanpur (GIS) Ckt-1 & Ckt-2 hand tripped
11	08.01.2026	00:52	400 kV Kanpur- Kanpur (GIS) Ckt-2 charged
12	08.01.2026	01:05	400KV Kanpur-Auriya-1 charged
13	08.01.2026	01:24	400KV Kanpur-Auriya-2 charged
14	08.01.2026	02:01	400 kV Kanpur- Kanpur (GIS) Ckt-1 charged
15	08.01.2026	02:36	315MVA ICT-1 charged

Annexure-III Sequence of events for shutdown of Bus-1 and 2 on 17.01.26

S. No.	Date	Time (Hrs.)	Name of element
1	17.01.2026	08:23	Shutdown of 400 KV Kanpur-Ballabhgarh-1
2	17.01.2026	08:24	Shutdown of 400 KV Kanpur-Ballabhgarh-2
3	17.01.2026	08:25	Shutdown of 400 KV Kanpur-Ballabhgarh-3
4	17.01.2026	08:28	Shutdown of 400 KV Kanpur-Agra
5	17.01.2026	08:29	Shutdown of 400 KV Kanpur-Auraiya-1
6	17.01.2026	08:30	Shutdown of 400 KV Kanpur-Auraiya-2
7	17.01.2026	08:33	Shutdown of 400 KV Kanpur-Allahabad
8	17.01.2026	08:37	Shutdown of 400 KV 125 MVAr bus reactor
9	17.01.2026	08:38	Shutdown of 400/220 KV 315 MVA ICT-2
10	17.01.2026	08:38	Shutdown of 400 KV Bus-1
11	17.01.2026	08:41	Shutdown of 400 KV Kanpur-Kanpur GIS-1
12	17.01.2026	08:42	Shutdown of 400 KV Kanpur-Kanpur GIS-2
13	17.01.2026	08:43	Shutdown of 400/220 KV 315 MVA ICT-1
14	17.01.2026	08:43	Shutdown of 400 KV Bus-2

15	18.01.2026	04:16	400 KV Kanpur-Allahabad Line charged
16	18.01.2026	04:16	400 KV Bus-2 charged
17	18.01.2026	04:18	125 MVAR BUS REACTOR -1 AT KANPUR CHARGED AT 04:18 Hrs. charged
18	18.01.2026	04:20	315 MVA ICT-2 charged
19	18.01.2026	04:20	400 KV Bus-1 charged
20	18.01.2026	04:22	315 MVA ICT-1 charged
21	18.01.2026	04:28	400 KV Kanpur-Kanpur(GIS) -1 & 2 charged.
22	18.01.2026	04:38	400 KV Kanpur-Auraiya-1 charged
23	18.01.2026	04:41	400 KV Kanpur-Auraiya-2 charged
24	18.01.2026	05:39	400 KV Kanpur-Agra Line charged
25	18.01.2026	05:52	400 KV Kanpur-Ballabhgarh-1 charged
26	18.01.2026	05:54	400 KV Kanpur-Ballabhgarh-2 charged
27	18.01.2026	05:56	400 KV Kanpur-Ballabhgarh-3 charged

Annexure-IV Sequence of events for shutdown of Bus-1 on 05.01.26.

S. No.	Date	Time (Hrs.)	Name of element
1	05.01.2026	06:36	400KV Kanpur400-Kanpur GIS-2 emergency shutdown to attend hotspot
2	05.01.2026	06:37	400KV Kanpur400-Kanpur GIS-1 emergency shutdown to attend hotspot
3	05.01.2026	07:44	400KV Bus-2 charged
4	05.01.2026	08:10	400KV Kanpur400-Kanpur GIS-2 charged
5	05.01.2026	08:15	400KV Kanpur400-Kanpur GIS-1 charged
6	05.01.2026	12:42	400 kV Bus-1 & 400 kV Kanpur-Agra line taken under E/S/D to attend broken pilot string of jack bus associated with Bay-427
7	05.01.2026	18:58	400 KV Bus-1 charged
8	05.01.2026	19:05	400 KV Kanpur-Agra charged
9	05.01.2026	20:15	400 KV Kanpur-Ballabhgarh-1 line charged

Annexure-V Sequence of events for shutdown of Bus-2 on 08.01.26.

S. No.	Date	Time (Hrs.)	Name of element
1	08.01.2026	11:35	400 KV Kanpur-Kanpur GIS Ckt-1 taken under emergency s/d to attend hot spot in 429 bay Y phase dropper.
2	08.01.2026	11:36	400 KV Kanpur-Kanpur GIS Ckt-2
3	08.01.2026	15:39	315 MVA ICT-1 at Kanpur400 taken under E/S/D at 15:39hrs for attending hotspot in 429 bay Y phase jack bus turn buckle. (As ICT-1 is currently charged through 426 bay only, ICT-1 will also go under shutdown. Yesterday 425 Bay was damaged due to broken Jack Bus).
4	08.01.2026	15:42	400KV Bus-2 at Kanpur400 taken under E/S/D for attending hotspot in 429 bay Y phase jack bus turn buckle.
5	09.01.2026	05:17	400 kV Bus-2 charged
6	09.01.2026	05:18	ICT-1 charged
7	09.01.2026	05:59	400 KV Kanpur-Kanpur GIS Ckt-2 charged
8	09.01.2026	06:00	400 KV Kanpur-Kanpur GIS Ckt-1 charged

Annexure-VI Sequence of events for shutdown of Bus-2 on 10.01.26.

S. No.	Date	Time (Hrs.)	Name of element
1	10.01.2026	10:19	Shutdown of 400/220 KV ICT-1

2	10.01.2026	10:36	Shutdown of 400KV Kanpur-Kanpur GIS-1
3	10.01.2026	10:48	Shutdown of 400KV Kanpur-Kanpur GIS-2
4	10.01.2026	10:48	Shutdown of 400 KV Bus-2
5	10.01.2026	22:53	400 KV Bus-2 charged
6	10.01.2026	22:55	400 KV Kanpur-Kanpur GIS-2 charged
7	10.01.2026	22:56	400 KV Kanpur-Kanpur GIS-1 charged
8	10.01.2026	23:03	400/220 KV ICT-1 charged

डेटा वर्गीकरण : प्रतिबंधित/RESTRICTED

Report on Tripping of 400kV Elements at Kanpur 400kV Substation connected to 400kV Bus-1 during the ongoing shutdown of 400kV Bus-2 on dtd 07.01.2026

भेद वर्गीकरण : प्रतिबंधित/RESTRICTED

Antecedent Condition at Kanpur before the Tripping on dtd 07.01.2026

On 07.01.2026, Shutdown of 400kV Bus-2 was taken @1212Hrs. For

- Repair and Alignment of B-phase Bus side isolator &
- Replacement of jumper dropper from Bus-2 at 417 bay bus side isolator damaged during CB blast in 417 bay on dtd 05.01.2026
- Testing of 400kV Bus Bar-2 Protection for proper operation.

Rectification action after the Tripping of Both 400kV Buses at Kanpur on 05.01.2026:

- Testing of 400kV Bus-1 Bus Bar Protection was carried out and 96Relay of 426 Bay found faulty and the same has been replaced.
- Neutral wire of TB 101:6B was found dislodged which might be responsible for the non operation of Bus Bar-1 Relay
- Stabilising Resistor value of Bus Bar-1 Relay was found set at 6.5kOhms, the same has been now set as 475Ohms.
- B-phase CT of 417 (Ballabhgarh-1) line Main Bay was replaced. Further dismantling and Replacement of 02 Nos. SIEMENS Make PIR CB poles of 417 Bay is under progress in the presence of SIMENS Engineer.

Brief description of the event

On 07.01.2026, during the Shutdown of 400kV Bus-2,

The R-phase Jack Bus Jumper of 400kV Kanpur- Kanpur (GIS)-1 Line got dislodged from Insulator Fitting and R-phase jumper **fell on charged 400kV Bus-1 & under Shutdown 400kV Bus-2**

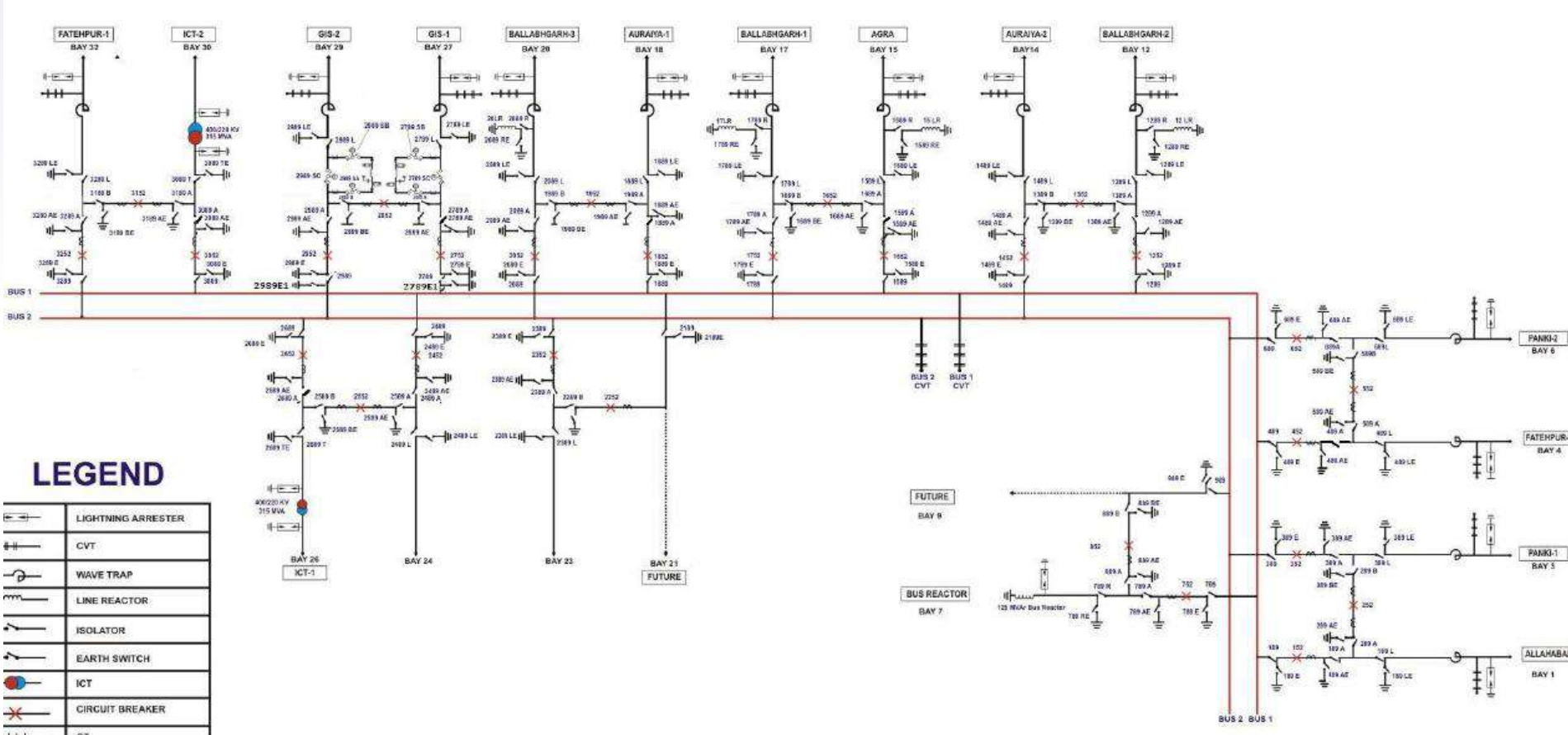
- All 400kV Elements connected to 400kV Bus-1 got tripped

Reason for the Jack Bus Conductor Dislodging:

- Turn Buckle of 400kV Insulator Fitting of Twin Moose Jack Bus Jumper of 400kV Kanpur-Kanpur (GIS)-1 Line failed leading to the falling of R-phase Jumper on both the Buses.

