

भारतसरकार
केंद्रीय विद्युत प्राधिकरण
दक्षिण क्षेत्रीय विद्युत समिति
29, रेस कोर्स क्रॉस रोड
बेंगलुरु-560 009



Government of India
Central Electricity Authority
Southern Regional Power
Committee
29, Race Course Cross Road
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सं/No. SRPC/SE (P & C)/144PCSC/2026/3427-73 दिनांक /Date 29th July 2026

To,

संलग्न सूची के अनुसार

As per attached List

विषय/ Sub: दिनांक 08 जुलाई, 2026 को संपन्न संरक्षण समन्वय उपसमिति की 144 वी बैठक के कार्यवृत्त/ Minutes of the 144th Meeting of Protection Coordination Sub-Committee (PCSC-144) held on 08th July, 2026.

महोदय/महोदया/ Sir/ Madam,

आपको सूचित किया जाता है कि दिनांक 08 जुलाई, 2026 को संपन्न संरक्षण समन्वय उपसमिति की 144 वी बैठक के कार्यवृत्त को द.क्षे.वि.स. के वेबसाईट (<https://srpc.gov.in/>) में अपलोड कर दिया गया है। सभी घटकों से अनुरोध है कि वे पीसीएससी-144 की सिफारिशों के संबंध में उचित कार्रवाई करें।

It is informed that Minutes of the 144th Meeting of PCSC held on 08th July, 2026 have been uploaded on the SRPC Website (<https://srpc.gov.in/>). All Constituents are requested to kindly take suitable action w.r.t. PCSC-144 recommendations as applicable to them.

धन्यवाद / Thanking You,

भवदीय/Yours faithfully,

malini
29/07/2026

(एन एस मालिनी / N S MALINI)

अधीक्षक अभियंता (पी&सी)/ Superintending Engineer (P & C)