डेटा वर्गीकरण : प्रतिबंधित/RESTRICTED

SLD of Kanpur 400kV

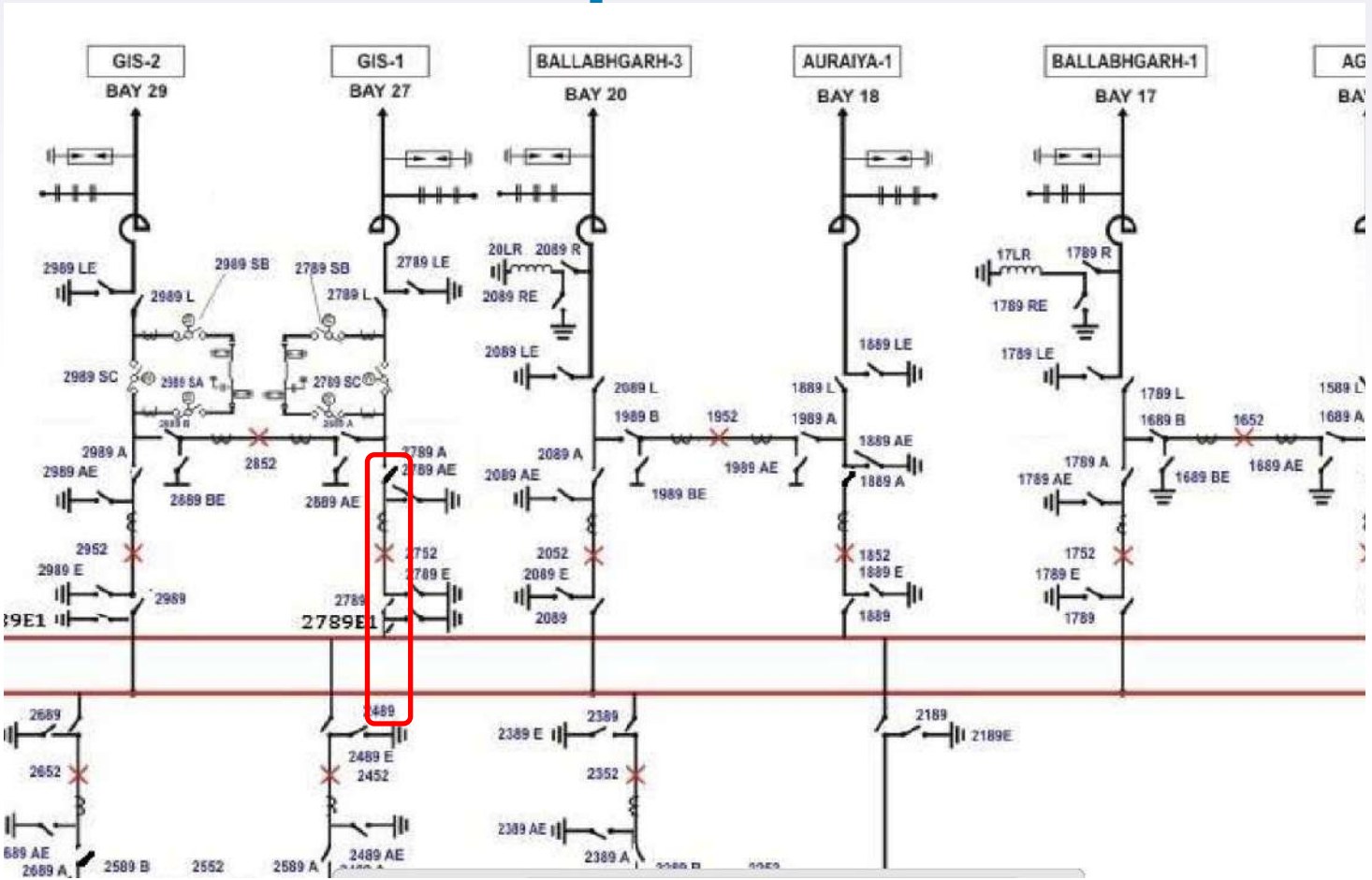


LEGEND

	LIGHTNING ARRESTER
	CVT
	WAVE TRAP
	LINE REACTOR
	ISOLATOR
	EARTH SWITCH
	ICT
	CIRCUIT BREAKER
	CT

डेटा वर्गीकरण : प्रतिबंधित/RESTRICTED

SLD of Kanpur 400kV

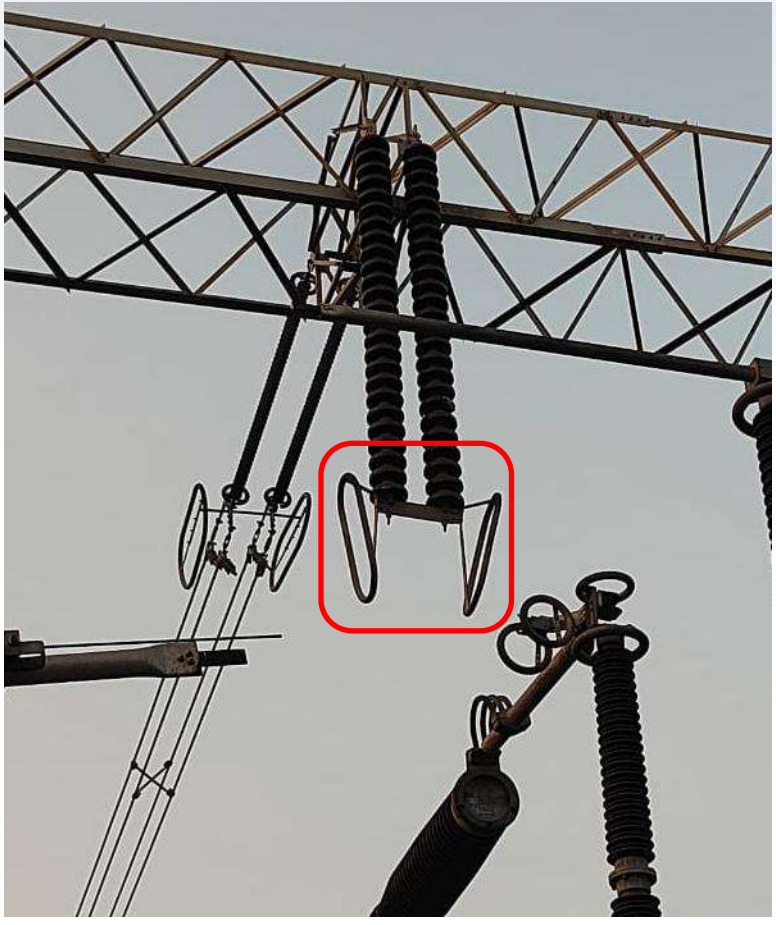


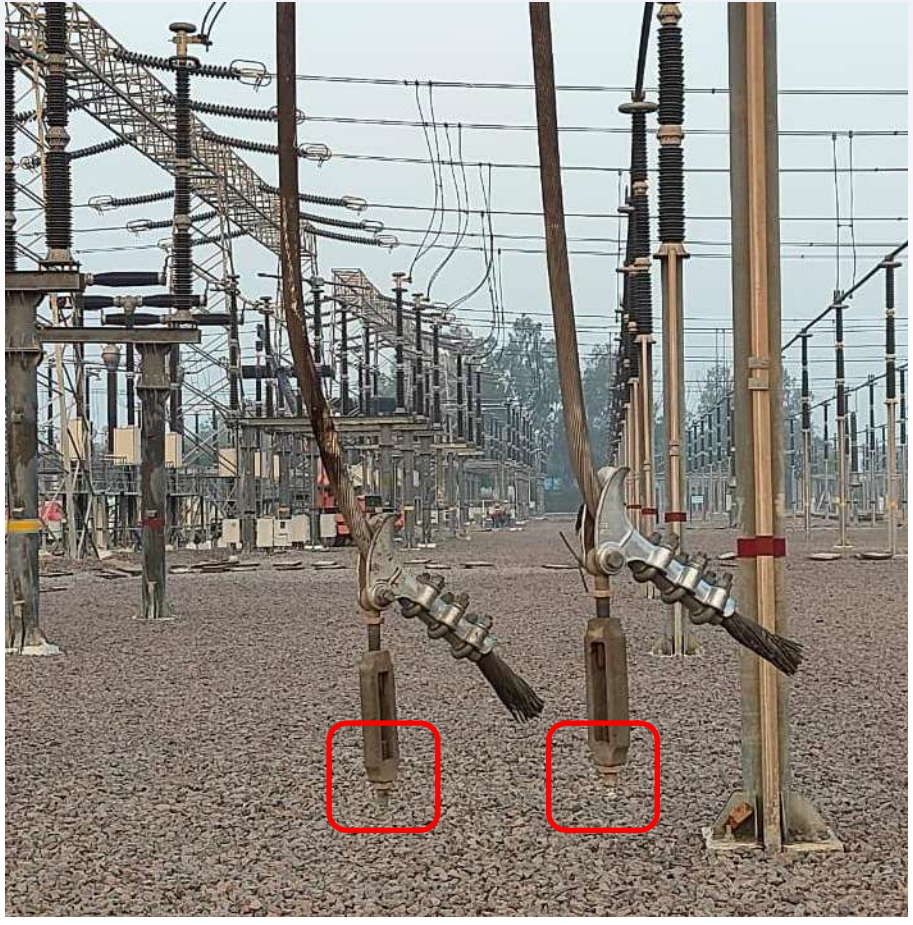
R-ph Jack Bus Jumper fell on 400kV Buses

R-ph Jack Bus Jumper fell on 400kV Buses

R-ph Jack Bus Jumper fell on 400kV Buses

Damaged Turn Buckle at Kanpur 400kV





Normalization Sequence

- 400KV Bus-1 at 400KV Kanpur charged at 22:58 hrs of 07.01.2026.
- 400KV Kanpur-Ballabhgarh-2 charged at 22:58 hrs of 07.01.2026.
- 315MVA ICT-2 at 400KV Kanpur charged at 23:08 hrs of 07.01.2026.
- 400KV Kanpur-Allahabad-1 charged at 23:14 hrs of 07.01.2026.
- 400KV Bus-2 at 400KV Kanpur charged at 23:21 hrs of 07.01.2026.
- 400KV Kanpur-Agra charged at 23:28 hrs of 07.01.2026.
- 400KV Kanpur400-Kanpur GIS-2 charged at 23:37 hrs of 07.01.2026.
- 400KV Kanpur-Ballabhgarh-3 charged at 23:44 hrs of 07.01.2026.
- 400KV Kanpur400-Kanpur GIS-1 charged at 23:48 hrs of 07.01.2026.
- 400KV Kanpur-Ballabhgarh-1 charged at 00:01 hrs of 08.01.2026.
- 400KV Kanpur-Auriya-1 charged at 01:05 hrs of 08.01.2026.
- 400KV Kanpur-Auriya-2 charged at 01:24 hrs of 08.01.2026.
- 315MVA ICT-1 at 400KV Kanpur charged at 02:36 hrs of 08.01.2026.

Rectification Action

- **Jack Bus Conductor from Both Buses was recovered and all elements with both Buses were taken into service.**

THANK YOU

400KV MUZAFFARNAGAR Sub-Station, UPPTCL

Date & Time:17.01.2026, 02:08 Hrs,05:23 Hrs,06:18hrs.

Multiple Tripping events at 400 KV S/S Muzaffarnagar due to Operation of 400 KV Busbar protection.

FLAG REPORT AT 02:08 hrs

ELECTRICITY TEST & COMMISSIONING SUB-DIVISION 400 KV MUZAFFARNAGAR

FAULT ANALYSIS STATEMENT OF PROTECTIVE GEARS FOR THE MONTH OF JANUARY- 2026

Sl NO.	Tripping Date/Time	Closing Date/Time	Name of Substation	C.B.No. with Direction (Code)	TOTAL LINE LENGTH (KM)	Type of Relay Scheme	Flags & Indications Observed	F/L, D/R, S/R, A/R, C/I etc.	% F/L	Analysis with discrepancy in flags if any	Load
1	2	3	4	5		6		8	9	10	11
	AT 02:08 hrs , 400KV BUSBAR PROTECTION OPERATED ON DIFFERENTIAL PROTECTION & ALL ELEMENTS CONNECTED TO 400KV BUS A & B GOT TRIPPED.										
1	17/01/2026 02:08		400KV S/S MZN	400KV BUSBAR		SEL487B	CP= BUS BAR ZONE-1& ZONE-2 OPERATED RP=B PHASE, DIFF TRIP, Z-1& ZONE-2 TRIP 96(400KV MATAUR,CB 97),96(315MVA ICT-I),96(315MVA ICT-III,),96(400KV BUS COUPLER,CB 95),96(400KV ATAUR,CB93),96(400KV ROORKEE,CB91),96(400KV ALAKNANDA,CB96),96(315MVA ICT-II),96(500MVA ICT-IV)			400KV BUSBAR PROTECTION OPERATED ON DIFFERENTIAL PROTECTION DUE TO 400 KV B-BUS ,B- PH POST INSULATOR FLASHOVER OF 315MVA ICT-III . ALL ELEMENTS CONNECTED TO 400KV BUS-A & BUS-B GOT TRIPPED.	
	17/01/2026 02:08	17/01/2026 03:58	400KV S/S MZN	CB 97 400KV MATAUR LINE		MICOM,SEL	R.P.: 96 TRIP ,DT SEND				265A
	17/01/2026 02:08	18/01/2026 00:23	400KV S/S MZN	CB 981/881 315MVA ICT-I		MICOM	R.P.: 96 TRIP				57A
	17/01/2026 02:08	18/01/2026 17:15	400KV S/S MZN	CB 983/883 500MVA ICT-III		SIEMENS 7UT61	R.P.: 96 TRIP				59A
	17/01/2026 02:08	17/01/2026 17:12	400KV S/S MZN	CB 95 400KV BUS CUPLER		ABB	R.P.: 96 TRIP				
	17/01/2026 02:08	17/01/2026 06:08	400KV S/S MZN	CB 93 400KV ATAUR LINE		MICOM,ABB	R.P.: 96 TRIP ,DT SEND				152A
	17/01/2026 02:08	17/01/2026 23:49	400KV S/S MZN	CB 91 400KV ROORKEE LINE		MICOM	R.P.: 96 TRIP				174A
	17/01/2026 02:08	17/01/2026 04:08	400KV S/S MZN	CB 96 400KV ALAKNANDA LINE		MICOM,SEL	R.P.: 96 TRIP ,DT SEND				46A
	17/01/2026 02:08	17/01/2026 04:12	400KV S/S MZN	CB 982/882 315MVA ICT-II		MICOM	R.P.: 96 TRIP				59A

FLAG REPORT AT 05:23hrs & 06:18hrs.

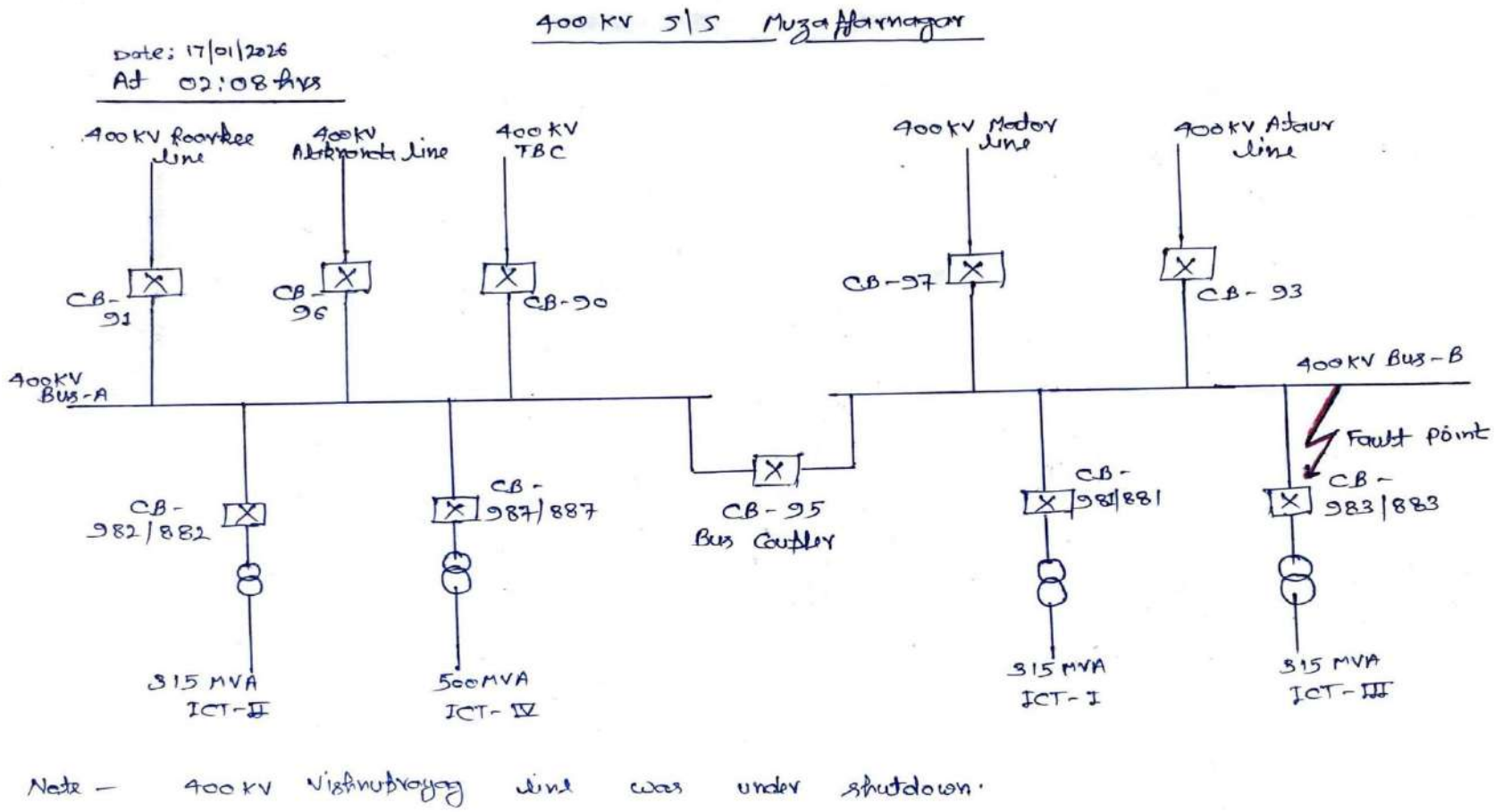
ELECTRICITY TEST & COMMISSIONING SUB-DIVISION 400 KV MUZAFFARNAGAR

FAULT ANALYSIS STATEMENT OF PROTECTIVE GEARS FOR THE MONTH OF JANUARY- 2026

Sl NO.	Tripping Date/Time	Closing Date/Time	Name of Substation	C.B.No. with Direction (Code)	TOTAL LINE LENGTH (KM)	Type of Relay Scheme	Flags & Indications Observed	F/L, D/R, S/R, A/R, C/I etc.	% F/L	Analysis with discrepancy in flags if any	Load
1	2	3	4	5		6		8	9	10	11
	AT 05:23 hrs ,400KV BUSBAR PROTECTION OPERATED ON DIFFERENTIAL PROTECTION & ALL ELEMENTS CONNECTED TO 400KV BUS A GOT TRIPPED.										
	17/01/2026 05:23		400KV S/S MZN	400KV BUSBAR		SEL487B	CP= BUS BAR ZONE- 1 OPERATED RP=Y PHASE, DIFF TRIP, Z- 1 TRIP 96(400KV MATAUR,CB 97),96(315MVA ICT-II),96(315MVA ICT-II),96(500MVA ICT-IV),96(400KV ALAKNANDA,CB96)			400KV BUSBAR PROTECTION OPERATED ON DIFFERENTIAL PROTECTION DUE TO FLASHOVER OF POST INSULATOR OF 400KV ALAKNANDA LINE. ALL ELEMENTS CONNECTED TO 400KV BUS-B GOT TRIPPED.	
2	17/01/2026 05:23	17/01/2026 09:50	400KV S/S MZN	CB 97 400KV MATAUR LINE		MICOM,SEL	R.P.: 96 TRIP ,DT SEND				214A
	17/01/2026 05:23	17/01/2026 10:21	400KV S/S MZN	CB 982/882 315MVA ICT-II		MICOM	R.P.: 96 TRIP				107A
	17/01/2026 05:23	17/01/2026 12:09	400KV S/S MZN	CB 987/887 500MVA ICT-IV		SIEMENS 7UT61	R.P.: 96 TRIP				168A
	17/01/2026 05:23	17/01/2026 09:32	400KV S/S MZN	CB 96 400KV ALAKNANDA LINE		MICOM,SEL	R.P.: 96 TRIP ,DT SEND				72A
	At 06:18 hrs,400KV BUSBAR PROTECTION OPERATED ON DIFFERENTIAL PROTECTION & ALL ELEMENTS CONNECTED TO 400KV BUS B GOT TRIPPED.										
	17/01/2026 06:18		400KV S/S MZN	400KV BUSBAR		SEL487B	CP= BUS BAR ZONE- 2 OPERATED RP=B PHASE, DIFF TRIP, Z- 2 TRIP 96(400KV ATAUR,CB 93)			400KV BUSBAR PROTECTION OPERATED ON DIFFERENTIAL PROTECTION DUE TO FLASHOVER OF 400 KV B- BUS ,B- PHASE POST INSULATOR OF 400KV ATAUR LINE. ALL ELEMENTS CONNECTED TO 400KV BUS-B GOT TRIPPED.	
3	17/01/2026 06:18	17/01/2026 08:30	400KV S/S MZN	CB 97 400KV ATAUR LINE		MICOM,ABB	R.P.: 96 TRIP ,DT SEND				0A

Activate Windows
Go to Settings to activate Windows.

SLD at 02:08 hrs

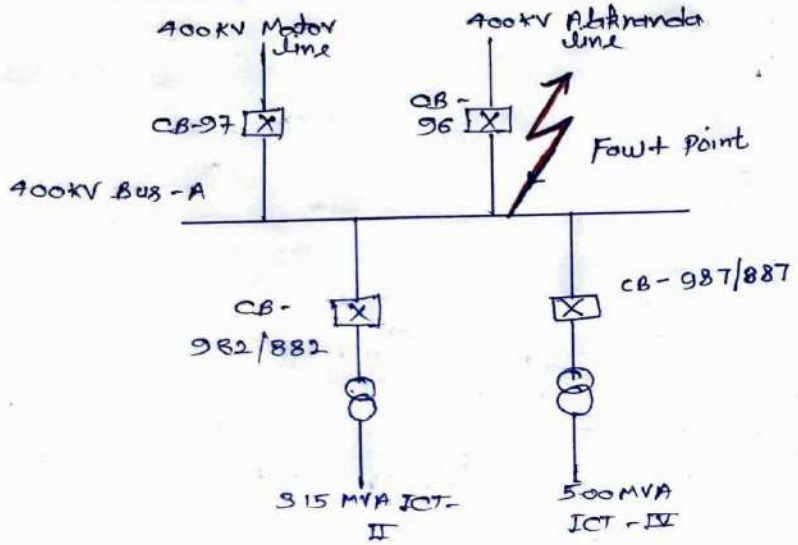


Note — 400 KV Vishnuprayag line was under shutdown.

SLD at 05:23 hrs

Date: 17/01/2026
At 05:23 hrs

400 KV S/S Muzaffarnagar

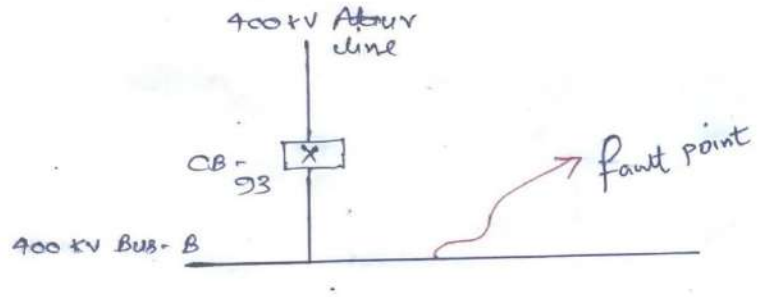


Note- Only 400 KV Bus-A was charged & 400 KV Bus Coupler was already tripped.

SLD at 06:18 hrs

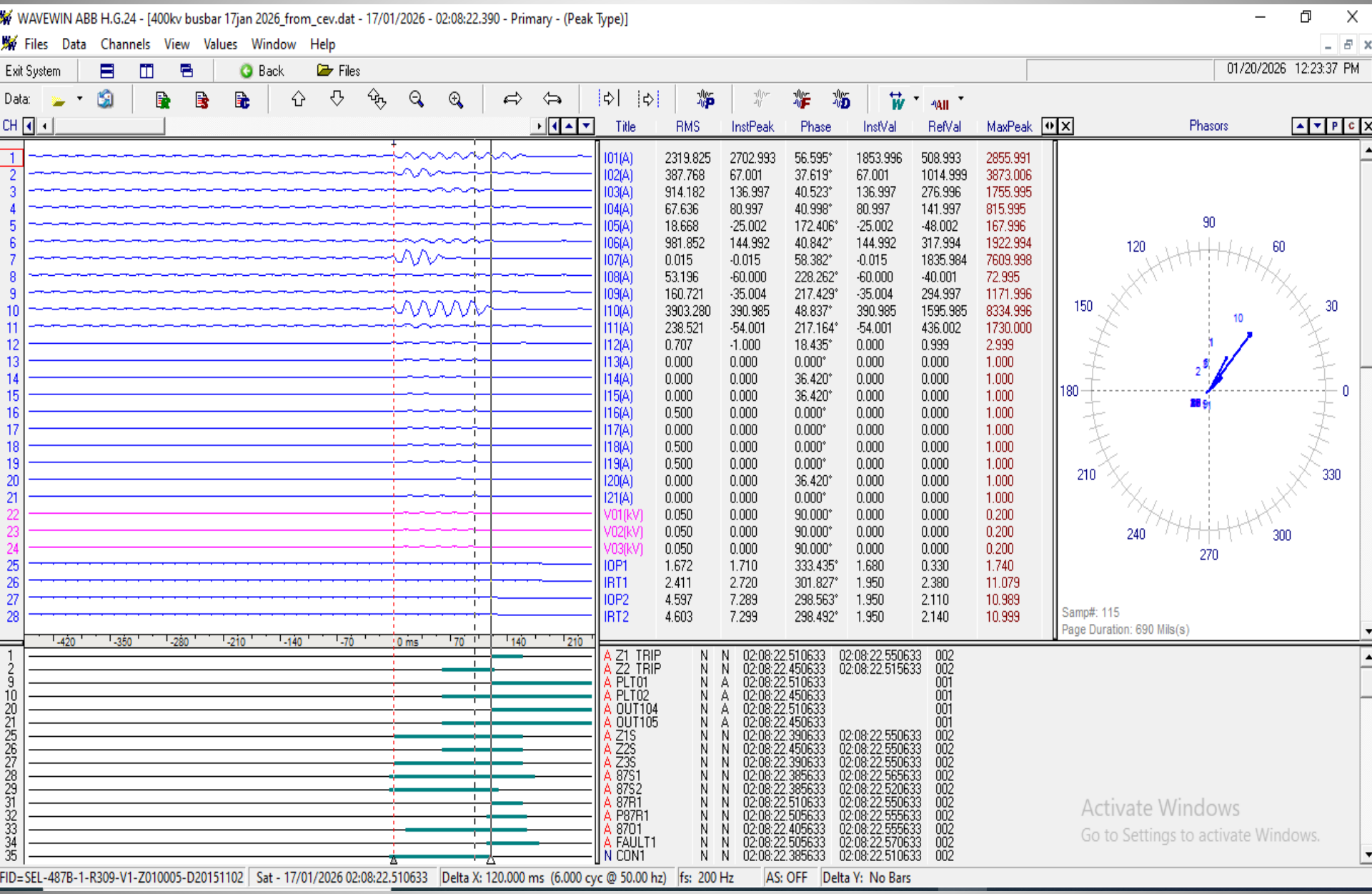
Date: 17/01/2026
At 06:18 hrs

400 KV S/S Muzaffarnagar

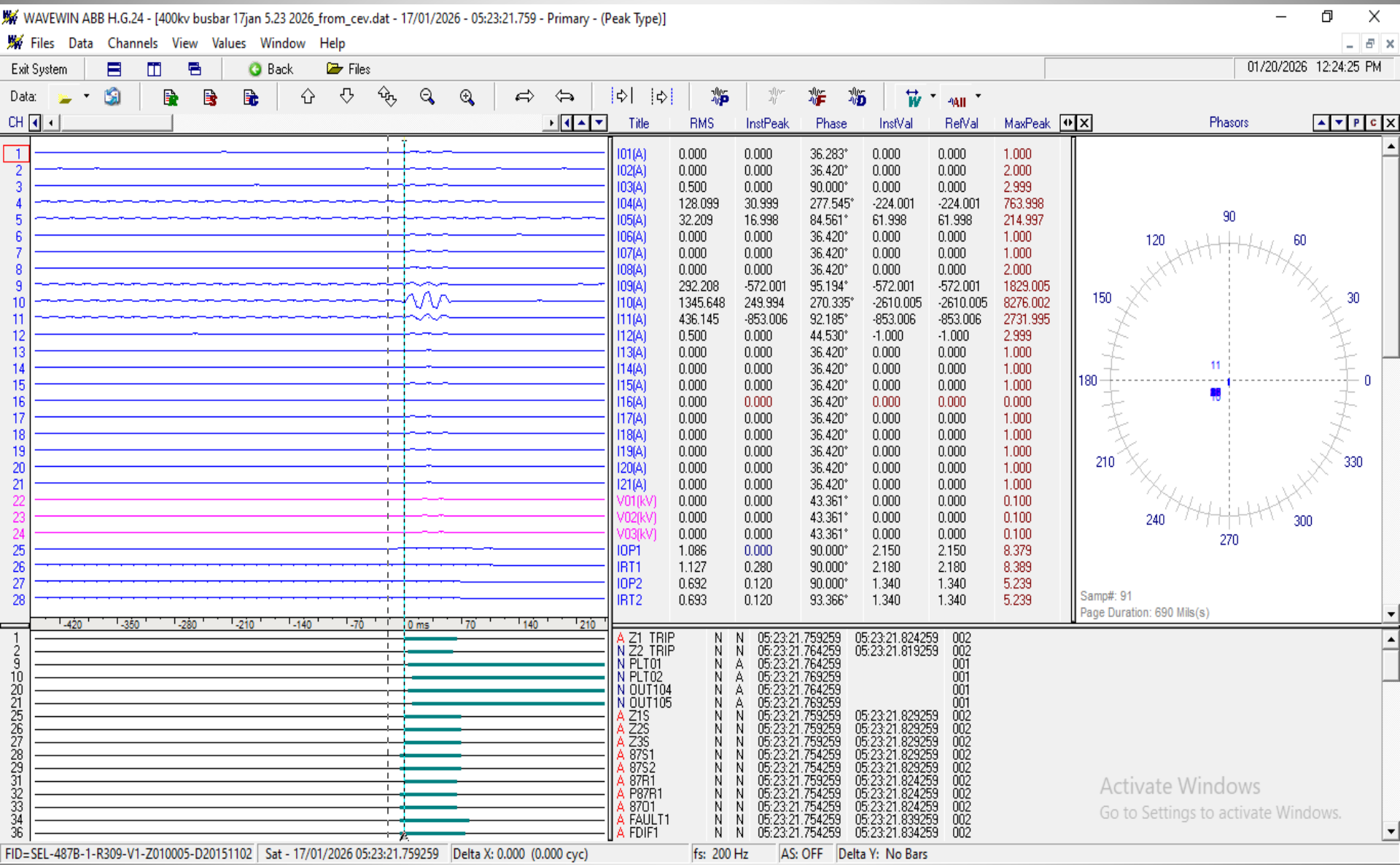


NOTE: Only 400 KV BUS-B was charged at this time [Bus coupler | BUS-A were not in operation)

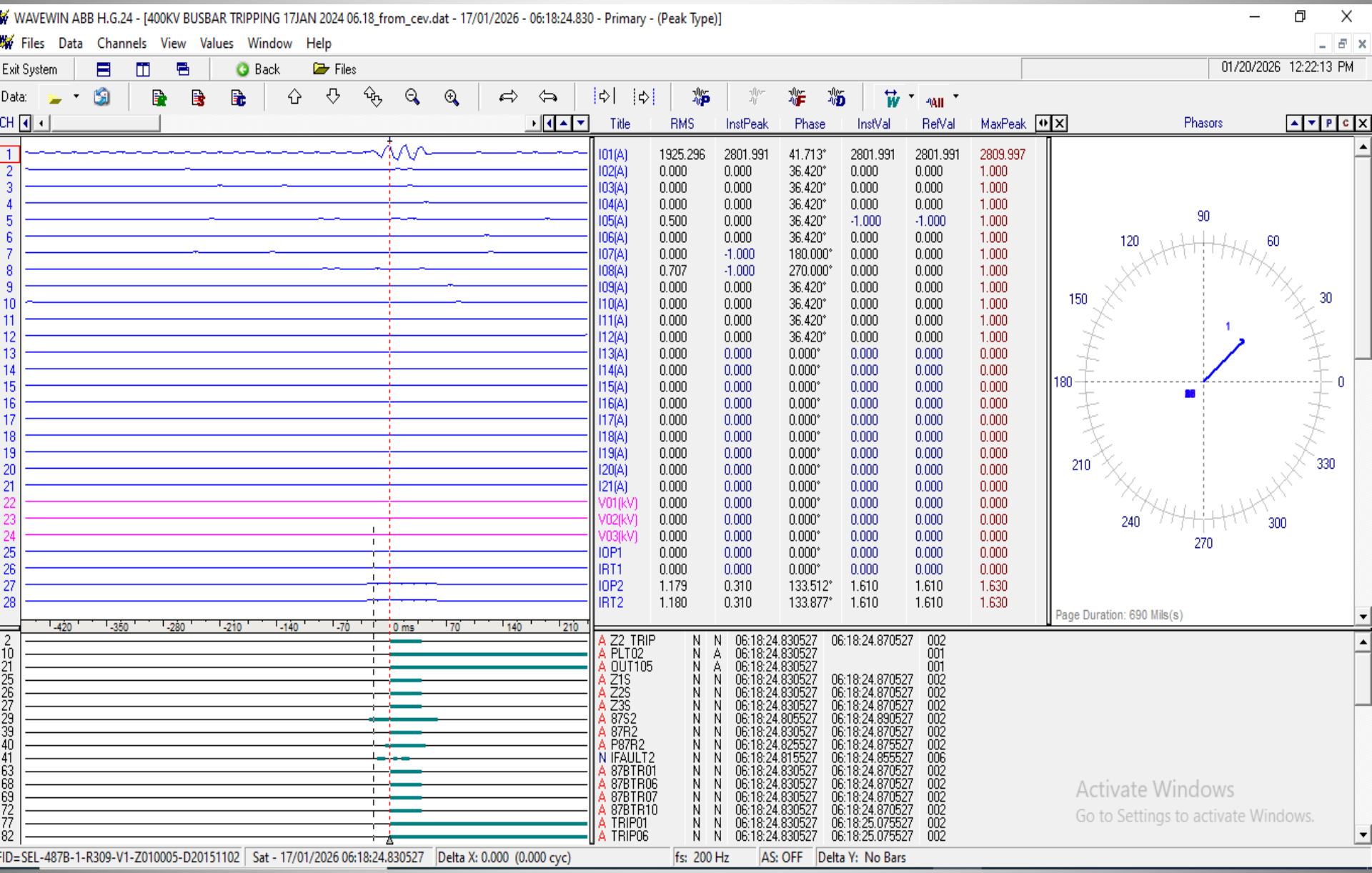
400 kv Busbar DR AT 02:08 hrs



400 kv Busbar DR at 05:23 hrs



400 kv Busbar DR at 06:18 hrs



Events Description

- On dated 17/01/2026, at 02:08 hrs ,400 kv bus bar protection operated with flag:- B phase differential trip,z-1 trip,z-2 trip.Due to bus bar protection operation ,400 KV Mator line,400 kv Roorkee line,400 KV Ataur line,400 KV Alaknanda line,315 MVA ICT-I,II,III,500 MVA ICT-IV & 400 KV Bus coupler connected to 400 kV bus A & bus-B, tripped.
- After fault incident, flashover found on B phase post insulator of 315 MVA ICT-III connected to 400 KV B-Bus.
- **Element Tripped and Time of restoration.**
- 315MVA ICT-I 18:23hrs.(18/01/2026)
- 315MVA ICT-II 04:12hrs.(17/01/2026)
- 315MVA ICT-III 17:15hrs.(18/01/2026)
- 500MVA ICT-IV 04:15hrs.(17/01/2026)
- 400KV Mator line 03:58hrs. (17/01/2026)
- 400KV Alaknanda line 04:08hrs. (17/01/2026)
- 400KV Roorkee line 23:49hrs. (17/01/2026)
- 400 KV Ataur line 06:08hrs. (17/01/2026)
- 400 KV Bus coupler 17:12hrs.(17/01/2026)

Events Description

- On dated 17/01/2026, at 05:23hrs ,400 KV bus bar protection operated with flags:- Y phase differential trip,z-1 trip.Due to bus bar protection operation ,400 KV Mator line,400 KV Alaknanda line,315 MVA ICT-II and 500 MVA ICT-IV connected to 400 KV bus-A tripped.
- After fault incident, flashover found on Y phase post insulator of 400 KV Alaknanda line connected to 400 KV A-Bus.
- **Element Tripped and Time of restoration.**
- 315MVA ICT-II 10:21hrs.(17/01/2026)
- 500 MVA ICT-IV 12:09hrs.(17/01/2026)
- 400KV Mator line 09:50hrs. (17/01/2026)
- 400KV Alaknanda line 09:32hrs. (17/01/2026)

- On dated 17/01/2026, at 06:18hrs ,400 KV bus bar protection operated with flags:- B phase differential trip,Z-2 trip.Due to bus bar protection operation ,400 KV Ataur line connected to 400 kV bus-B,tripped.
- After fault incident, flashover found on B phase post insulator of 400 kv Ataur line connected to 400 KV B-Bus.
- **Element Tripped and Time of restoration.**
- 400 kV Ataur line 08:30hrs.(17/01/2026)

Post fault findings

- At 02:08 hrs, due to B ph post insulator flashover of 315 MVA ICT-III which was connected to 400 KV bus-B, Busbar relay sensed fault of Z-2 but from DR it was observed that bus isolator status of 400 KV Ataur line was at 400 KV bus-A, instead of 400 KV bus-B as this line was physically connected to bus- B. So due to wrong isolator status of 400 KV Ataur line on 400 KV bus-A , an operating current observed in Z-1 of bus bar relay causing tripping of bus bar relay in Z-1 along with Z-2.

Points of discussion.

- Due to wrong isolator status of 400 KV Ataur line on bus bar relay,bus bar protection operated in both Z-1 & Z-2.

- **Remedial Measures taken.**
- Defective post insulators of 315 MVA ICT-III,400 KV Alaknanda line and 400 KV Ataur line replaced.
- Cleaning work of insulators of 400 KV elements is in progress to prevent such faults in future.
- Problem of bus isolator status of 400 KV Ataur line was rectified.

THANK YOU.

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

Sr. No.	Scheme Name	Owner / Agency	Commission Year	Last Review	Mock testing conducted before 2025-26	Tentative Schedule of SPS Mock testing to be conducted during 2025-26	Date of SPS Mock testing conducted during 2025-26	Remarks
1	SPS for WR-NR corridor - 765kV Agra-Gwalior D/C	POWERGRID			27-03-2025	conducted	10.10.2025	Communication issue at Bhiwadi(PG), Bamnauli(DTL), Kota, Debari, Chittorgarh, Ratangarh, Nunamajra, Safidon, Ajitwal, Dandhari-II, Ablowal.
2	SPS for contingency due to tripping of HVDC Mundra-Mahendergarh	ADANI				Schedule awaited		As reported by ADANI, scheme has been made ready to be taken into service.
3	SPS for high capacity 400 kV Muzaffarpur-Gorakhpur D/C Inter-regional tie-line related contingency	POWERGRID				SPS Under Review		Not conducted in 2024-25 also. NRLDC Studies team advised to disable the same. NLDC input awaited.
4	SPS for 1500 MW HVDC Rihand-Dadri Bipole related contingency	POWERGRID			19-03-2025 and 20-03-2025	conducted	19.11.2025	SPS command didn't receive at 220kV Muradnagar(UP), 220kV Merta(RS), 220kV Kota Sakatpura(RS), 220kV Dhanonda(HR) and Singrauli TPS(NTPC)
5	System Protection Scheme (SPS) for HVDC Balia-Bhiwadi Bipole	POWERGRID				SPS Under Review		Not conducted in 2024-25 also
6	SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wangtoo HEP	SJVN/HPPTCL/JSW/POWERGRID/SORANG			19-12-2024	Dec-25	04-09-2025 (Partial: Case-1, 3 & 5 conducted)	Case-6(i) & (ii) has been implemented (as confimed by Karcham(JSW) via mail dated 08.12.2025). Communication card issue at Wangtoo(HP)
7	SPS for Reliable Evacuation of Ropar Generation	PSTCL				SPS Under Review		As per NRLDC study, evacuation network at Ropta TPS meets N-1-1 reliability criteria, the need for an SPS at Ropar appears redundant under the current network configuration. During 239th OCC, it was decided to remove the SPS.
8	SPS for Reliable Evacuation of Rosa Generation	UPPTCL			20-04-2024	conducted	12-04-2025	Mock test report received (Review to be done in view of commissioning of 400kV Rosa-Badaun D/C in April 2021.)
9	SPS for contingency due to tripping of evacuating lines from Narora Atomic Power Station	NAPS / UPPTCL				SPS Under Review		Not conducted in 2024-25 also. As reported by UPPTCL, no SPS system is in service at Narora S/s. NRLDC Studies team advised to disable the same. During 239th OCC, it was decided to remove the SPS.
10	SPS for evacuation of Kawai TPS, Kalisindh TPS generation complex	RVPNL			14-03-2025 (Partial)	conducted	26-04-2025	As informed by RVPNL, automatic load shedding part of the SPS has been implemented and mock tested. Mock test report is yet to be received.
11	SPS for evacuation of Anpara Generation Complex	UPPTCL			08-10-2024 (unit-7) and 19-10-2024 (unit-6)	conducted	21-07-2025	
12	SPS for evacuation of Lalitpur TPS Generation	UPPTCL			21-05-2024	conducted	09-04-2025	Mock test report received
13	SPS for Reliable Evacuation of Bara TPS Generation	UPPTCL			20-11-2024	conducted	23-05-2025	Mock test report received
14	SPS for Lahal Generation	HPPTCL			08-07-2020	SPS Under Review		As reported by HPPTCL, SPS at Lahal not required now.
15	SPS for Transformers at Maharanibagh (PG) substation	POWERGRID				conducted	Apr-25	Mock test report received
16	SPS for Transformers at Mandola (PG) substation	POWERGRID				conducted	Apr-25	Mock test report received
17	SPS for Transformers at Bamnauli (DTL) Substation	DTL				Dec-25		N-1 compliant (To be removed). As reported by SLDC Delhi, scheme may be kept in service until 315 MVA ICT is revived which currently is not in service
18	SPS for Transformers at Moradabad (UPPTCL) Substation	UPPTCL			20-04-2024	conducted	02-04-2025	Mock test report received
19	SPS for Transformers at Muradnagar (UPPTCL) Substation	UPPTCL			27-03-2025	Mar-26		
20	SPS for Transformers at Agra (UPPTCL) Substation	UPPTCL			21-03-2025	Mar-26		
21	SPS for Transformers at 400kV Sarojininagar (UPPTCL) Substation	UPPTCL			15-05-2024	conducted	23-07-2025	Mock test report received
22	SPS for Transformers at 220kV Sarojininagar (UPPTCL) Substation	UPPTCL			06-06-2024	conducted	23-07-2025	Mock test report received