डाक-सूची/ Mailing List

1. मुख्यअभियंता (एचपीसीवजलपरियोजना) एपीजेनको, 4 वी मंजिल, गुणदल, विजयवाडाआं 520004/ Chief Engineer (Generation), APGENCO, 4th Floor, Vidyut Soudha, Eluru Road, Gunadala, Vijayawada, AP – 520004
2. मुख्यअभियंता (परियोजना), एपीजेनको, 4वीमंजिल, गुणदल, विजयवाडाआं 520004 / Chief Engineer (Projects), APGENCO, 4th Floor, Vidyut Soudha, Eluru Road, Gunadala, Vijayawada, AP – 520004
3. मुख्यअभियंता(आईपीसीवविद्युतप्रणाली), एपीट्रान्स्को, 3रीमंजिल, गुणदल, विजयवाडाआं 520004 / Chief Engineer (IPC & Power Systems), APTRANSCO, 3rd Floor, Vidyut Soudha, Eluru Road, Gunadala, Vijayawada, AP-520 004
4. श्री के लिंगमूर्ती, महा प्रबंधक (QC & Planning), एपीसीपीडीसीएल, विजयवाडा / Sh. K Linga Murthy, General Manager (QC & Planning), APCPDCL, Vijayawada
5. मुख्यअभियंता (इले. डिजाइन), केपीसीएल, बेंगलूर/ Chief Engineer (Ele. Designs), KPCL, Bangalore
6. मुख्य अभियंता (आरटी और आर &डी), केपीटीसीएल, बेंगलूर/ Chief Engineer (RT and R&D), KPTCL, Bangalore
7. मुख्यअभियंता (एम.टी.एस), टैनजोडको पैन्ने/ Chief Engineer (MTS), TANGEDCO, Chennai (Fax No: 044-28585804)
8. मुख्य अभियंता (जलविद्युत) टैनजोडको चैन्नै/ Chief Engineer (Hydro), TANGEDCO, Chennai (Fax No: 044-28553356)
9. मुख्यअभियंता (संरक्षणएवंसंचार), टीएनईबी, चेन्नै/ Chief Engineer (Protection & Communication), TANTRANSCO, Chennai
10. मुख्यअभियंता (पारेषण) प्रणालीप्रचालन, एचएमटीकालोनी, केएसईबी, कलमस्सेरी-683503/ Chief Engineer (Transmission) System Operation, HMT Colony, KSEB, Kalamassery-683503
11. मुख्य अभियंता (उत्पादन), टीएसजेनको, हैदराबाद/ Chief Engineer (Generation), TGGENCO Hyderabad
12. मुख्य अभियंता (परियोजना), टीएसजेनको, हैदराबाद / Chief Engineer (Projects), TGGENCO Hyderabad
13. मुख्य अभियंता (विद्युतप्रणाली), टीएसट्रान्स्को, हैदराबाद / Chief Engineer (Power System), TGTRANSCO, Hyderabad
14. श्री पी आनंद, मुख्य महा प्रबंधक, आर आर जोन, टीएसएसपीडीसीएल, हैदराबाद / Shri. P. Anand, Chief General Manager, RR Zone, TGSPDCL, Hyderabad.
15. अधीक्षक अभियंता-1, विद्युतविभाग 137, एनएससीबोससाले, पुदुचेरी- 605001 / Superintending Engineer 1, Electricity Department, 137, NSC Bose Salai, Puducherry-605001
16. महाप्रबंधक (ओएस), एनटीपीसी, दक्षिणक्षेत्रीयमुख्यालय, सिकंदराबाद / General Manager (OS), NTPC SRHQ, Secunderabad
17. मुख्यमहाप्रबंधक टीपीएस- विस्तार, एनएलसीआईएल जैवेली / 607807 - Chief General Manager, TPS 1 Expn. NLCIL, Neyveli-607807 (Fax No: 04142-265303)
18. मुख्यअभियंता (पारेषण) एनपीसीआईएल, मुंबई Chief Engineer (Transmission), NPCIL, Mumbai.
19. केंद्रनिदेशक, केजीएस, कैगा, कर्नाटक/ Station Director, KGS, Kaiga, Karnataka
20. केंद्रनिदेशक, एमएपीएस, कल्पक्कम / Station Director, MAPS, Kalpakkam
21. केंद्रनिदेशक, केकेएनपीपी, तिरुनल्वेली जिला, तमिलनाडु - 627106/ Station Director, KKNPP, Tirunelveli Dist, TamilNadu-627106
22. श्रीअनिलकुमार, एजीएम (ईएमडी), एनटीईसीएल, चेन्नै- 103/ Sh. Anil Kumar, AGM (EM), NTECL, Vallur, Tamil Nadu.
23. श्रीएमप्रभाकर, महाप्रबंधक (प्रवअ), एनटीपीएल, हार्बरएस्टेट, तूतुकुडी 628004 / Sh. M. Prabhakar, GM (O&M), NTPL, Harbour Estate, Tuticorin – 628004
24. जीएम (प्रचावअनु) दक्षे, पावरग्रिड सिकंदराबाद / GM (O&M), SR-I, PGCIL, Secunderabad