23	SPS for Transformers at 400kV Unnao (UPPTCL) Substation	UPPTCL			19-05-2023	SPS made healthy on 27.05.2025	27.05.2025	Mock test report received
24	SPS for Transformers at 400kV Sultanpur (UPPTCL) Substation	UPPTCL				SPS made healthy on 05.05.2025		As reported by SLDC UP, scheme is required as loading exceeded (N-1) limit during summer of 2025
25	SPS for Transformers at 400kV Bareilly (UPPTCL) Substation	UPPTCL				Revised SPS approved in 234 OCC		SPS yet to be implemented
26	SPS for Transformers at 400kV Azamgarh (UPPTCL) Substation	UPPTCL			06-05-2024	conducted	19-04-2025	Mock test report received
27	SPS for Transformers at 400kV Mau (UPPTCL) Substation	UPPTCL			27-04-2024	conducted	21-04-2025	Mock test report received
28	SPS for Transformers at 400kV Gorakhpur (UPPTCL) Substation	UPPTCL			27-04-2024	conducted	21-04-2025	As reported by SLDC UP, scheme is required as loading exceeded (N-1) limit during summer of 2025
29	SPS for Transformers at 400kV Sarnath (UPPTCL) Substation	UPPTCL			23-05-2024	conducted	01-04-2025	Mock test report received
30	SPS for Transformer at 400kV Rajpura (PSTCL) Substation	PSTCL			31-01-2025	Jan-26		
31	SPS for Transformers at 400kV Mundka (DTL) Substation	DTL			03-02-2025	Dec-25		
32	SPS for Transformers at 400kV Deepalpur (JKTPL) Substation	HVPNL				conducted	08-05-2025	Mock test report pending
33	SPS for Transformers at 400kV Ajmer (RVPN) Substation	RVPNL			10-09-2024	conducted	20-08-2025	Mock test report received.
34	SPS for Transformers at 400kV Merta (RVPN) Substation	RVPNL			12-09-2024	conducted	09-09-2025	Mock test report received.
35	SPS for Transformers at 400kV Chittorgarh (RVPN) Substation	RVPNL			31-08-2024 and 05-09-2024	conducted	11-09-2025 & 12-09-2025	Mock test report received.
36	SPS for Transformers at 400kV Jodhpur (RVPN) Substation	RVPNL			24-09-2024	Dec-25		
37	SPS for Transformers at 400kV Bhadla (RVPN) Substation	RVPNL			27-09-2024	conducted	27-09-2025	
38	SPS for Transformers at 400kV Ratangarh (RVPN) Substation	RVPNL			20-09-2024	conducted	25-09-2025	
39	SPS for Transformers at 400kV Nehtaur(WUPPTCL) Substation	UPPTCL			11-01-2025	Dec-25		
40	SPS for Transformers at Obra TPS	UPPTCL			20-05-2024	Schedule awaited		ICTs failed during fire incident
41	SPS for Transformers at 400KV Kashipur (PTCUL) substation	PTCUL			Septemeber 2024	conducted	05-10-2025	
42	SPS for Transformers at 400KV Fatehgarh Solar Park (AREPRL)	ADANI				conducted	19-04-2025	Mock test report received.
43	SPS to relive transmission congestion in RE complex (Bhadla2)	POWERGRID				conducted	26-08-2025	Mock test report pending
44	SPS for Transformers at 400kV Bikaner (RVPN) Substation	RVPNL			26-09-2024	conducted	13-09-2025 & 17-09-2025	
45	SPS for Transformers at 400kV Bawana (DTL) Substation	DTL			04-01-2025	Dec-25		
46	SPS for Transformers at 400kV Bhilwara (RVPN) Substation	RVPNL			09-07-2024 and 10-07-2024	conducted	09-2025 & 23-09-2(	Mock test report received.
47	SPS for Transformers at 400kV Hindaun (RVPN) Substation	RVPNL			26-09-2024	conducted	11-09-2025	Mock test report received.
48	SPS for Transformers at 400kV Suratgarh (RVPN) Substation	RVPNL			20-10-2024	Dec-25		
49	SPS for Transformers at 400kV Babai(RS) Substation	RVPNL			20-10-2024	conducted	07-08-2025	Mock test report received.
50	SPS for Transformers at 400kV Allahabad(PG) Substation	UPPTCL			25.07.2024	Jan-26		
51	SPS for Transformers at 400kV Jaunpur(UP) Substation	UPPTCL				Schedule awaited		Implemented on 08.10.2025
52	SPS for Transformers at 765kV Jhatikara(PG) Substation (Bamnauli section)	POWERGRID				conducted	Jun-25	Mock test report received.
	SPS for Transformers at 765kV Jhatikara(PG) Substation (Mundka section)					conducted	Jun-25	
53	SPS for Transformers at 765kV Bhiwani(PG) Substation	POWERGRID				SPS implemented		Mock test report received.
54	SPS for Transformers at 400kV Panki (UPPTCL) Substation	UPPTCL				Approved in 234 OCC		Expected to be implemented by Dec-25
55	SPS for Transformers at 400kV Agra(PG) Substation	POWERGRID/UPPTCL				Approved in 234 OCC		Expected to be implemented by Dec-25
56	SPS for Transformers at 400kV Jaipur South(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
57	SPS for Transformers at 400kV Bassi(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
58	SPS for Transformers at 400kV Kankroli(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
59	SPS for Transformers at 400kV Kotputli(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
60	SPS for Transformers at 400kV Neemrana(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
61	SPS for Transformers at 400kV Bhiwadi(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
62	SPS for Transformers at 400kV Sikar(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented

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

Sr. No.	Scheme Name	Owner / Agency	Commission Year	Last Review	Mock testing conducted before 2025-26	Tentative Schedule of SPS Mock testing to be conducted during 2025-26	Date of SPS Mock testing conducted during 2025-26	Remarks
1	SPS for WR-NR corridor - 765kV Agra-Gwalior D/C	POWERGRID			27-03-2025	conducted	10.10.2025	Communication issue at Bhiwadi(PG), Bamnauli(DTL), Kota, Debari, Chittorgarh, Ratangarh, Nunamajra, Safidon, Ajitwal, Dandhari-II, Ablowal.
2	SPS for contingency due to tripping of HVDC Mundra-Mahendergarh	ADANI				Schedule awaited		As reported by ADANI, scheme has been made ready to be taken into service.
3	SPS for high capacity 400 kV Muzaffarpur-Gorakhpur D/C Inter-regional tie-line related contingency	POWERGRID				SPS Under Review		Not conducted in 2024-25 also. NRLDC Studies team advised to disable the same. NLDC input awaited.
4	SPS for 1500 MW HVDC Rihand-Dadri Bipole related contingency	POWERGRID			19-03-2025 and 20-03-2025	conducted	19.11.2025	SPS command didn't receive at 220kV Muradnagar(UP), 220kV Merta(RS), 220kV Kota Sakatpura(RS), 220kV Dhanonda(HR) and Singrauli TPS(NTPC)
5	System Protection Scheme (SPS) for HVDC Balia-Bhiwadi Bipole	POWERGRID				SPS Under Review		Not conducted in 2024-25 also
6	SPS for reliable evacuation of power from NJPS, Rampur, Sawra Kuddu, Baspa Sorang and Karcham Wangtoo HEP	SJVN/HPPTCL/JSW/POWERGRID/SORANG			19-12-2024	Dec-25	04-09-2025 (Partial: Case-1, 3 & 5 conducted)	Case-6(i) & (ii) has been implemented (as confimed by Karcham(JSW) via mail dated 08.12.2025). Communication card issue at Wangtoo(HP)
7	SPS for Reliable Evacuation of Ropar Generation	PSTCL				SPS Under Review		As per NRLDC study, evacuation network at Ropta TPS meets N-1-1 reliability criteria, the need for an SPS at Ropar appears redundant under the current network configuration. During 239th OCC and 66th PSC, it was decided to remove the SPS.
8	SPS for Reliable Evacuation of Rosa Generation	UPPTCL			20-04-2024	conducted	12-04-2025	Mock test report received (Review to be done in view of commissioning of 400kV Rosa-Badaun D/C in April 2021.)
9	SPS for contingency due to tripping of evacuating lines from Narora Atomic Power Station	NAPS / UPPTCL				SPS Under Review		Not conducted in 2024-25 also. As reported by UPPTCL, no SPS system is in service at Narora S/s. NRLDC Studies team advised to disable the same. During 239th OCC and 66th PSC, it was decided to remove the SPS.
10	SPS for evacuation of Kawai TPS, Kalisindh TPS generation complex	RVPNL			14-03-2025 (Partial)	conducted	26-04-2025	As informed by RVPNL, automatic load shedding part of the SPS has been implemented and mock tested. Mock test report is yet to be received.
11	SPS for evacuation of Anpara Generation Complex	UPPTCL			08-10-2024 (unit-7) and 19-10-2024 (unit-6)	conducted	21-07-2025	
12	SPS for evacuation of Lalitpur TPS Generation	UPPTCL			21-05-2024	conducted	09-04-2025	Mock test report received
13	SPS for Reliable Evacuation of Bara TPS Generation	UPPTCL			20-11-2024	conducted	23-05-2025	Mock test report received
14	SPS for Lahal Generation	HPPTCL			08-07-2020	SPS Under Review		As reported by HPPTCL, SPS at Lahal not required now.
15	SPS for Transformers at Maharanibagh (PG) substation	POWERGRID				conducted	Apr-25	Mock test report received
16	SPS for Transformers at Mandola (PG) substation	POWERGRID				conducted	Apr-25	Mock test report received
17	SPS for Transformers at Bamnauli (DTL) Substation	DTL				conducted	19-01-2026	N-1 compliant (To be removed). As reported by SLDC Delhi, scheme may be kept in service until 315 MVA ICT is revived which currently is not in service

18	SPS for Transformers at Moradabad (UPPTCL) Substation	UPPTCL			20-04-2024	conducted	02-04-2025	Mock test report received
19	SPS for Transformers at Muradnagar (UPPTCL) Substation	UPPTCL			27-03-2025	Mar-26		
20	SPS for Transformers at Agra (UPPTCL) Substation	UPPTCL			21-03-2025	Mar-26		
21	SPS for Transformers at 400kV Sarojininagar (UPPTCL) Substation	UPPTCL			15-05-2024	conducted	23-07-2025	Mock test report received
22	SPS for Transformers at 220kV Sarojininagar (UPPTCL) Substation	UPPTCL			06-06-2024	conducted	23-07-2025	Mock test report received
23	SPS for Transformers at 400kV Unnao (UPPTCL) Substation	UPPTCL			19-05-2023	SPS made healthy on 27.05.2025	27.05.2025	Mock test report received
24	**SPS for Transformers at 400kV Sultanpur (UPPTCL) Substation**	**UPPTCL**				**SPS made healthy on 05.05.2025**		**As reported by SLDC UP, scheme is required as loading exceeded (N-1) limit during summer of 2025**
25	SPS for Transformers at 400kV Bareilly (UPPTCL) Substation	UPPTCL				**Revised SPS approved in 234 OCC**		**SPS yet to be implemented**
26	SPS for Transformers at 400kV Azamgarh (UPPTCL) Substation	UPPTCL			06-05-2024	conducted	19-04-2025	Mock test report received
27	SPS for Transformers at 400kV Mau (UPPTCL) Substation	UPPTCL			27-04-2024	conducted	21-04-2025	Mock test report received
28	**SPS for Transformers at 400kV Gorakhpur (UPPTCL) Substation**	**UPPTCL**			**27-04-2024**	**conducted**	**21-04-2025**	**As reported by SLDC UP, scheme is required as loading exceeded (N-1) limit during summer of 2025**
29	SPS for Transformers at 400kV Sarnath (UPPTCL) Substation	UPPTCL			23-05-2024	conducted	01-04-2025	Mock test report received
30	SPS for Transformer at 400kV Rajpura (PSTCL) Substation	PSTCL			31-01-2025	Feb-26		
31	SPS for Transformers at 400kV Mundka (DTL) Substation	DTL			03-02-2025	Feb-26		
32	SPS for Transformers at 400kV Deepalpur (JKTPL) Substation	HVPNL				conducted	08-05-2025	Mock test report pending
33	SPS for Transformers at 400kV Ajmer (RVPN) Substation	RVPNL			10-09-2024	conducted	20-08-2025	Mock test report received.
34	SPS for Transformers at 400kV Merta (RVPN) Substation	RVPNL			12-09-2024	conducted	09-09-2025	Mock test report received.
35	SPS for Transformers at 400kV Chittorgarh (RVPN) Substation	RVPNL			31-08-2024 and 05-09-2024	conducted	11-09-2025 & 12-09-2025	Mock test report received.
36	SPS for Transformers at 400kV Jodhpur (RVPN) Substation	RVPNL			24-09-2024	Dec-25		
37	SPS for Transformers at 400kV Bhadla (RVPN) Substation	RVPNL			27-09-2024	conducted	27-09-2025	
38	SPS for Transformers at 400kV Ratangarh (RVPN) Substation	RVPNL			20-09-2024	conducted	25-09-2025	
39	SPS for Transformers at 400kV Nehtaur(WUPPTCL) Substation	UPPTCL			11-01-2025	Dec-25		SPS implemented in BCU. Shutdown required for mock testing.
40	SPS for Transformers at Obra TPS	UPPTCL			20-05-2024	Mock test will be conducted after revival of ICT		ICTs failed during fire incident
41	SPS for Transformers at 400KV Kashipur (PTCUL) substation	PTCUL			Septemeber 2024	conducted	05-10-2025	
42	SPS for Transformers at 400KV Fatehgarh Solar Park (AREPRL)	ADANI				conducted	19-04-2025	Mock test report received.
43	SPS to relive transmission congestion in RE complex (Bhadla2)	POWERGRID				conducted	26-08-2025	Mock test report pending
44	SPS for Transformers at 400kV Bikaner (RVPN) Substation	RVPNL			26-09-2024	conducted	13-09-2025 & 17-09-2025	
45	SPS for Transformers at 400kV Bawana (DTL) Substation	DTL			04-01-2025	Feb-26		
46	SPS for Transformers at 400kV Bhilwara (RVPN) Substation	RVPNL			09-07-2024 and 10-07-2024	conducted	19-09-2025 & 23-09-2025	Mock test report received.
47	SPS for Transformers at 400kV Hindaun (RVPN) Substation	RVPNL			26-09-2024	conducted	11-09-2025	Mock test report received.
48	SPS for Transformers at 400kV Suratgarh (RVPN) Substation	RVPNL			20-10-2024	Dec-25		
49	SPS for Transformers at 400kV Babai(RS) Substation	RVPNL			20-10-2024	conducted	07-08-2025	Mock test report received.
50	SPS for Transformers at 400kV Allahabad(PG) Substation	UPPTCL			25.07.2024	conducted	29-12-2025	SPS operated during real time (only one case is there in scheme)
51	SPS for Transformers at 400kV Jaunpur(UP) Substation	UPPTCL				Schedule awaited		Implemented on 08.10.2025

52	SPS for Transformers at 765kV Jhatikara(PG) Substation (Bamnauli section)	POWERGRID				conducted	Jun-25	Mock test report received.
	SPS for Transformers at 765kV Jhatikara(PG) Substation (Mundka section)					conducted	Jun-25	
53	SPS for Transformers at 765kV Bhiwani(PG) Substation	POWERGRID				SPS implemented		Mock test report received.
54	SPS for Transformers at 400kV Panki (UPPTCL) Substation	UPPTCL				Approved in 234 OCC		Expected to be implemented by Mar-26
55	SPS for Transformers at 400kV Agra(PG) Substation	POWERGRID/UPPTCL				Approved in 234 OCC		Expected to be implemented by 15th Feb'26
56	SPS for Transformers at 400kV Jaipur South(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented (During 66th PSC, POWERGRID informed that SPS is not required, SLDC Rajasthan to review the same)
57	SPS for Transformers at 400kV Bassi(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
58	SPS for Transformers at 400kV Kankroli(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
59	SPS for Transformers at 400kV Kotputli(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
60	SPS for Transformers at 400kV Neemrana(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
61	SPS for Transformers at 400kV Bhiwadi(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented
62	SPS for Transformers at 400kV Sikar(PG) Substation	POWERGRID/RVPNL				Approved in 237 OCC		Yet to be implemented

Annexure-B.X

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

Deepak Kumar

Tue 04-Feb-25 17:04

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

1 attachments (23 KB)

Revised Schedule for Site Visit.xlsx;

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

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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 | sumeet.sharma@adani.com | www.adani.com
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	Punjab	03.02.2025
2	Gobidngarh		04.02.2025
3	Malerkotla		05.02.2025
4	Mandula	UP	06.02.2025
5	Bamnauli	DTL	07.02.2025
6	Ratangarh	Rajasthan	06.02.2025
7	Bhilwara		07.02.2025
8	Merta		07.02.2025
9	Alwar		08.02.2025
10	PG Bhiwani	Haryana	10.02.2025
11	BBMB bhiwani		10.02.2025
12	Hissar		11.02.2025
13	Dadri		11.02.2025
14	Bahadurgah		12.02.2025
15	Dhanoda		12.02.2025
16	Shamli	UP	12.02.2025

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

Thu 8/29/2024 7:29 PM

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

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

5 attachments (9 MB)

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

****Warning****
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Dear Sir,

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

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

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

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

15	Dhanonda	ON	-	OFF

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

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

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

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

Thanks and Regards,

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

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

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Sir,

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

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

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

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

Subject- Regarding SPS of HVDC Mundra-Mahendargarh line

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

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

Sangeet

(Sangeeta)
Superintending Engineer (R&A)

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

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

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

(Sangeeta)
Superintending Engineer (R&A)

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

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

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

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

Subject: - Regarding SPS of HVDC Mundra-Mahendargarh.