25. जीएम (प्रचावअनु) दक्षे-II, पावरग्रिड, बेंगलूर GM (O&M), SR-II, PGCIL, Bengaluru
26. Sh.Sourov Chakraborty, Sr. GM, CTU, Plot No. 2, Sector-29, Gurugram, Haryana-122 001.
27. श्री चंद्रशेखर रेड्डी, डीजीएम, इलेक्ट्रिकल मेंटेनेंस, मेसर्स जेएसडब्ल्यू एनर्जी लिमिटेड, तोरणगल्लु, बल्लारी- 583275/ Sh. Chandrashekar Reddy, DGM, Electrical Maintenance, M/s JSW Energy Ltd, Toranagallu, Bellary-583275
28. श्री आशीष वाविस्कर, सह महाप्रबंधकयूपीसीएल, बेंगलूर Sh. Ashish Baviskar, Associate General Manager, UPCL, Bangalore
29. प्रधानविद्युतएवंसीआईअनुरक्षण, एसईआईएल, प्यानपुरम / नेलतूरुग्राम, मुतुकूरमंडल, एसपीएस आरनेल्लूर- 524344/ Head Electrical and C&I Maintenance, SEIL, Pyanampuram / Nelaturu Village Muthukur Mandal, SPSR Nellore 524344
30. श्री. के बालमुर्गन, रखरखाव प्रमुख, आईएलवएफएस, टीपीसीएल, सीपदुपेट्टैडाक, परनगीपेट्टे, भुवनगिरिताल्लूक, कुडलूरजिला, तमिलनाडु 608502/ Sh. K Balamurugan, Maintenance Head, IL&FS Tamilnadu Power Company Ltd., C.Pudhupettai (post), Parnagipettai, BhuvanagiriTaluk, Cuddalore Dist, Tamilnadu- 608502
31. श्री सी रामकृष्ण, एजीएम (ऑपरेशन), हिंदुजाएनपीसीएल, पेटांटयडमंडल, विशाखपट्टनम, आप 530031 / Sh. C Ramakrishna, AGM (Operations), Hinduja NPCL, Pedagantyada Mandal, Visakhapatnam, AP – 530031.
32. श्री विवेक कार्तिकेयन सहायक महाप्रबंधक, महेश्वरम ट्रांसमिशन लिमिटेड (एमटीएल), 101, विंडसर, सीएसटी रोड, सांताक्रूज ईस्ट, मुंबई400098/ Sh. Vivek Karthikeyan Assistant General Manager, Maheshwaram Transmission Limited (MTL), 101, Windsor, CST Road, Santacruz East, Mumbai 400098
33. निदेशक (जीएम), केविप्रा, नईदिल्ली / Director (GM Division), CEA, New Delhi
34. निदेशक (एनपीसीप्रभाग), केविप्रा, नईदिल्ली / Director (NPC Division), CEA, New Delhi
35. कार्यकारीनिदेशक, पोसोको, एसआरएलडीसी, बेंगलूर Executive Director, SRLDC, Grid-India, Bengaluru
36. Manager, Electrical-HOD, SEPC Power Plant, Harbour Estate, VOC Road, Thoothukudi, Tamil Nadu– 628 004
37. Technical Services Superintendent, Prototype Fast Breeder Reactor Project, BHAVINI, Kalpakkam 603 102
38. सहायक महाप्रबंधक, महेश्वरम ट्रांसमिशन कर्पी षलषमटेड, मबई/ Head Regulatory, Adhani Energy Solutions Ltd.,Ahmedabad
39. वररष्ठिदेशक ,एएमपीआईए एिजी माकटसइषडया प्राइवेटषलषमटेड/ Senior Director , AMPIN Energy Markets India Pvt. Ltd.
40. मुख्य महाप्रबंधक, संचालन एवं अनुरक्षण, ए.पी.एस.पी.डी.सी.एल., तिरुपति / Chief General Manager, O&M, APSPDCL, Tirupati
41. निदेशक) तकनीकी(, टी.एन.जी.ई.सी.एल., चेन्नई / Director (Technical), TNGECL, Chennai
42. श्री केचौल्लहान राजू ., मुख्य अभियंता -संचालन)II), टीजीएनपीडीसीएल /Sri K. Raju Chowhan, Chief Engineer (Operation-II), TGPNDCL
43. श्री एल .पांड्या, मुख्य अभियंता / आरआर ज़ोन / टीजीएसपीडीसीएल, मीसेवा बिल्डिंग, मंजीरा मॉल के पीछे, केपीएचबी कॉलोनी, फेज-II, हैदराबाद – 500072 / Sri. L. Pandya, CE/RR Zone/TGSPDCL, MeeSeva Building, Backside of Manjeera Mall, KPHB Colony, Phase-II, Hyderabad – 500072
44. श्री रवीन्द्र वल्लूरु, मुख्य महाप्रबंधक, ग्रीनको ग्रुप, हाईटेक सिटी लेआउट, माधापुर, हैदराबाद - 500081, तेलंगाना / Raveendra Valluru, Chief General Manager, Greenko Group, Hitech City Layout, Madhapur, Hyderabad – 500081, Telangana.
45. श्री रविन्द्र नारायण टी., मुख्य महाप्रबंधक, ग्रीनको ग्रुप, हाईटेक सिटी लेआउट, माधापुर, हैदराबाद – 500081, तेलंगाना / Ravindra Narayana T., Chief General Manager, Greenko Group, Hitech City Layout, Madhapur, Hyderabad – 500081, Telangana.
46. महाप्रबंधक (स्टेट लीड-एसेट मैनेजमेंट), रिन्यू पावर प्राइवेट लिमिटेड, गुरुग्राम / GM (State Lead-Asset Management), Renew Power Private Limited, Gurugram (manjunatha.h@renew.com, padmanava.swain@renew.com)

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SOUTHERN REGIONAL POWER COMMITTEE

BENGALURU

Minutes of the 144th Meeting of Protection Coordination Sub- Committee of SRPC held on 08.07.2026 through VC.

1. Introduction

The 144th Meeting of the Protection Coordination Sub-Committee of SRPC was held on 8th July 2026 at 10:00 AM through VC.

Shri Asit Singh, Member Secretary (MS), SRPC welcomed all the participants to the 144th Protection Coordination Sub-Committee (PCSC) Meeting.

MS, SRPC welcomed Shri T Srinivas, who had recently assumed charge as Executive Director (ED), SRLDC, to the PCSC meeting and conveyed best wishes to him for a successful tenure. Subsequently, he informed the following:

1. Requested all the entities to submit any agenda items for the upcoming SRPC and TCC meetings. The agenda for the meetings would be circulated at the earliest.
2. The Chairman, CEA, had issued an advisory to the DISCOMs to minimize load shedding and enhance the reliability of power supply during the peak demand period.
3. CEA had issued the “*Guidelines on Advanced Methodologies for Adoption during Investigation, Tender and Construction Stages of Hydel Projects for Minimizing Geological Uncertainties in Long Water Conductor Systems*” on 26th June 2026.
4. CEA had released the “Report of the National Workshop on RE Integration through ESS Phase-II” on 29th June 2026.
5. MNRE had issued an Office Memorandum on “Amendment to the Revised Guidelines for Installation of Prototype Wind Turbine Models” on 25th June 2026.
6. The National Committee on Transmission (NCT) had approved the standardized implementation timelines for various configurations of Inter-State Transmission System (ISTS) projects and issued the “*General Implementation Timelines for Inter-State Transmission System (ISTS) Projects*” on 12th June 2026. The generation and transmission developers, DISCOMs, bulk consumers and other stakeholders were advised to consider the above timelines while planning generation and load schedules, financial closure, procurement of equipment and other related milestones for better alignment with the associated transmission system.
7. Referring to the discussions held in earlier PCSC meetings regarding the frequent tripping of the 400 kV Jindal Thermal Power Station (JSW Energy Ltd.) Switchyard–Bellary Pooling Station (BPS) lines at the Jindal end, and as decided in the 142nd PCSC meeting, a team of experts comprising representatives from TGTRANSCO, TANTRANSCO, SR-I, SR-II, CPRI, Grid-India and SRPC had visited the site. Recommendations had been communicated to JSW Energy Ltd. and advised the utility to implement the recommendations of the expert committee.
8. Another PSAG meeting had been constituted to analyse the frequent tripping incidents at Simhadri, Gajuwaka and Kalpakkam stations, based on the communication received from the Head of Project, Simhadri. Advised the members to review the recommendations of the previous PSAG and the special meeting convened on the same issue.

9. The final report of the Committee constituted for finalizing the implementation methodology for pre-islanding load reduction, along with clarifications received from the OEM, had been issued on 06th July 2026. All the entities were advised to comply with the recommendations and suggestions contained therein to enhance the survivability of electrical islands.
10. The Fifth Meeting of the Renewable Energy Sub-Committee of SRPC had been held through virtual mode on 24th June 2026.
11. Advised the members of the Power System Study Group (PSSG) to share their comments and observations on relay settings through the WhatsApp group, in addition to the dedicated PSSG meetings, as conducting such meetings frequently may not be feasible.

Shri T Srinivas, Executive Director, SRLDC extended a warm welcome to all the participants to the 144th Protection Coordination Sub-Committee (PCSC) Meeting and stated the following:

1. Expressed hope that the meeting would facilitate fruitful deliberations on the issues under consideration and that the recommendations arising out of the discussions would be implemented by the entities to avoid the recurrence of such incidents.
2. Congratulated SRPC and SRLDC for their coordinated efforts in maintaining the safety and reliability of the power system. Advised all the constituents of the Southern Region to extend their cooperation towards enhancing system reliability.
3. Advised all the Southern Region entities to submit the incident reports, namely Flash Reports, Event Logs/Disturbance Recorder (EL/DR) reports and Detailed Reports, within the timelines stipulated under the IEGC and the CEA Grid Standards.
4. Emphasized the importance of timely submission of incident-related documents to facilitate better analysis and to prevent the recurrence of similar incidents.
5. Requested all the Southern Region entities to comply with all the applicable regulations. Any difficulties in complying the regulations can be discussed during the course of the meeting.