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

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

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

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

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

(A) In Maximum Load Condition:-

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

(B) In Average Load Condition :-

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

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

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

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

(A). In Maximum Load Condition :-

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

(B). In Average Load Condition :-

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

Submitted for information and necessary action

(Nikhil Kumar)
Superintending Engineer

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

Copy forwarded to the following for information and necessary action :

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

(Nikhil Kumar)
Superintending Engineer

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

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

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

Sub :- SPS related to HVDC Mundra-Mahendargarh.

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

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

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

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

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

(Pramod Kumar Mishra)
Superintending Engineer

No. 82 /ETCC-MT/ Dated/– 30/05/24

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

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

(Pramod Kumar Mishra)
Superintending Engineer

SK/SENew/NewEngLetter01

Rajasthan Details

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

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

Email **Control Room CONTROL ROOM SLDC**

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

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

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

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

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

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

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

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

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

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

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

Regards
XEN/TS Division
HVPNL Rewari.

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

Sir,

Please see the attachments.

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

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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 <sesldcop@hvpn.org.in>;

2 attachments (209 KB)

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

****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.

Sir,

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

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

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

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

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

This is for information & further necessary action please.

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

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

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

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

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

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

Regards
XEN/TS Division
HVPNL Rewari.

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

Sir,

Please see the attachments.

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

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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 - xentsbhw@hvpn.org.in
Phone No: 01664-242797(O)

To

The Executive Engineer,
LDPC, HVPNL,
Panipat.

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

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

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

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

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

This is for kind information and necessary action please.

Executive Engineer,
Transmission System Division,
HVPNL, Bhiwani

CC to:

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

Delhi Details

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

SLDC, DELHI <sldcmintoroad@gmail.com>

Wed 8/28/2024 3:48 PM

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

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

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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 CKT.-I	120
2	220 KV BAMNAULI-PAPANKALAN-I CKT.-II	120
3	220 KV MANDAULA- GOPALPUR CKT.-I	212
4	220 KV MANDAULA- GOPALPUR CKT.-II	214

Regards,
SLDC Delhi

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

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

Punjab Details

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

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

Nodal officers details

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

ULDC network for SPS Mundra-Mohindergarh 500kV HVDC

Sumeet Sharma <Sumeet.Sharma@adani.com>

Thu 4/10/2025 5:42 PM

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

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

1 attachments (323 KB)

20250408 ULDC discussion..pdf;

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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		

adani
Energy Solutions

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

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

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

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

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

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

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

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

Regards

Sumeet Sharma
Head Automation, Communication and OT-Cyber
Adani Transmission (India)ltd.

Adani Transmission (India) Ltd
Adani Corporate House
Adani Shantigram, S.G Highway
Ahmedabad 382421
CIN: U40101GJ2013PLC077700

Tel +91 79 2555 6900
Fax +91 79 2555 7155
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www.adani.com

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

Sumeet Sharma <Sumeet.Sharma@adani.com>

Wed 7/30/2025 6:54 PM

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

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

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Dear Sir,

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

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

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

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

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

Thank you for your attention and understanding.

Regards,

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

---

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

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Sir,

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

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

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

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

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

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Dear Sir,

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

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

Regards,

Sumeet Sharma

Head- Automation, Communications & OT-Cyber Technology

Adani Energy Solutions Limited.(Grid Division)

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

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

---

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

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

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Sir,

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

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

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

सादर धन्यवाद/ Thanks & Regards

दीपक कुमार / Deepak Kumar

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

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

पोसोको / POSOCO

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

Sir,

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

सादर धन्यवाद/ Thanks & Regards

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
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RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Mon 9/15/2025 8:16 PM

Inbox

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

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

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Dear Sir,

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

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

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

Regards

Sumeet Sharma

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

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Sir,

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

Kindly share the update in this regard.

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

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

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Dear Sir,

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

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

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

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

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

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

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

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

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

Thank you for your attention and understanding.

Regards,

Sumeet Sharma

Head- Automation, Communications & OT-Cyber Technology

Adani Energy Solutions Limited.(Grid Division)

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

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

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

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

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

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Sir,

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

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

सादर धन्यवाद/ Thanks & Regards

दीपक कुमार / Deepak Kumar

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

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

पोसोको / POSOCO

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

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Dear Sir,

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

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

Regards,

Sumeet Sharma

Head- Automation, Communications & OT-Cyber Technology

Adani Energy Solutions Limited.(Grid Division)

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

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

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

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

Sir,

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

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

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

सादर धन्यवाद/ Thanks & Regards

दीपक कुमार / Deepak Kumar

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

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

पोसोको / POSOCO

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

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

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

Sir,

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

सादर धन्यवाद/ Thanks & Regards

प्रणाली संचालन-II/ System Operation-II

उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड/ Grid Controller of India Limited
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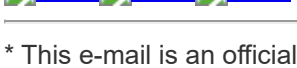

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RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Sumeet Sharma <Sumeet.Sharma@adani.com>

Wed 11/5/2025 11:57 AM

Inbox

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

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

2 attachments (47 KB)

E1 details.xlsx; Tentative Schedule.xlsx;

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Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status and plan of the activities related to the 500kV Mundra-Mohindergarh SPS.

Firstly, I'm pleased to inform you that the FAT was completed and the material has arrived at the Mohindergarh station . Please find attached the tentative activity schedule at the respective locations(subject o site constraints -if any) as submitted by our partner. The coordination of these activities will be handled by our Mohindergarh Station Head, Mr. Abhishek Singh, in collaboration with M/s Commtel. Mr. Singh can be reached at Mobile # 9671306831 for any immediate coordination.

We seek the support of each utility and your esteemed office to facilitate the activities to be carried out by M/s Commtel at the respective locations. As this involves the replacement of existing hardware with new ones, we require the return of the existing material for necessary commercial formalities. We kindly request your support in clearing the same for M/s Commtel to carry back.

Additionally, we will need the configuration of E1 channels identified along with M/s PGCIL between Mohindergarh and the respective locations and allocation of two Optical ports at the Tejas SDH (TJ 1400) installed at the Mohendragarh Control Room for the communication setup and to execute commands and feedbacks.

Sincere Thanks for your cooperation and support.

Regards,
Sumeet Sharma

From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Thursday, October 30, 2025 5:45 PM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: Re: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

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महोदय / महोदया,

In reference of the trailing mail, it is requested to kindly share the update regarding FAT which was supposed to be completed by 30.09.2025 and further following the FAT, the material are to be shipped to various sites and installed by 30th October 2025.

In view of above, it is requested to kindly update the present status and future action plan.

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

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

Wed 19-Nov-25 18:31

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

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

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Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status of the activities related to the 500kV Mundra-Mohindergarh SPS.

Firstly, I would like to express my gratitude and appreciation to all the members on this email for their incredible support to the team implementing the scheme at their respective locations. We are also receiving excellent support from Powergrid in configuring the communication path between Mohindergarh and the SPS locations.

As of today, the team has installed and tested the commands up to the DTPC panels from Mohindergarh for the following locations:
- BBMB

- Charkhi Dadri
- Ratangarh
- Hisar-PG
- Alwar
- Merta
- Nuna Majra
- Shamli

The support from respective utility representatives, especially with regards to ensuring the termination of cables to the correct feeders and terminals, is crucial in ensuring the actual relief during the operation of the SPS.

We shall continue our efforts to complete the remaining locations with your support to bring the scheme into full operation.

Regards,
Sumeet Sharma

From: Sumeet Sharma
Sent: Wednesday, November 5, 2025 11:57 AM
To: 'NRLDC SO 2' <nrldcso2@grid-india.in>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status and plan of the activities related to the 500kV Mundra-Mohindergarh SPS.

Firstly, I'm pleased to inform you that the FAT was completed and the material has arrived at the Mohindergarh station . Please find attached the tentative activity schedule at the respective locations(subject o site constraints -if any) as submitted by our partner. The coordination of these activities will be handled by our Mohindergarh Station Head, Mr. Abhishek Singh, in collaboration with M/s Commtel. Mr. Singh can be reached at Mobile # 9671306831 for any immediate coordination.

We seek the support of each utility and your esteemed office to facilitate the activities to be carried out by M/s Commtel at the respective locations. As this involves the replacement of existing hardware with new ones, we require the return of the existing material for necessary commercial formalities. We kindly request your support in clearing the same for M/s Commtel to carry back.

Additionally, we will need the configuration of E1 channels identified along with M/s PGCIL between Mohindergarh and the respective locations and allocation of two Optical ports at the Tejas SDH (TJ 1400) installed at the Mohendragarh Control Room for the communication setup and to execute commands and feedbacks.

Sincere Thanks for your cooperation and support.

Regards,
Sumeet Sharma

From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Thursday, October 30, 2025 5:45 PM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: Re: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

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

महोदय / महोदया,

In reference of the trailing mail, it is requested to kindly share the update regarding FAT which was supposed to be completed by 30.09.2025 and further following the FAT, the material are to be shipped to various sites and installed by 30th October 2025.

In view of above, it is requested to kindly update the present status and future action plan.

सादर धन्यवाद/ Thanks & Regards
प्रणाली संचालन-II/ System Operation-II
उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

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

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

Sumeet Sharma <Sumeet.Sharma@adani.com>

Mon 15-Dec-25 19:08

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

Cc:seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; Prashant Kumar <Prashant.Kumar1@adani.com>; Saurabh Sharma <Saurabh.Sharma@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; Somara Lakra (सोमारा लाकरा) <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; Deepak Kumar <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in <m.alwar@rvpn.co.in>; aen.mpt&s.rtg@rvpn.co.in <aen.mpt&s.rtg@rvpn.co.in>; aen.comm.ratangarh@rvpn.co.in <aen.comm.ratangarh@rvpn.co.in>; aen.subsldc.bhl@rvpn.co.in <aen.subsldc.bhl@rvpn.co.in>; xen.mpts.bhl@rvpn.co.in <xen.mpts.bhl@rvpn.co.in>; aen.prot.mertacity@RVPN.CO.IN <aen.prot.mertacity@RVPN.CO.IN>; aen.comm.merta@RVPN.CO.IN <aen.comm.merta@RVPN.CO.IN>; nainwal@powergrid.in <nainwal@powergrid.in>; vinaykumargupta@powergrid.in <vinaykumargupta@powergrid.in>; ravindra_kumar@powergrid.in <ravindra_kumar@powergrid.in>; smahajan1999@powergrid.in <smahajan1999@powergrid.in>; rkagrawal83@powergrid.in <rkagrawal83@powergrid.in>; dharmendrameena@powergrid.in <dharmendrameena@powergrid.in>; vineet@powergrid.in <vineet@powergrid.in>; bhakalramjash@powergrid.in <bhakalramjash@powergrid.in>; dhanonda400kv@gmail.com <dhanonda400kv@gmail.com>; sse220kvlulaahir@hvpn.org.in <sse220kvlulaahir@hvpn.org.in>; sse220kvrwr@hvpn.org.in <sse220kvrwr@hvpn.org.in>; sse132kvdadri@hvpn.org.in <sse132kvdadri@hvpn.org.in>; ae-220kvg1-mgg@pstcl.org <ae-220kvg1-mgg@pstcl.org>; sse-pm-lalton@pstcl.org <sse-pm-lalton@pstcl.org>; sse-pm-mlrk@pstcl.org <sse-pm-mlrk@pstcl.org>; eeetdshamli@upptcl.org <eeetdshamli@upptcl.org>; ee400mrd2@upptcl.org <ee400mrd2@upptcl.org>; aeprotection@upsldc.org <aeprotection@upsldc.org>; ase-sldcop@pstcl.org <ase-sldcop@pstcl.org>; bl.gujar@dtl.gov.in <bl.gujar@dtl.gov.in>; ce.ld@rvpn.co.in <ce.ld@rvpn.co.in>; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in <dtldata@yahoo.co.in>; dtlscheduling@gmail.com <dtlscheduling@gmail.com>; eesldccontrol@upsldc.org <eesldccontrol@upsldc.org>; ldrvpnl@rvpn.co.in <ldrvpnl@rvpn.co.in>; ldshutdown@gmail.com <ldshutdown@gmail.com>; ldshutdown@rvpn.co.in <ldshutdown@rvpn.co.in>; paritosh.joshi@dtl.gov.in <paritosh.joshi@dtl.gov.in>; pccont@bbmb.nic.in <pccont@bbmb.nic.in>; pc-sldcop@pstcl.org <pc-sldcop@pstcl.org>; rajbir-walia79@yahoo.com <rajbir-walia79@yahoo.com>; rtamc.nr1@powergrid.in <rtamc.nr1@powergrid.in>; pankaj.jha@powergrid.in <pankaj.jha@powergrid.in>; neerajk@powergrid.in <neerajk@powergrid.in>; se.mpts.udr@rvpn.co.in <se.mpts.udr@rvpn.co.in>; se.prot.engg@rvpn.co.in <se.prot.engg@rvpn.co.in>; se.sold@rvpn.co.in <se.sold@rvpn.co.in>; sera@upsldc.org <sera@upsldc.org>; sesc@upsldc.org <sesc@upsldc.org>; sesldcop@hvpn.org <sesldcop@hvpn.org>; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org <setncmrt@upptcl.org>; sldcdata@gmail.com <sldcdata@gmail.com>; sldcharyanacr@gmail.com <sldcharyanacr@gmail.com>; sldcmintoroad@gmail.com <sldcmintoroad@gmail.com>; system.uppcl@gmail.com <system.uppcl@gmail.com>; xenemtcbhpp2@bbmb.nic.in <xenemtcbhpp2@bbmb.nic.in>; xenmpccggn@hvpn.org <xenmpccggn@hvpn.org>; xenplgss@hvpn.org <xenplgss@hvpn.org>;

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Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status of the activities related to the 500kV Mundra-Mohindergarh SPS. Following is the status of the scheme as on 15-Dec-25.

a. FOTE installation and commissioning : Completed
b. E1 link establishment between Mohindergarh and respective sites : Completed
c. DTPC installation and link establishment between Mohindergarh and respective locations : Completed
d. Command Testing from DTPC to DTPC for all Location : Completed

e. Cable laying and Termination between DTPC and Trip Circuits: Completed except two locations (Gobindgarh and Malerkotla)

The scheme has been made ready and the commands have been tested between Mohindergarh and locations between DTPCs . All the commands have been terminated to respective trip circuits of the identified feeders **except Gobindgarh** and **Malerkotla** where the same is in progress.. **We seek the support from respective in-charges** to provide terminal details to the executing team for proper terminations.

With support from respective in-charges, we expect the completion of these two location within this week and system can then be declared operational. We seek your guidance for further course of action.