Smt. Malini N S, Superintending Engineer (P & C), SRPC extended a warm welcome to all the participants to the 144th Protection Coordination Sub-Committee (PCSC) Meeting and conveyed the following:

1. Welcomed Shri T Srinivas, the newly appointed Executive Director (ED), SRLDC, to the PCSC meeting and conveyed her best wishes to him on assuming the charge of Executive Director, SRLDC.
2. The number of grid disturbances had reduced compared to the period preceding the previous PCSC meeting. Requested all the Southern Region entities to adhere to periodic maintenance schedules of equipment, follow the prescribed Standard Operating Procedures (SOPs) while carrying out testing of relay settings, and ensure adequate training of switchyard operators to further reduce the occurrence of such incidents.
3. To the members of the Power System Study Group (PSSG) certain relay settings had been circulated through the WhatsApp group for seeking comments and observations, as it was not feasible to conduct PSSG meetings frequently. Requested all the PSSG members to provide their comments and observations through the WhatsApp group.
4. Requested the utilities of Andhra Pradesh and Tamil Nadu to furnish the pending reactive power assessment data at the earliest, as the same was awaited for a considerable period.

5. Urged the constituents to clear the long-pending protection audit and PCSC recommendations and submit the compliance status to SRPC.

SRPC extended a warm welcome to all the participants to the 144th Protection Coordination Sub-Committee (PCSC) Meeting and noted the following:

1. Informed the forum that the data pertaining to the Vijayawada and Visakhapatnam islanding schemes were still pending and requested APTRANSCO and APSLDC to furnish the required data at the earliest.
2. Emphasized the importance of periodic review and health assessment of the islanding schemes to ensure their effective operation during emergencies. Requested all the utilities to provide the requisite data sought by SRPC at the earliest to facilitate the analysis of the survivability of each island.
3. Requested all the members of the Power System Study Group (PSSG) to promptly share their comments and observations on the relay settings circulated through the WhatsApp group, as conducting PSSG meetings frequently may not be feasible.
4. Requested all the Southern Region utilities to submit the analysis reports and presentations pertaining to grid events well in advance of the PCSC meetings. Observed that most entities were submitting the presentations and reports only one or two days before the meeting, which hindered the detailed analysis of the incidents.

The agenda items were taken up for deliberations.

2. Confirmation of Minutes of last PCSC meeting

Minutes of 143rd Protection Coordination Sub-Committee meeting held on 08th June 2026 was issued vide letter No: SRPC/SE (P, C & SS)/143 PCSC/2026/ 2646-2692 dated 23rd June 2026.

Minutes of the 143rd Meeting of Protection Coordination Sub-Committee were confirmed

3. Grid Occurrences

Grid Occurrences which took place during the period **May 2026 – June 2026**, given at **Annexure-3a**, would be discussed in the meeting.

- I. **The Grid Disturbances (GDs) [Draft Analysis Reports furnished by SRLDC are at Annexure-3b]:**

Name of the Utility who would present the GD in all its details	SN of the GD as per Annexure-3a
APTRANSCO	I.1, I.3
ILFS	I.2
TGTRANSCO	I.4
NTPC Ettayapuram	I.5
KPTCL	I.6, I.8, I.12, I.15
KSPDCL	I.7
KSEB	I.9, I.18
TANTRANSCO / TNPGL	I.10, I.14, I.20

RENEW POWER PVT LTD	I.11
OSTRO_KANNADA	I.13
HIRIYUR_ZREPL	I.16, I.17
TNPGCL	I.19

II. The Grid Incidences (GIs) [Draft Analysis Reports furnished by SRLDC are at Annexure-3b]:

Name of the Utility who would present the GI in all its details	SN of the GI as per Annexure-3a
APGENCO	II.1, II.2
TGTRANSCO	II.3
TANTRANSCO	II.4
SEPC	II.5
APTRANSCO	II.6

III. Single/ Multiple Element tripping:

Name of the Utility who would present the GI in all its details	SN of the Single /Multiple tripping as per Annexure-3a
APTRANSCO	III.1, III.15
JSW_THERMAL	III.2
TGTRANSCO	III.3, III.5, III.12, III.13, III.14
TANTRANSCO	III.4, III.18
PGCIL SR-2	III.6
PGCIL SR-1	III.7, III.16, III.17
ADANI_ATL	III.8, III.9
SEPC	III.10
KPTCL	III.11