Regards,
Sumeet Sharma

From: Sumeet Sharma
Sent: Wednesday, November 19, 2025 6:31 PM
To: 'NRLDC SO 2' <nrldcso2@grid-india.in>
Cc: 'seo-nrpc' <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; 'Afak Pothiawala' <afak.pothiawala@adani.com>; 'Mahesh M. Mehendale (महेश एम. मेहंदले)' <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; 'Mahavir Prasad Singh (महावीर प्रसाद सिंह)' <mahavir@grid-india.in>; 'Sugata Bhattacharya (सुगाता भट्टाचार्या)' <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; 'aen.com' <xen.prot.alwar@rvpn.co.in>; 'm.alwar@rvpn.co.in' <m.alwar@rvpn.co.in>; 'aen.mpt&s.rtg@rvpn.co.in' <aen.mpt&s.rtg@rvpn.co.in>; 'aen.comm.ratangarh@rvpn.co.in' <aen.comm.ratangarh@rvpn.co.in>; 'aen.subsldc.bhl@rvpn.co.in' <aen.subsldc.bhl@rvpn.co.in>; 'xen.mpts.bhl@rvpn.co.in' <xen.mpts.bhl@rvpn.co.in>; 'aen.prot.mertacity@RVPN.CO.IN' <aen.prot.mertacity@RVPN.CO.IN>; 'aen.comm.merta@RVPN.CO.IN' <aen.comm.merta@RVPN.CO.IN>; 'nainwal@powergrid.in' <nainwal@powergrid.in>; 'vinaykumargupta@powergrid.in' <vinaykumargupta@powergrid.in>; 'ravindra_kumar@powergrid.in' <ravindra_kumar@powergrid.in>; 'smahajan1999@powergrid.in' <smahajan1999@powergrid.in>; 'rkagrawal83@powergrid.in' <rkagrawal83@powergrid.in>; 'dharmendrameena@powergrid.in' <dharmendrameena@powergrid.in>; 'vineet@powergrid.in' <vineet@powergrid.in>; 'bhakalramjash@powergrid.in' <bhakalramjash@powergrid.in>; 'dhanonda400kv@gmail.com' <dhanonda400kv@gmail.com>; 'sse220kvlulaahir@hvpn.org.in' <sse220kvlulaahir@hvpn.org.in>; 'sse220kvrwr@hvpn.org.in' <sse220kvrwr@hvpn.org.in>; 'sse132kvdadri@hvpn.org.in' <sse132kvdadri@hvpn.org.in>; 'ae-220kvg1-mgg@pstcl.org' <ae-220kvg1-mgg@pstcl.org>; 'sse-pm-lalton@pstcl.org' <sse-pm-lalton@pstcl.org>; 'sse-pm-mlrk@pstcl.org' <sse-pm-mlrk@pstcl.org>; 'eeetdshamli@upptcl.org' <eeetdshamli@upptcl.org>; 'ee400mrd2@upptcl.org' <ee400mrd2@upptcl.org>; 'aeprotection@upsldc.org' <aeprotection@upsldc.org>; 'ase-sldcop@pstcl.org' <ase-sldcop@pstcl.org>; 'bl.gujar@dtl.gov.in' <bl.gujar@dtl.gov.in>; 'ce.ld@rvpn.co.in' <ce.ld@rvpn.co.in>; 'ce-sldc' <ce-sldc@pstcl.org>; 'dtldata@yahoo.co.in' <dtldata@yahoo.co.in>; 'dtlscheduling@gmail.com' <dtlscheduling@gmail.com>; 'eesldccontrol@upsldc.org' <eesldccontrol@upsldc.org>; 'ldrvpnl@rvpn.co.in' <ldrvpnl@rvpn.co.in>; 'ldshutdown@gmail.com' <ldshutdown@gmail.com>; 'ldshutdown@rvpn.co.in' <ldshutdown@rvpn.co.in>; 'paritosh.joshi@dtl.gov.in' <paritosh.joshi@dtl.gov.in>; 'pccont@bbmb.nic.in' <pccont@bbmb.nic.in>; 'pc-sldcop@pstcl.org' <pc-sldcop@pstcl.org>; 'rajbir-walia79@yahoo.com' <rajbir-walia79@yahoo.com>; 'rtamc.nr1@powergrid.in' <rtamc.nr1@powergrid.in>; 'pankaj.jha@powergrid.in' <pankaj.jha@powergrid.in>; 'neerajk@powergrid.in' <neerajk@powergrid.in>; 'se.mpts.udr@rvpn.co.in' <se.mpts.udr@rvpn.co.in>; 'se.prot.engg@rvpn.co.in' <se.prot.engg@rvpn.co.in>; 'se.sold@rvpn.co.in' <se.sold@rvpn.co.in>; 'sera@upsldc.org' <sera@upsldc.org>; 'sesc@upsldc.org' <sesc@upsldc.org>; 'sesldcop@hvpn.org' <sesldcop@hvpn.org>; 'se-sldcop' <se-sldcop@pstcl.org>; 'setncmrt@upptcl.org' <setncmrt@upptcl.org>; 'sldcdata@gmail.com' <sldcdata@gmail.com>; 'sldcharyanacr@gmail.com' <sldcharyanacr@gmail.com>; 'sldcmintoroad@gmail.com' <sldcmintoroad@gmail.com>; 'system.uppcl@gmail.com' <system.uppcl@gmail.com>; 'xenemtcbhpp2@bbmb.nic.in' <xenemtcbhpp2@bbmb.nic.in>; 'xenmpccggn@hvpn.org' <xenmpccggn@hvpn.org>; 'xenplgss@hvpn.org' <xenplgss@hvpn.org>
Subject: RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status of the activities related to the 500kV Mundra-Mohindergarh SPS.

Firstly, I would like to express my gratitude and appreciation to all the members on this email for their incredible support to the team implementing the scheme at their respective locations. We are also receiving excellent support from Powergrid in configuring the communication path between Mohindergarh and the SPS locations.

As of today, the team has installed and tested the commands up to the DTPC panels from Mohindergarh for the following locations:
- BBMB
- Charkhi Dadri
- Ratangarh
- Hisar-PG
- Alwar
- Merta
- Nuna Majra
- Shamli

The support from respective utility representatives, especially with regards to ensuring the termination of cables to the correct feeders and terminals, is crucial in ensuring the actual relief during the operation of the SPS.

We shall continue our efforts to complete the remaining locations with your support to bring the scheme into full operation.

Regards,
Sumeet Sharma

From: Sumeet Sharma
Sent: Wednesday, November 5, 2025 11:57 AM
To: 'NRLDC SO 2' <nrldcso2@grid-india.in>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status and plan of the activities related to the 500kV Mundra-Mohindergarh SPS.

Firstly, I'm pleased to inform you that the FAT was completed and the material has arrived at the Mohindergarh station . Please find attached the tentative activity schedule at the respective locations(subject o site constraints -if any) as submitted by our partner. The coordination of these activities will be handled by our Mohindergarh Station Head, Mr. Abhishek Singh, in collaboration with M/s Commtel. Mr. Singh can be reached at Mobile # 9671306831 for any immediate coordination.

We seek the support of each utility and your esteemed office to facilitate the activities to be carried out by M/s Commtel at the respective locations. As this involves the replacement of existing hardware with new ones, we require the return of the existing material for necessary commercial formalities. We kindly request your support in clearing the same for M/s Commtel to carry back.

Additionally, we will need the configuration of E1 channels identified along with M/s PGCIL between Mohindergarh and the respective locations and allocation of two Optical ports at the Tejas SDH (TJ 1400) installed at the Mohendragarh Control Room for the communication setup and to execute commands and feedbacks.

Sincere Thanks for your cooperation and support.

Regards,
Sumeet Sharma

From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Thursday, October 30, 2025 5:45 PM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: Re: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

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

महोदय / महोदया,

In reference of the trailing mail, it is requested to kindly share the update regarding FAT which was supposed to be completed by 30.09.2025 and further following the FAT, the material are to be shipped to various sites and installed by 30th October 2025.

In view of above, it is requested to kindly update the present status and future action plan.

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

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

Wed 07-Jan-26 18:07

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

Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; Prashant Kumar <Prashant.Kumar1@adani.com>; Saurabh Sharma <Saurabh.Sharma@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; Somara Lakra (सोमारा लाकरा) <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; Deepak Kumar <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in <m.alwar@rvpn.co.in>; aen.mpt&s.rtg@rvpn.co.in <aen.mpt&s.rtg@rvpn.co.in>; aen.comm.ratangarh@rvpn.co.in <aen.comm.ratangarh@rvpn.co.in>; aen.subsldc.bhl@rvpn.co.in <aen.subsldc.bhl@rvpn.co.in>; xen.mpts.bhl@rvpn.co.in <xen.mpts.bhl@rvpn.co.in>; aen.prot.mertacity@RVPN.CO.IN <aen.prot.mertacity@RVPN.CO.IN>; aen.comm.merta@RVPN.CO.IN <aen.comm.merta@RVPN.CO.IN>; nainwal@powergrid.in <nainwal@powergrid.in>; vinaykumargupta@powergrid.in <vinaykumargupta@powergrid.in>; ravindra_kumar@powergrid.in <ravindra_kumar@powergrid.in>; smahajan1999@powergrid.in <smahajan1999@powergrid.in>; rkagrawal83@powergrid.in <rkagrawal83@powergrid.in>; dharmendrameena@powergrid.in <dharmendrameena@powergrid.in>; vineet@powergrid.in <vineet@powergrid.in>; bhakalramjash@powergrid.in <bhakalramjash@powergrid.in>; dhanonda400kv@gmail.com <dhanonda400kv@gmail.com>; sse220kvlulaahir@hvpn.org.in <sse220kvlulaahir@hvpn.org.in>; sse220kvrwr@hvpn.org.in <sse220kvrwr@hvpn.org.in>; sse132kvdadri@hvpn.org.in <sse132kvdadri@hvpn.org.in>; ae-220kvg1-mgg@pstcl.org <ae-220kvg1-mgg@pstcl.org>; sse-pm-lalton@pstcl.org <sse-pm-lalton@pstcl.org>; sse-pm-mlrk@pstcl.org <sse-pm-mlrk@pstcl.org>; eeetdshamli@upptcl.org <eeetdshamli@upptcl.org>; ee400mrd2@upptcl.org <ee400mrd2@upptcl.org>; aeprotection@upsldc.org <aeprotection@upsldc.org>; ase-sldcop@pstcl.org <ase-sldcop@pstcl.org>; bl.gujar@dtl.gov.in <bl.gujar@dtl.gov.in>; ce.ld@rvpn.co.in <ce.ld@rvpn.co.in>; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in <dtldata@yahoo.co.in>; dtlscheduling@gmail.com <dtlscheduling@gmail.com>; eesldccontrol@upsldc.org <eesldccontrol@upsldc.org>; ldrvpnl@rvpn.co.in <ldrvpnl@rvpn.co.in>; ldshutdown@gmail.com <ldshutdown@gmail.com>; ldshutdown@rvpn.co.in <ldshutdown@rvpn.co.in>; paritosh.joshi@dtl.gov.in <paritosh.joshi@dtl.gov.in>; pccont@bbmb.nic.in <pccont@bbmb.nic.in>; pc-sldcop@pstcl.org <pc-sldcop@pstcl.org>; rajbir-walia79@yahoo.com <rajbir-walia79@yahoo.com>; rtamc.nr1@powergrid.in <rtamc.nr1@powergrid.in>; pankaj.jha@powergrid.in <pankaj.jha@powergrid.in>; neerajk@powergrid.in <neerajk@powergrid.in>; se.mpts.udr@rvpn.co.in <se.mpts.udr@rvpn.co.in>; se.prot.engg@rvpn.co.in <se.prot.engg@rvpn.co.in>; se.sold@rvpn.co.in <se.sold@rvpn.co.in>; sera@upsldc.org <sera@upsldc.org>; sesc@upsldc.org <sesc@upsldc.org>; sesldcop@hvpn.org <sesldcop@hvpn.org>; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org <setncmrt@upptcl.org>; sldcdata@gmail.com <sldcdata@gmail.com>; sldcharyanacr@gmail.com <sldcharyanacr@gmail.com>; sldcmintoroad@gmail.com <sldcmintoroad@gmail.com>; system.uppcl@gmail.com <system.uppcl@gmail.com>; xenemtcbhpp2@bbmb.nic.in <xenemtcbhpp2@bbmb.nic.in>; xenmpccggn@hvpn.org <xenmpccggn@hvpn.org>; xenplgss@hvpn.org <xenplgss@hvpn.org>;

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Dear sir,

I hope this message finds you well. I am writing to provide an update on the status of the activities related to the 500kV Mundra-Mohindergarh SPS. Following is the status of the scheme as on 25-Dec-25-

a. FOTE installation and commissioning : Completed
b. E1 link establishment between Mohindergarh and respective sites : Completed
c. DTPC installation and link establishment between Mohindergarh and respective locations : Completed
d. Command Testing from DTPC to DTPC for all Location : Completed
e. Cable laying and Termination between DTPC and Trip Circuits: Completed

The scheme has been made ready and the commands have been tested between Mohindergarh and locations between DTPCs . All the commands have been terminated to respective trip circuits of the identified feeders

We declare our readiness for the scheme to be taken into service and once again express our sincere Thanks to all the stake holder for extending their support during execution of this scheme.

We seek your guidance for further course of action in this regards.

Regards,
Sumeet Sharma

From: Sumeet Sharma
Sent: Monday, December 15, 2025 7:08 PM
To: NRLDC SO 2 <nrldcso2@grid-india.in>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; Prashant Kumar <Prashant.Kumar1@adani.com>; Saurabh Sharma <Saurabh.Sharma@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: RE: Status of Corrective actions for healthiness of 500kV Mundra-Mohindergarh SPS

Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status of the activities related to the 500kV Mundra-Mohindergarh SPS. Following is the status of the scheme as on 15-Dec-25.

a. FOTE installation and commissioning : Completed
b. E1 link establishment between Mohindergarh and respective sites : Completed
c. DTPC installation and link establishment between Mohindergarh and respective locations : Completed
d. Command Testing from DTPC to DTPC for all Location : Completed
e. Cable laying and Termination between DTPC and Trip Circuits: Completed except two locations (Gobindgarh and Malerkotla)

The scheme has been made ready and the commands have been tested between Mohindergarh and locations between DTPCs . All the commands have been terminated to respective trip circuits of the identified feeders **except Gobindgarh** and **Malerkotla** where the same is in progress.. **We seek the support from respective in-charges** to provide terminal details to the executing team for proper terminations.

With support from respective in-charges, we expect the completion of these two location within this week and system can then be declared operational. We seek your guidance for further course of action.

Regards,
Sumeet Sharma

From: Sumeet Sharma
Sent: Wednesday, November 19, 2025 6:31 PM
To: 'NRLDC SO 2' <nrldcso2@grid-india.in>
Cc: 'seo-nrpc' <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; 'Afak Pothiawala' <afak.pothiawala@adani.com>; 'Mahesh M. Mehendale (महेश एम. मेहंदले)' <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; 'Mahavir Prasad Singh (महावीर प्रसाद सिंह)' <mahavir@grid-india.in>; 'Sugata Bhattacharya (सुगाता भट्टाचार्या)' <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; 'aen.com' <xen.prot.alwar@rvpn.co.in>; 'm.alwar@rvpn.co.in' <m.alwar@rvpn.co.in>; 'aen.mpt&s.rtg@rvpn.co.in' <aen.mpt&s.rtg@rvpn.co.in>; 'aen.comm.ratangarh@rvpn.co.in' <aen.comm.ratangarh@rvpn.co.in>; 'aen.subsldc.bhl@rvpn.co.in' <aen.subsldc.bhl@rvpn.co.in>; 'xen.mpts.bhl@rvpn.co.in' <xen.mpts.bhl@rvpn.co.in>; 'aen.prot.mertacity@RVPN.CO.IN' <aen.prot.mertacity@RVPN.CO.IN>; 'aen.comm.merta@RVPN.CO.IN' <aen.comm.merta@RVPN.CO.IN>; 'nainwal@powergrid.in' <nainwal@powergrid.in>; 'vinaykumargupta@powergrid.in' <vinaykumargupta@powergrid.in>; 'ravindra_kumar@powergrid.in' <ravindra_kumar@powergrid.in>; 'smahajan1999@powergrid.in' <smahajan1999@powergrid.in>; 'rkagrawal83@powergrid.in' <rkagrawal83@powergrid.in>; 'dharmendrameena@powergrid.in' <dharmendrameena@powergrid.in>; 'vineet@powergrid.in' <vineet@powergrid.in>; 'bhakalramjash@powergrid.in' <bhakalramjash@powergrid.in>; 'dhanonda400kv@gmail.com' <dhanonda400kv@gmail.com>; 'sse220kvlulaahir@hvpn.org.in' <sse220kvlulaahir@hvpn.org.in>; 'sse220kvrwr@hvpn.org.in' <sse220kvrwr@hvpn.org.in>; 'sse132kvdadri@hvpn.org.in' <sse132kvdadri@hvpn.org.in>; 'ae-220kvg1-mgg@pstcl.org' <ae-220kvg1-mgg@pstcl.org>; 'sse-pm-lalton@pstcl.org' <sse-pm-lalton@pstcl.org>; 'sse-pm-mlrk@pstcl.org' <sse-pm-mlrk@pstcl.org>; 'eeetdshamli@upptcl.org' <eeetdshamli@upptcl.org>; 'ee400mrd2@upptcl.org' <ee400mrd2@upptcl.org>; 'aeprotection@upsldc.org' <aeprotection@upsldc.org>; 'ase-sldcop@pstcl.org' <ase-sldcop@pstcl.org>; 'bl.gujar@dtl.gov.in' <bl.gujar@dtl.gov.in>; 'ce.ld@rvpn.co.in' <ce.ld@rvpn.co.in>; 'ce-sldc' <ce-sldc@pstcl.org>; 'dtldata@yahoo.co.in' <dtldata@yahoo.co.in>; 'dtlscheduling@gmail.com' <dtlscheduling@gmail.com>; 'eesldccontrol@upsldc.org' <eesldccontrol@upsldc.org>; 'ldrvpnl@rvpn.co.in' <ldrvpnl@rvpn.co.in>; 'ldshutdown@gmail.com' <ldshutdown@gmail.com>; 'ldshutdown@rvpn.co.in' <ldshutdown@rvpn.co.in>; 'paritosh.joshi@dtl.gov.in' <paritosh.joshi@dtl.gov.in>; 'pccont@bbmb.nic.in' <pccont@bbmb.nic.in>; 'pc-sldcop@pstcl.org' <pc-sldcop@pstcl.org>; 'rajbir-walia79@yahoo.com' <rajbir-walia79@yahoo.com>; 'rtamc.nr1@powergrid.in' <rtamc.nr1@powergrid.in>; 'pankaj.jha@powergrid.in' <pankaj.jha@powergrid.in>; 'neerajk@powergrid.in' <neerajk@powergrid.in>; 'se.mpts.udr@rvpn.co.in' <se.mpts.udr@rvpn.co.in>; 'se.prot.engg@rvpn.co.in' <se.prot.engg@rvpn.co.in>; 'se.sold@rvpn.co.in' <se.sold@rvpn.co.in>; 'sera@upsldc.org' <sera@upsldc.org>; 'sesc@upsldc.org' <sesc@upsldc.org>; 'sesldcop@hvpn.org' <sesldcop@hvpn.org>; 'se-sldcop' <se-sldcop@pstcl.org>; 'setncmrt@upptcl.org' <setncmrt@upptcl.org>; 'sldcdata@gmail.com' <sldcdata@gmail.com>; 'sldcharyanacr@gmail.com' <sldcharyanacr@gmail.com>; 'sldcmintoroad@gmail.com' <sldcmintoroad@gmail.com>; 'system.uppcl@gmail.com' <system.uppcl@gmail.com>; 'xenemtcbhpp2@bbmb.nic.in' <xenemtcbhpp2@bbmb.nic.in>; 'xenmpccggn@hvpn.org' <xenmpccggn@hvpn.org>; 'xenplgss@hvpn.org' <xenplgss@hvpn.org>
Subject: RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status of the activities related to the 500kV Mundra-Mohindergarh SPS.

Firstly, I would like to express my gratitude and appreciation to all the members on this email for their incredible support to the team implementing the scheme at their respective locations. We are also receiving excellent support from Powergrid in configuring the communication path between Mohindergarh and the SPS locations.

As of today, the team has installed and tested the commands up to the DTPC panels from Mohindergarh for the following locations:

- BBMB
- Charkhi Dadri
- Ratangarh
- Hisar-PG
- Alwar
- Merta
- Nuna Majra
- Shamli

The support from respective utility representatives, especially with regards to ensuring the termination of cables to the correct feeders and terminals, is crucial in ensuring the actual relief during the operation of the SPS.

We shall continue our efforts to complete the remaining locations with your support to bring the scheme into full operation.