- a) All the Utilities, as listed above, to give a presentation (for not more than 10 minutes per GD; for not more than 5 minutes per GI and Single/ Multiple Trippings) for the Events mentioned against them.
- b) The presentation shall cover all pertinent aspects such as Antecedent conditions, Bus-configuration, Reasons of GD/ GI occurrence, Relevant Diagrams showing location of the fault, Bus bar arrangement/configuration of feeders and other connected equipment with proper CB positions (OPEN/ CLOSE) at the time of occurrence of the fault, Type of protections operated, Substantiation of the protections operated by relevant DRs & ELs, Reasons for protection systems mal-operation/non-operation, Remedial measures taken/ proposed, etc.
- c) Constituents shall furnish the following details to SRPC by **04.07.2026** (in **WORD** format) in respect of all the above grid occurrences (GD, GI) to have fruitful discussions:
 - (i) Detailed analysis of the events
 - (ii) SLD or equivalent pictorial representation clearly showing:
 - a. Location of fault with distance
 - b. Fault details with type & relay indications

- c. CT/PT/CVT rating details with location
- d. Bus-bar arrangement/ Configuration of feeders
- e. CB positions (OPEN/ CLOSE) at the time of fault
- f. Isolator & Earth-switch positions (OPEN/CLOSE)
- g. Voltage, frequency & power flows with direction at the time of fault
- (iii) Output of Event logger & Disturbance recorder
- (iv) Remedial Action(s) taken
- (v) Relay setting details

IV. W.r.t. Failure or Non-operation of A/R events included at Item No. IV of Annexure-3a, PLCC mal-operation events included at Item No. V of Annexure-3a and DR Time Synchronization Issues related Events included at Item No. VI of Annexure-3a, the concerned Utilities, as listed below, shall furnish the reasons for the same, along with remedial action taken, to SRPC latest by 04.07.2026 so that the same may be closed. Else, the same shall be presented by respective Utilities in the meeting:

A/R related Events:

Name of the Utility who would present the A/R Event in all its details, if not furnished beforehand	SN as per Annexure-3a
TGTRANSCO	IV.1, IV.3, IV.6, IV.7
TGGENCO	IV.2, IV.8, IV.9
ADANI_ATL / PGCIL SR-1	IV.4
ADANI_ATL	IV.5
APTRANSCO	IV.10
TNPGCL	IV.11, IV.12

PLCC related Events:

Name of the Utility who would present the A/R Event in all its details, if not furnished beforehand	SN as per Annexure-3a
TGTRANSCO	V.1, V.3
TNPGCL	V.2
APTRANSCO	V.4

DR Time Synchronization Issues related Events:

Name of the Utility who would present the DR Time synchronization Event in all its details, if not furnished beforehand	SN as per Annexure-3a
APGENCO	VI.1, VI.2, VI.9, VI.11, VI.39, VI.43
TGGENCO	VI.3, VI.4
PGCIL SR-1	VI.6, VI.7, VI.35, VI.36
APTRANSCO	VI.5, VI.8, VI.12, VI.13, VI.34, VI.42

PGCIL SR-2	VI.10, VI.24, VI.30
NTPC	VI.14, VI.15,
TGTRANSCO	VI.16, VI.17, VI.18, VI.19, VI.20, VI.21, VI.22, VI.23
LKPPL	VI.37
TANTRANSCO	VI.25, VI.26, VI.38, VI.41, VI.45, VI.46
KPTCL	VI.27, VI.28, VI.29, VI.31, VI.33, VI.40
KSEB	VI.32
TNPGCL	VI.44

- V. ***SRLDC to furnish the PMU plots for all the above Grid Occurrences (GDs, GIs, Single/Multiple Element Trippings, A/R, PLCC Events) with delayed fault clearance to SRPC Secretariat by 04.07.2026.***

Deliberations:

1. Grid Disturbances (GDs) and Grid Incidents (GIs) occurred during May 2026 – June 2026 were discussed and analysed in detail by the PCSC forum. Respective utilities presented the tripping details and analysis of the events. The final detailed report and recommendations of the above GDs & GIs is at **Annexure-3c**.
2. Single/ Multiple element trippings, Auto Recloser events, PLCC events and DR time synchronization issues were also deliberated/ analysed in the meeting. Respective utilities presented the tripping details and analysis of the events. The detailed analysis/report and recommendations of the above events is at **Annexure– 3d**.
3. All concerned were requested to take note of the analysis of the grid occurrences and recommendations of the PCSC forum and ensure needful action.
4. The forum resolved that the recommendations finalized by the PCSC (P-Rec) in the meetings shall be complied by the respective entities in time bound manner. The compliance/action plan with timelines shall be updated in the P-Rec module of PMS portal. The status of these recommendations would be reviewed in the ensuing PCSC meetings.
5. SRPC requested the entities concerned to furnish the draft report of the tripping/ event without fail. SRLDC to take up with the entities through e-mail, if the draft report is not received. Copy of the same to be marked to SRPC.
6. It was noted that SRLDC shall make changes, if any, or modify draft analysis report of the respective event based on the detailed report furnished by the user(s) and furnish the same to SRPC for incorporating in the final analysis report of Grid Occurrences, to issue along with the Minutes of the PCSC meetings

4. Status of Implementation of Pending Recommendations of PCSC

- a) The status of implementation of PCSC recommendations (**up to 143rd PCSC meeting**), have been updated in P-REC Module in PMS suite. List of pending recommendations is at **Annexure-4a**.
- b) The latest status on the same may please be sent by **04.07.2026**, to place the same before the sub-committee.

- c) PCSC had earlier decided to review the status of implementation of the recommendations on the Grid occurrences that were finalized in the previous three PCSC meeting. Hence the recommendations finalized in the **141st to 143rd** PCSC meeting would be deliberated in the meeting. Details are at **Annexure -4b**.

Deliberations:

Forum noted that many entities were not furnishing the updates through P-REC Module. All entities were requested to furnish the status of PCSC recommendations through P-REC module in PMS suite. SRPC stressed the need to update the status of all recommendations in the Module. It was also informed that if any entity faces difficulties/issues in uploading the status in the module, the same should be intimated in order to take up the matter with M/s PRDC for appropriate resolution.

Recommendation:

All the entities to implement the pending PCSC Recommendations at the earliest and furnish the compliance/ status of implementation & action plan/ timelines for implementation of the recommendations through “P-REC Module” in PMS.

5. Outage Planning of Protection systems/relays

1. In the 114th PCSC Meeting held on 05.01.2024, the following were noted: The Regulation 32(2)(d) of CERC (Indian Electricity Grid Code) Regulations 2023, regarding protection systems related outages, stipulates as below:

Quote

“Protection relay related outages, auto reclosure outages and SPS testing outages shall be planned on a monthly basis with the prior permission of the concerned RPC, which shall consult the concerned RLDC & NLDC”

Unquote

2. To comply with the above, it was decided that all entities shall furnish the planned/ annual relay & protection system outage proposals in advance to the forum for approval of the same.
3. The entities are requested to furnish the details in the following format for the scheduled/planned protection systems related outages during the period from 10.07.2026 to 09.08.2026 for approval of PCSC:

S. No	Name of Requesting Agency	Element Name	Voltage level	Relay details	Owner	Reason for the Outage	Outage proposed from	Outage proposed to	Remarks

4. KPTCL Vide mail dated 17.06.2026 informed that at 11:16 hrs 220kV PGCIL -Dudda line at Dudda 220kv end hand tripped due to arcing in terminal block of busbar relay and bypassed the faulty bus bar relay

Deliberations:

1. KPTCL informed that an emergency outage was availed due to arcing in the terminal block of the busbar relay. KPTCL further informed that the rectification works were carried out in accordance with the prescribed Standard Operating Procedure (SOP).
2. TANTRANSCO informed that the 230 kV Oragadam Busbar Protection relay became defective on 07.07.2026 due to the failure of the CPU card. TANTRANSCO further informed that an emergency outage of the concerned relay was availed and the works were carried out in accordance with the prescribed Standard Operating Procedure (SOP).

Recommendation:

-  **TANTRANSCO and KPTCL were suggested to ensure adherence with the SOP for any Busbar Protection outage during the period of non-availability of the Busbar Protection scheme.**
-  **All entities to furnish the planned/ annual relay & protection system outage proposals, in the above format, in advance to the forum for approval of the same.**