Regards,
Sumeet Sharma

From: Sumeet Sharma
Sent: Wednesday, November 5, 2025 11:57 AM
To: 'NRLDC SO 2' <nrldcso2@grid-india.in>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Hunny Garg <Hunnya.Garg@adani.com>; Bhavin Parmar <Bhavin.Parmar@adani.com>; Bhoopesh H <Bhoopesh.H@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: RE: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

Dear Sir,

I hope this message finds you well. I am writing to provide an update on the status and plan of the activities related to the 500kV Mundra-Mohindergarh SPS.

Firstly, I'm pleased to inform you that the FAT was completed and the material has arrived at the Mohindergarh station . Please find attached the tentative activity schedule at the respective locations(subject o site constraints -if any) as submitted by our partner. The coordination of these activities will be handled by our Mohindergarh Station Head, Mr. Abhishek Singh, in collaboration with M/s Commtel. Mr. Singh can be reached at Mobile # 9671306831 for any immediate coordination.

We seek the support of each utility and your esteemed office to facilitate the activities to be carried out by M/s Commtel at the respective locations. As this involves the replacement of existing hardware with new ones, we require the return of the existing

material for necessary commercial formalities. We kindly request your support in clearing the same for M/s Commtel to carry back.

Additionally, we will need the configuration of E1 channels identified along with M/s PGCIL between Mohindergarh and the respective locations and allocation of two Optical ports at the Tejas SDH (TJ 1400) installed at the Mohendragarh Control Room for the communication setup and to execute commands and feedbacks.

Sincere Thanks for your cooperation and support.

Regards,
Sumeet Sharma

From: NRLDC SO 2 <nrldcso2@grid-india.in>
Sent: Thursday, October 30, 2025 5:45 PM
To: Sumeet Sharma <Sumeet.Sharma@adani.com>
Cc: seo-nrpc <seo-nrpc@nic.in>; Sunil Kumar Raval <Sunil.Raval@adani.com>; Namandeep Matta <Namandeep.Matta@adani.com>; Kali Charan Sahu <Kalicharan.Sahu@adani.com>; RAVINDRA ATALE <Ravindra.Atale@adani.com>; Nihar Raj <nihar.raj@adani.com>; Milan Popat <Milan.Popat@adani.com>; Abhishek Kukreja <Abhishek.Kukreja@adani.com>; Naman Vyas <Namany.Vyas@adani.com>; Abhishek Kumar Singh <Abhishekk.Singh@adani.com>; Nikhil Singh <Nikhil.Singh1@adani.com>; Narendra Kumar Ojha <Narendran.Ojha@adani.com>; Afak Pothiawala <afak.pothiawala@adani.com>; Mahesh M. Mehendale (महेश एम. मेहंदले) <mehendale@grid-india.in>; somara.lakra <somara.lakra@grid-india.in>; Mahavir Prasad Singh (महावीर प्रसाद सिंह) <mahavir@grid-india.in>; Sugata Bhattacharya (सुगाता भट्टाचार्या) <sugata@grid-india.in>; deepak.kr <deepak.kr@grid-india.in>; aen.com <xen.prot.alwar@rvpn.co.in>; m.alwar@rvpn.co.in; aen.mpt&s.rtg@rvpn.co.in; aen.comm.ratangarh@rvpn.co.in; aen.subsldc.bhl@rvpn.co.in; xen.mpts.bhl@rvpn.co.in; aen.prot.mertacity@RVPN.CO.IN; aen.comm.merta@RVPN.CO.IN; nainwal@powergrid.in; vinaykumargupta@powergrid.in; ravindra_kumar@powergrid.in; smahajan1999@powergrid.in; rkagrawal83@powergrid.in; dharmendrameena@powergrid.in; vineet@powergrid.in; bhakalramjash@powergrid.in; dhanonda400kv@gmail.com; sse220kvlulaahir@hvpn.org.in; sse220kvrwr@hvpn.org.in; sse132kvdadri@hvpn.org.in; ae-220kvg1-mgg@pstcl.org; sse-pm-lalton@pstcl.org; sse-pm-mlrk@pstcl.org; eeetdshamli@upptcl.org; ee400mrd2@upptcl.org; aeprotection@upsldc.org; ase-sldcop@pstcl.org; bl.gujar@dtl.gov.in; ce.ld@rvpn.co.in; ce-sldc <ce-sldc@pstcl.org>; dtldata@yahoo.co.in; dtlscheduling@gmail.com; eesldccontrol@upsldc.org; ldrvpnl@rvpn.co.in; ldshutdown@gmail.com; ldshutdown@rvpn.co.in; paritosh.joshi@dtl.gov.in; pccont@bbmb.nic.in; pc-sldcop@pstcl.org; rajbir-walia79@yahoo.com; rtamc.nr1@powergrid.in; pankaj.jha@powergrid.in; neerajk@powergrid.in; se.mpts.udr@rvpn.co.in; se.prot.engg@rvpn.co.in; se.sold@rvpn.co.in; sera@upsldc.org; sesc@upsldc.org; sesldcop@hvpn.org; se-sldcop <se-sldcop@pstcl.org>; setncmrt@upptcl.org; sldcdata@gmail.com; sldcharyanacr@gmail.com; sldcmintoroad@gmail.com; system.uppcl@gmail.com; xenemtcbhpp2@bbmb.nic.in; xenmpccggn@hvpn.org; xenplgss@hvpn.org
Subject: Re: Status of Corrective actions for healthiness of 500kV Mundra-Mahindergarh SPS

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

महोदय / महोदया,

In reference of the trailing mail, it is requested to kindly share the update regarding FAT which was supposed to be completed by 30.09.2025 and further following the FAT, the material are to be shipped to various sites and installed by 30th October 2025.

In view of above, it is requested to kindly update the present status and future action plan.

सादर धन्यवाद/ Thanks & Regards
प्रणाली संचालन-II/ System Operation-II
उ॰क्षे॰भा॰प्रे॰के॰/ NRLDC

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

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S. No	Name of the Line	Circuit ID	Proposed Over Voltage protection setting by Committee								Status of Implementation (Yes / NO)
			End I				End II				
			stage I pick up(%)	time (s)	stage II pick up(%)	time (s)	stage I pick up(%)	time (s)	stage II pick up(%)	time (s)	
PDD (J&K)											
1	Baglihar-Kishenpur	1	110	5	150	0.1	110	5	150	0.1	NO
2	Baglihar-Kishenpur	2	111	6	150	0.1	111	6	150	0.1	NO
3	Baglihar-Kishenpur	3	112	7	150	0.1	112	7	150	0.1	NO
4	New Wanpoh-Baglihar(JK)	1	111	6	150	0.1	111	6	150	0.1	NO
PSTCL (Punjab)											
1	Talwandi Sabo-Dhuri	2	112	6	140	0.1	112	6	150	0.1	NO
2	Talwandi Sabo-Nakodar	1	112	6	140	0.1	112	6	150	0.1	NO
3	Talwandi Sabo-Mukatsar	2	112	6	140	0.1	112	6	150	0.1	NO

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

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

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

Antitheft Charging Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Voltage Level (in kV)	Line to be charged upto	Line Length (In Km)	Conductor Type	Circuit Type	Tower Configuration	Agency/Owner	Location
1	1119715	Dec - 2025	Antitheft charging of 765kV Bhadla_2 (PG)-Sikar_2(PSTL) CKT-3 from Bhadla_2 (PG) Upto 220 KM	765kV	220 KM	313	Hexa Zebra		Double	PBSTL	RAJASTHAN to RAJASTHAN
2	1119717	Dec - 2025	Antitheft charging of 765kV Bhadla_2 (PG)-Sikar_2(PSTL) CKT-4 from Bhadla_2 (PG) Upto 220 KV	765kV	220 KV	313	Hexa Zebra		Double	PBSTL	RAJASTHAN to RAJASTHAN

Bays Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Owner	Voltage Level (in kV)	Bay No	Bay Type	Substation	State
1	1119668	Oct - 2025	220kV Main Bay A-1 of 220 kV Sonepat (PG) - Pocket-A, IMT Kharkhoda (HVPNL) CKT-1 at Pocket-A, IMT Kharkhoda (HR)	HVPNL	220kV	A-1	Main Bay	Pocket-A, IMT Kharkhoda (HR)	HARYANA
2	1119668	Oct - 2025	220kV Main Bay A-2 of 220 kV Sonepat (PG) - Pocket-A, IMT Kharkhoda (HVPNL) CKT-2 at Pocket-A, IMT Kharkhoda (HR)	HVPNL	220kV	A-2	Main Bay	Pocket-A, IMT Kharkhoda (HR)	HARYANA
3	1119539	Jun - 2025	765kV Main Bay 713 of 765KV 330 MVAR Bus Reactor-2 at DAUSA(PBDTL)	PB_DAUSA_TL	765kV	713	Main Bay	DAUSA(PBDTL)	RAJASTHAN
4	1119652	Oct - 2025	765kV Main Bay 707 Bay of 765kV Bus reactor-1 at Fatehgarh_III(PG)	PRTL	765kV	707 Bay	Main Bay	Fatehgarh_III(PG)	RAJASTHAN
5	1119652	Oct - 2025	765kV Tie Bay 708 Bay of 765kV Bus reactor-1 and 1500MVA 765/400/33kV ICT-2 at Fatehgarh_III(PG)	PRTL	765kV	708 Bay	Tie Bay	Fatehgarh_III(PG)	RAJASTHAN
6	1119701	Nov - 2025	765kV Tie Bay 705 of 1500MVA 765/400/33kV ICT 1 and 765kV Fatehgarh III Beawar Line 2 at Fatehgarh_III(PG)	PRTL	765kV	705	Tie Bay	Fatehgarh_III(PG)	RAJASTHAN
7	1119692	Nov - 2025	33kV Main Bay 304 of 160MVA Power Transformer at Solar Pooling substation of Juniper Green Cosmic Private Limited and 25MW (60MWh) BESS of Juniper Green Cosmic Private Limited at Bikaner_2 (PBTSL)	Juniper_GCPL	33kV	304	Main Bay	Bikaner_2 (PBTSL)	RAJASTHAN
8	1119626	Sep - 2025	400kV Main Bay 410 of 125 MVAr BUS REACOR-2 BAY at Fatehgarh_IV(F4TL)	F4TL	400kV	410	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
9	1119606	Sep - 2025	400kV Tie Bay 457 of Fatehgarh IV Line -1 Bay (456) and Bhadla III Line -1 Bay (458) at Fatehgarh_III(PG)	F4TL	400kV	457	Tie Bay	Fatehgarh_III(PG)	RAJASTHAN
10	1119629	Sep - 2025	400kV Tie Bay 460 of Fatehgarh_IV line-2 Bay (459) and Bhadla III Line-2 Bay (461) at Fatehgarh_III(PG)	F4TL	400kV	460	Tie Bay	Fatehgarh_III(PG)	RAJASTHAN
11	1119626	Sep - 2025	400kV Main Bay 407 of 125MVAr BUS REACTOR -1 BAY at Fatehgarh_IV(F4TL)	F4TL	400kV	407	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
12	1119628	Sep - 2025	400kV Tie Bay 408 of 125MVAr BUS REACTOR -1 BAY (407) and 500MVA ICT -3 BAY (409) at Fatehgarh_IV(F4TL)	F4TL	400kV	408	Tie Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
13	1119628	Sep - 2025	400kV Main Bay 412 of 500MVA ICT-4 at Fatehgarh_IV(F4TL)	F4TL	400kV	412	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
14	1119628	Sep - 2025	400kV Tie Bay 411 of 125MVAr BUS REACTOR -2 BAY (410) and 500MVA ICT-4 BAY (412) at Fatehgarh_IV(F4TL)	F4TL	400kV	411	Tie Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
15	1119628	Sep - 2025	400kV Main Bay 415 of 500MVA ICT-5 at Fatehgarh_IV(F4TL)	F4TL	400kV	415	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
16	1119628	Sep - 2025	400kV Tie Bay 414 of FUTURE LINE BAY (413) and 500MVA ICT-5 BAY (415) at Fatehgarh_IV(F4TL)	F4TL	400kV	414	Tie Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
17	1119657	Oct - 2025	220kV Main Bay 202 of 400/220kV ICT-1 Bay (202) at Fatehgarh_IV(F4TL)	F4TL	220kV	202	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
18	1119658	Oct - 2025	220kV Main Bay 203 of 220kV Line-1 Bay (203) at Fatehgarh_IV(F4TL)	F4TL	220kV	203	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
19	1119657	Oct - 2025	220kV Main Bay 206 of 400/220kV ICT-2 Bay (206) at Fatehgarh_IV(F4TL)	F4TL	220kV	206	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
20	1119657	Oct - 2025	220kV Main Bay 208 of 400/220kV ICT-3 Bay (208) at Fatehgarh_IV(F4TL)	F4TL	220kV	208	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
21	1119658	Oct - 2025	220kV Main Bay 205 of 220kV Line-2 Bay (205) at Fatehgarh_IV(F4TL)	F4TL	220kV	205	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
22	1119658	Oct - 2025	220kV Main Bay 207 of 220kV Line-3 Bay (207) at Fatehgarh_IV(F4TL)	F4TL	220kV	207	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
23	1119660	Oct - 2025	220kV Main Bay 211 of 400/220kV ICT-4 Bay (211) at Fatehgarh_IV(F4TL)	F4TL	220kV	211	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN

24	1119660	Oct - 2025	220kV Main Bay 213 of 400/220kV ICT-5 Bay (213) at Fatehgarh_IV(F4TL)	F4TL	220kV	213	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
25	1119662	Oct - 2025	220kV Main Bay 216 of 220kV Line-6 Bay (216) at Fatehgarh_IV(F4TL)	F4TL	220kV	216	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
26	1119662	Oct - 2025	220kV Main Bay 214 of 220kV Line-5 Bay (214) at Fatehgarh_IV(F4TL)	F4TL	220kV	214	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
27	1119662	Oct - 2025	220kV Main Bay 212 of 220kV Line-4 Bay (212) at Fatehgarh_IV(F4TL)	F4TL	220kV	212	Main Bay	Fatehgarh_IV(F4TL)	RAJASTHAN
28	1119709	Nov - 2025	400kV Tie Bay 01 of 400/220 kV, 500 MVA, ICT-5 and 400/220 kV, 315 MVA, ICT-4 at Heerapura(RS)	RRVPNL	400kV	01	Tie Bay	Heerapura(RS)	RAJASTHAN
29	1119616	Sep - 2025	400kV Main Bay 404 of 200 MVA ICT-01 and 400kV Bus-1 at Kishtwar(GIS)	KwTL	400kV	404	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
30	1119616	Sep - 2025	132kV Main Bay 104 of 200 MVA ICT-1 at Kishtwar(GIS)	KwTL	132kV	104	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
31	1119616	Sep - 2025	400kV Main Bay 407 of 200 MVA ICT 2 and 400kV Bus-1 at Kishtwar(GIS)	KwTL	400kV	407	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
32	1119616	Sep - 2025	132kV Main Bay 101 of 200 MVA ICT-2 at Kishtwar(GIS)	KwTL	132kV	101	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
33	1119653	Oct - 2025	765kV Main Bay 712 of 765/400 KV 1500 MVA ICT-1 at DAUSA(PBDTL)	PB_DAUSA_TL	765kV	712	Main Bay	DAUSA(PBDTL)	RAJASTHAN
34	1119681	Nov - 2025	765kV Main Bay 709 Bay of 765 kV 3x110 MVAR Bus Reactor-1 at DAUSA(PBDTL)	PB_DAUSA_TL	765kV	709 Bay	Main Bay	DAUSA(PBDTL)	RAJASTHAN
35	1119615	Sep - 2025	132kV Main Bay 108 of (Bay to be charged on No-load) Future Line-01 at Kishtwar(GIS)	KwTL	132kV	108	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
36	1119615	Sep - 2025	132kV Main Bay 107 of (Bay to be charged on No-load) Future Line 2 at Kishtwar(GIS)	KwTL	132kV	107	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
37	1119615	Sep - 2025	132kV Main Bay 106 of (Bay to be charged on No-load) Future Line 3 at Kishtwar(GIS)	KwTL	132kV	106	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
38	1119615	Sep - 2025	132kV Main Bay 105 of (Bay to be charged on No-load) Future Line 4 at Kishtwar(GIS)	KwTL	132kV	105	Main Bay	Kishtwar(GIS)	JAMMU & KASHMIR
39	1119724	Dec - 2025	220kV Main Bay 206 of 220/66/11kV ICT-2(LPDD) at Drass(PG)	LPDD	220kV	206	Main Bay	Drass(PG)	JAMMU & KASHMIR
40	1119675	Nov - 2025	220kV Main Bay 232 Bay of 500MVA, 3-PH, 400/220/33kV ICT-8 at Fatehgarh_III(PG)	PRTL	220kV	232 Bay	Main Bay	Fatehgarh_III(PG)	RAJASTHAN
41	1119675	Nov - 2025	400kV Main Bay 432 Bay of 500MVA, 3-PH, 400/220/33kV ICT-8 at Fatehgarh_III(PG)	PRTL	400kV	432 Bay	Main Bay	Fatehgarh_III(PG)	RAJASTHAN
42	1119675	Nov - 2025	400kV Tie Bay 431 Bay of Tie bay of 500MVA, 3-PH, 400/220/33kV ICT-8 and Future STATCOM Bay at Fatehgarh_III(PG)	PRTL	400kV	431 Bay	Tie Bay	Fatehgarh_III(PG)	RAJASTHAN
43	1119661	Oct - 2025	220kV Main Bay 203 of Transmission line and Main Bus 1 at Renew_Dinkar_UPL_SL_Bik2	Renew Dinkar_UPL	220kV	203	Main Bay	Renew_Dinkar_UPL_SL_Bik2	RAJASTHAN
44	1119661	Oct - 2025	220kV Main Bay 202 of 220/33 kV 210 MVA Power Transformer at Renew_Dinkar_UPL_SL_Bik2	Renew Dinkar_UPL	220kV	202	Main Bay	Renew_Dinkar_UPL_SL_Bik2	RAJASTHAN
45	1119722	Dec - 2025	66kV Main Bay 103 of 66kV Kargil(PG)-Mangbore(LPDD)-1 at Mangbore(LPDD)	LPDD	66kV	103	Main Bay	Mangbore(LPDD)	JAMMU & KASHMIR
46	1119713	Dec - 2025	66kV Main Bay 606 of 66 kV Kargil - Mangbore line(1.8 Km) at Kargil(PG)	POWERGRID	66kV	606	Main Bay	Kargil(PG)	JAMMU & KASHMIR

Bus Coupler Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Owner	Voltage Level (in kV)	Associated Transmission Element1	Associated Transmission Element2	Substation	State
1	1119657	Oct - 2025	220kV Bus Coupler Bay 201 of Main Bus-1 and Main Bus-2 at Fatehgarh_IV(F4TL)	F4TL	220kV	Main Bus-2	Main Bus-1	Fatehgarh_IV(F4TL)	RAJASTHAN
2	1119657	Oct - 2025	220kV Bus Coupler Bay 204 of Bus 1 and 2 and Transfer Bus at Fatehgarh_IV(F4TL)	F4TL	220kV	Transfer Bus	Bus 1 and 2	Fatehgarh_IV(F4TL)	RAJASTHAN
3	1119660	Oct - 2025	220kV Bus Coupler Bay 217 of Main Bus-3 and Main Bus-4 at Fatehgarh_IV(F4TL)	F4TL	220kV	Main Bus-4	Main Bus-3	Fatehgarh_IV(F4TL)	RAJASTHAN
4	1119660	Oct - 2025	220kV Bus Coupler Bay 215 of Main Bus-3 and 4 and Transfer Bus at Fatehgarh_IV(F4TL)	F4TL	220kV	Transfer Bus	Main Bus-3 and 4	Fatehgarh_IV(F4TL)	RAJASTHAN
5	1119615	Sep - 2025	132kV Bus Coupler Bay 102 of 132KV BUS-1 and 132KV BUS-2 at Kishtwar(GIS)	KwTL	132kV	132KV BUS-2	132KV BUS-1	Kishtwar(GIS)	JAMMU & KASHMIR
6	1119671	Nov - 2025	220kV Bus Coupler Bay 234 of 220 KV Bus 5 and 220 KV Bus 6 at Fatehgarh_III(PG)	PRTL	220kV	220 KV Bus 6	220 KV Bus 5	Fatehgarh_III(PG)	RAJASTHAN
7	1119661	Oct - 2025	220kV Bus Coupler Bay 201 of Main Bus 2 and Main Bus 1 at Renew_Dinkar_UPL_SL_Bik2	Renew Dinkar_UPL	220kV	Main Bus 1	Main Bus 2	Renew_Dinkar_UPL_SL_Bik2	RAJASTHAN

BUS REACTOR Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Owner	Voltage LeveL	MVAR Capacity	Substation	Make	Configuration	Serial No	State
1	1119539	Jun - 2025	765kV, 330 Bus Reactor 2 at DAUSA(PBDTL)	PB_DAUSA_TL	765kV	330	DAUSA(PBDTL)	T&R	3x1-Phase	PM0200321/PM0200322/PM0200344	RAJASTHAN
2	1119626	Sep - 2025	400kV, 125 MVAr Bus Reactor Bus Reactor - 02 at Fatehgarh_IV(F4TL)	F4TL	400kV	125 MVAr	Fatehgarh_IV(F4TL)	CG POWER AND INDUSTIRAL SOLUTIONS LTD	3-Phase	BHR11427/2	RAJASTHAN
3	1119626	Sep - 2025	400kV, 125 MVAr Bus Reactor Bus Reactor - 01 at Fatehgarh_IV(F4TL)	F4TL	400kV	125 MVAr	Fatehgarh_IV(F4TL)	CG POWER INDUSTRAIL SOLUTIONS LTD	3-Phase	BHR11427/1	RAJASTHAN
4	1119681	Nov - 2025	765kV, 765 kV 3x110 MVAR Bus Reactor-1 Bus Reactor at DAUSA(PBDTL)	PB_DAUSA_TL	765kV	765 kV 3x110 MVAR Bus Reactor-1	DAUSA(PBDTL)	T&R	1-Phase	PM0200264, PM0200335,PM0200334	RAJASTHAN
5	1119652	Oct - 2025	765kV, 330 MVAR Bus Reactor 1 at Fatehgarh_III(PG)	PRTL	765kV	330 MVAR	Fatehgarh_III(PG)	Siemens Energy	3x1-Phase	R-Phase/Siemens Energy/I 300357/06, Y-Phase/Siemens Energy/I 300357/05, B-Phase/Siemens Energy/I 300357/07, Spare-Phase/Siemens Energy/I 300357/02	RAJASTHAN

BUS SECTIONALIZER Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Owner	Voltage Level (in kV)	Associated Transmission Element1	Associated Transmission Element2	Substation	State
1	1119659	Oct - 2025	220kV Bus Sectionalizer Bay 209 of Main Bus-1 and Main Bus-3 at Fatehgarh_IV(F4TL)	F4TL	220kV	Main Bus-3	Main Bus-1	Fatehgarh_IV(F4TL)	RAJASTHAN
2	1119659	Oct - 2025	220kV Bus Sectionalizer Bay 210 of Main Bus - 2 and Main Bus - 4 at Fatehgarh_IV(F4TL)	F4TL	220kV	Main Bus - 4	Main Bus - 2	Fatehgarh_IV(F4TL)	RAJASTHAN
3	1119622	Sep - 2025	400kV Bus Sectionalizer Bay 428 of 400 kV Bus-1B (Bus-3) and 400 kV Bus-1 at Bikaner_2 (PBTSL)	PBTSL	400kV	400 kV Bus-1	400 kV Bus-1B (Bus-3)	Bikaner_2 (PBTSL)	RAJASTHAN

LILO Line Charging Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Voltage Level (in kV)	Name of Line to be LILOed	Line length of Line to be LILOed	Line Length of New Line after LILO (In Km)	LILO Portion Line Length (In Km)	Conductor Type	Circuit Type	Tower Configuration	Agency/Owner	Location
1	1119602	Sep - 2025	400kV Kishtwar(GIS)-Kishenpur(PG)-2(After LILO of 400 kV Kishenpur Dhulasti (NHPC)Line-02 at 400kV Kishtwar(GIS))	400kV	400 kV Kishenpur Dhulasti (NHPC)Line-02		1.47 kms	1.47 kms	Twin Moose		Double	KwTL	JAMMU & KASHMIR to JAMMU & KASHMIR
2	1119605	Sep - 2025	400kV Dulhasti(NH)-Kishtwar(GIS)-1(After LILO of 400kV Kishenpur-Dulhasti(NHPC) Line 02 at Kishtwar(GIS))	400kV	400kV Kishenpur-Dulhasti(NHPC) Line 02		2.47	1.47	Quad Moose		Double	KwTL	JAMMU & KASHMIR to JAMMU & KASHMIR
3	1119324	Dec - 2024	132kV Chandoli(UP)-Karamnasa(BS)-2(After LILO of 132 KV SAHUPURI-KARAMNASA CKT-II at 132 KV CHANDAULI)	132kV	132 KV SAHUPURI-KARAMNASA CKT-II		20.34	2.94	Panther		Double	UPPTCL	UTTAR PRADESH to BIHAR

New AC Lines Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Owner	Voltage Level (in kV)	Circuit No	Line Length	Conductor Type	Tower Configuration	State
1	1119668	Oct - 2025	220kV Sonipat(PG)-Pocket-A, IMT Kharkhoda (HR)-1	HVPNL	220kV	1	21	MOOSE	Double	HARYANA to HARYANA
2	1119668	Oct - 2025	220kV Sonipat(PG)-Pocket-A, IMT Kharkhoda (HR)-2	HVPNL	220kV	2	21	Moose	Double	HARYANA to HARYANA
3	1119275	Oct - 2024	765kV Khetri (PKTSL)-Narela(PNTL)-1	PNTL	765kV	1	170 KM	Hexa Zebra	Double	RAJASTHAN to DELHI
4	1119276	Oct - 2024	765kV Khetri (PKTSL)-Narela(PNTL)-2	PNTL	765kV	2	170 KM	Hexa Zebra	Double	RAJASTHAN to DELHI
5	1119679	Nov - 2025	400kV Rishikesh(UK)-Koteshwar(PG)-1	NRSS36	400kV	1	38.5	HTLS	Double	UTTARAKHAND to UTTARAKHAND
6	1119679	Nov - 2025	400kV Rishikesh(UK)-Koteshwar(PG)-2	NRSS36	400kV	2	38.5	HTLS	Double	UTTARAKHAND to UTTARAKHAND
7	1119661	Oct - 2025	220kV Renew_Dinkar_UPL_SL_Bik2-Bikaner_2 (PBTSL)-1	Renew Dinkar_UPL	220kV	1	5.669	AL59 Moose	Multiple,Single,Double	RAJASTHAN to RAJASTHAN
8	1119722	Dec - 2025	66kV Kargil(PG)-Mangbore(LPDD)-1	LPDD	66kV	1	1.7	DOG	Single	JAMMU & KASHMIR to JAMMU & KASHMIR

SOLAR ICR/BLOCK Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Applicatio n Month	Plant Name	Capacity to be charged	Voltage LeveL	Total Installed Capacity of Plant	Type of RE	Feeder No	Solar ICR/Block No	IDT No	IDT Make	IDT MVA Rating	IDT Votage Rating(HV/LV)	Inverter Type	Inverter Make	Total No of Inverters	Inverter AC Rating	Agency/ Owner
1	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-10	14	14	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
2	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-30	23	23	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
3	1119574	Aua - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-31	22	22	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sunerow	4	3.3 MVA	ARERJ02PL
4	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-33	25	25	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
5	1119707	Nov - 2025	SJVN Green Energy Ltd	57.3MW	33kV	1000MW	Solar	3	105	105	Danish	8.33MVA	33kV/0.66kV	Central Inveter	Sungrow	2	4.4 MVA	SJVNGEL BKN2
6	1119707	Nov - 2025	SJVN Green Enerev Ltd	57.3MW	33kV	1000MW	Solar	31	123	123	Danish	8.33MVA	33kV/0.66kV	Central Inveter	Sunerow	2	4.4MVA	SJVNGEL BKN2
7	1119707	Nov - 2025	SJVN Green Enerev Ltd	57.3MW	33kV	1000MW	Solar	7	92	92	Danish	8.33MVA	33kV/0.66kV	Central Inveter	Sunerow	2	4.4MVA	SJVNGEL BKN2
8	1119707	Nov - 2025	SJVN Green Enerev Ltd	57.3MW	33kV	1000MW	Solar	46	124	124	Danish	8.33MVA	33kV/0.66kV	Central Inveter	Sungrow	2	4.4MVA	SJVNGEL BKN2
9	1119707	Nov - 2025	SJVN Green Energy Ltd	57.3MW	33kV	1000MW	Solar	16	122	122	Danish	8.33MVA	33kV/0.66kV	Central Inveter	sungrow	2	4.4MVA	SJVNGEL BKN2
10	1119707	Nov - 2025	SJVN Green Energy Ltd	57.3MW	33kV	1000MW	Solar	7	91	91	Danish	8.33MVA	33kV/0.66kV	Central Inveter	Sungrow	2	4.4MVA	SJVNGEL BKN2
11	1119707	Nov - 2025	SJVN Green Energy Ltd	57.3MW	33kV	1000MW	Solar	7	93	93	Danish	8.33MVA	33kV/0.66kV	Central Inveter	Sungrow	2	4.4MVA	SJVNGEL BKN2
12	1119707	Nov - 2025	SJVN Green Energy Ltd	57.3MW	33kV	1000MW	Solar	62	121	121	Danish	8.33MVA	33kV/0.66kV	Central Inveter	Sungrow	2	4.4MVA	SJVNGEL BKN2
13	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	112	13	13	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	WATTPOWER	48	0.2774 MW MVA	AMBUJA CL
14	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	113	16	16	ORNET	12.5 MVA	33 kV/0.8 kV	Strine Inverter	WATTPOWER	48	0.2774 MW MVA	AMBUJA CL
15	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	113	17	17	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	Wattpower	48	0.2774 MW MVA	AMBUJA CL
16	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	105	21	21	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	WATTPOWER	48	0.2774 MW MVA	AMBUJA CL
17	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	106	22	22	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	Wattpower	48	0.2774 MW MVA	AMBUJA CL
18	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	101	23	23	TESLA	12.5 MVA	33 kV/0.8 kV	String Inverter	WATTPOWER	48	0.2774 MW MVA	AMBUJA CL
19	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	SOLAR	103	25	25	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	WATTPOWER	48	0.2774 MW MVA	AMBUJA CL
20	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	SOLAR	103	24	24	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	Wattpower	48	0.2774 MW MVA	AMBUJA CL
21	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	106	18	18	TESLA	12.5 MVA	33 kV/0.8 kV	String Inverter	WATTPOWER	48	0.2774 MW MVA	AMBUJA CL
22	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	105	20	20	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	Wattpower	48	0.2774 MW MVA	AMBUJA CL
23	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	120	10	10	SILCHAR	12.5 MVA	33 kV/0.8 kV	String Inverter	Wattpower	Wattpower	0.2774 MW MVA	AMBUJA CL
24	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	120	09	09	Silchar	12.5 MVA	33 kV/0.8 kV	String Inverter	Wattpower	48	0.2774 MW MVA	AMBUJA CL
25	1119720	Dec - 2025	AMBUJA CEMENTS LIMITED(ACL)	150	33kV	300 MW	Solar	112	19	19	ORNET	12.5 MVA	33 kV/0.8 kV	String Inverter	WATTPOWER	48	0.2774 MW MVA	AMBUJA CL
26	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-24	6	6	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
27	1119574	Aua - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-43	20	20	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sunerow	4	3.3 MVA	ARERJ02PL
28	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-25	5	5	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
29	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-13	3	3	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
30	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-54	18	18/01 & 18/02	Danish	16.5 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	5	3.3 MVA	ARERJ02PL
31	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-42	19	19	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
32	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-12	4	4	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
33	1119574	Aua - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-32	24	24	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sunerow	4	3.3 MVA	ARERJ02PL
34	1119574	Aug - 2025	ABC RENEWABLE ENERGY (RJ02) PRIVATE LIMITED(ARERJ02PL)	400 MW	33kV	400 MW	Solar	F-27	7	7	Danish	13.2 MVA	33 kV/0.660 kV	Central Inveter	Sungrow	4	3.3 MVA	ARERJ02PL
35	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	308	19	19	AUM	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
36	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	303	4	4	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
37	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	304	12	12	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
38	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	308	21	21	AUM	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
39	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	305	17	17	AUM	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
40	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	304	13	13	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
41	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	304	11	11	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
42	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	303	2	2	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
43	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	304	6	6	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
44	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	303	3	3	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
45	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	305	14	14	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
46	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	304	10	10	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
47	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	308	18	18	AUM	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
48	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	309	8	8	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
49	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	303	5	5	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
50	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	305	16	16	AUM	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
51	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	308	20	20	AUM	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
52	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	308	7	7	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
53	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	310	9	9	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
54	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	303	1	1	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL
55	1119677	Nov - 2025	Renew Dinkar Urja Private Limited (RDUPL)	200	33kV	200	Solar	305	15	15	Toshiba	7 MVA	33/0.66	Central Inveter	Sungrow Power Supply Co., Ltd.	2	4.4 MVA	Renew Dinkar UPL

Transformer Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Owner	Voltage Level (HV/LV/Tertiary)	MVA Capacity	Type of Transformer
1	1119692	Nov - 2025	33/.415kV, 1.5 MVA, 3-Phase, TRANSFIX (INDIA) PRIVATE LIMTIED, Auxiliary Transformer - 1 at JGCPL_SL_BIK2_PG	Juniper_GCPL	33/.415/na	1.5	Auxiliary Transformer
2	1119628	Sep - 2025	400/220/33kV, 500 MVA, 3-Phase, CG POWER AND INDUSTRIAL SOULUTIONS LTD., ICT - 4 at Fatehgarh_IV(F4TL)	F4TL	400/220/33kV	500	ICT
3	1119628	Sep - 2025	400/220/33kV, 500 MVA, 3-Phase, CG POWER INDUSTIRAL SOLUTIONS LTD, ICT - 5 at Fatehgarh_IV(F4TL)	F4TL	400/220/33kV	500	ICT
4	1119709	Nov - 2025	400/220/33kV, 500 MVA, 3-Phase, Kanohar Electricals Ltd., ICT - 5 at Heerapura(RS)	RRVPNL	400/220/33kV	500	ICT
5	1119616	Sep - 2025	400/132/33kV, 200 MVA, 3x1-Phase, SSE, ICT - 2 at Kishtwar(GIS)	KwTL	400/132/33kV	200	ICT
6	1119724	Dec - 2025	220/66/11kV, 50 MVA, 3x1-Phase, Technical Associates Ltd., ICT - 2 at Drass(PG)	LPDD	220/66/11kV	50	ICT
7	1119675	Nov - 2025	400/220/33kV, 500 MVA, 3-Phase, Toshiba , ICT - 8 at Fatehgarh_III(PG)	PRTL	400/220/33kV	500	ICT
8	1119661	Oct - 2025	220/33kV, 210 MVA, 3-Phase, INDO TECH TRANSFORMERS LIMITED, Power Transformer - 1 at Renew_Dinkar_UPL_SL_Bik2	Renew Dinkar_UPL	220/33/na	210	Power Transformer

Capacitor Bank Report from 01-12-2025 to 31-12-2025

S.No	CASE ID	Application Month	Name of element	Owner	Voltage Level (in kV)	Type of Capacitor	Capacitor Bank No	Sub Capacitor Bank MVAR Rating	Capacitor MVAR Rating
1	1119676	Nov - 2025	33kV, High Pass Filter, 7.5 MVAR(2.5 MVAr per phase -5th Order) Capacitor bank no-1 at Renew_Dinkar_UPL_SL_Bik2	Renew Dinkar_UPL	33kV	High Pass Filter	1	2.5 MVAr per phase - 5th Order	7.5
2	1119676	Nov - 2025	33kV, High Pass Filter, 7.5 MVAR(2.5 MVAr per phase -5th Order) Capacitor bank no-2 at Renew_Dinkar_UPL_SL_Bik2	Renew Dinkar_UPL	33kV	High Pass Filter	2	2.5 MVAr per phase - 5th Order	7.5