6. Proposals of Protection Relay Settings

- a) As per the Protection Protocol of Southern Region prepared in compliance with the IEGC Regulations 2023, for voltage levels 400kV & above and interstate lines, entities shall submit the protection settings in advance to SRPC/SRLDC for every new element to be commissioned. The Protection Co-ordination Sub-Committee (PCSC) of SRPC shall review the settings to ensure that they are properly coordinated with adjacent system and comply with the existing guidelines. Also any change in the existing protection settings of the elements, for voltage levels 400kV and above & interstate lines, shall be carried out only after prior approval from the SRPC.
- b) As decided in the 112th PCSC Meeting held on 06.11.2023, a Protection Setting Sub-Group (PSSG) was constituted with the members from APTRANSCO, KPTCL, KSEBL, TANTRANSCO, TGTRANSCO, PGCIL SR-I & SR-II, NTPC, SRLDC & SRPC Secretariat. PSSG shall analyse/review the proposed protection settings for new power system elements & revision of settings for existing elements proposed by the entities and shall suggest/recommend the finalized settings to the respective entity. The recommended settings shall be put up to PCSC, in monthly PCSC meetings, for ratification.
- c) Following proposals have been received by the PSSG. Proposed relay settings have been circulated among PSSG members through e-mail. The same were reviewed/assessed by PSSG and recommended the protection settings with following observations/suggestions:

S No.	Proposal	Proposed Entity	PSSG Meeting / Group deliberation	Observations/Views Received
1	207 MW Solar XL Beata Energy Pvt Ltd.	Hexa Climate Solutions Private Limited	05.06.2026	<i>PSSG in the meeting held on 05.06.2026 has analysed the proposed settings furnished by M/s Hexa Climate and concluded that it</i>

			<i>may implement in compliance with the SR Protection Protocol with following recommendations and suggestions</i> Observations on 220kV HEXA GADAG – GADAG-II_PS Line SS 1. 220kV Hexa Gadag End PSSG had recommended the following: 1.Ensure that all Zone setting calculations are carried out in accordance with remote end utility i.e PGCIL philosophy. 2. Enable Zone-1 tripping in case of communication failure in the line differential protection scheme. 3.SOTF shall be enabled with Impedance function and breaker close command with Zone reach limited to Zone-2. 4.Time of SOTF function active status after breaker closed in impedance mode may be set to 0.2s. It means, till 0.2s, SOTF function will be active after breaker closed. 5.Enable DEF with suitable TMS and plug setting values as per the Fault level at the station. 6.Overtoltage stage-1 shall be disabled 7.Configure PSB such that Zone-1 is allowed to trip, while Zone-2 and higher zones remain unblocked with a time delay of 2 seconds. 8.Ensure all the settings are enabled in Main-2 Relay
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			9. Overvoltage protection shall be kept disabled for 220 kV transmission lines\ 10. Ensure that the under-frequency and over-frequency protection functions are disabled 11. Ensure that all settings are enabled in the Main-2 relay. 2. 220kV Busbar at Hexa Gadag End PSSG had concluded that it may implement in compliance with the SR Protection Protocol 3. 160MVA 220kV/33kV PTR-1 at Hexa Gadag End PSSG had recommended the following: 1. Keep the highest current value as the through-fault current value with suitable margin, with a time delay of 50 ms 2. Review the stabilizing voltage calculation in accordance with the OEM recommendations. 4. 80MVA 220kV/33kV PTR-2 at Hexa Gadag End PSSG had recommended the following: 1. Keep the highest current value as the through-fault current value with suitable margin, with a time delay of 50 ms 2. Review the stabilizing voltage calculation in accordance with the OEM recommendations.
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				5.220kV Buscoupler at Hexa Gadag End PSSG had recommended the following: 1.Disable the earth fault setting of Bus coupler 2. High-set overcurrent protection to be disabled. 3. overvoltage and undervoltage protections for the bus coupler shall be disabled. PSSG recommended to ensure the coordination of distance as well as backup overcurrent & earth fault protection of all the elements connected at 220kV Hexa Gadag SS Recommended to Furnish all the relay details to PMS via DMNS tickets by M/s Hexa Climate.
2	Submission of protection settings of 400MW Nagaluti/Masapet solar plant and associated transmission line	M/s Greenko	05.06.2026	PSSG in the meeting held on 05.06.2026 has analysed the proposed settings furnished by M/s Greenko and concluded that it may implement in compliance with the SR Protection Protocol with following recommendations and suggestions Observations on CPSS – NAGALUTI/MASAPET Line SS 1. 400kV CPSS End PSSG had recommended the following: 1. Adopt OVR protection settings in accordance with SRPC approved OVR grading. 2. 400kV Nagaluti/Masapet End

			<i>PSSG had recommended the following:</i> <i>1. Adopt OVR protection settings in accordance with SRPC approved OVR grading.</i> <i>3.400kV Busbar at Nagaluti/Masapet End</i> <i>PSSG had recommended the following:</i> <i>1. Review the end-fault protection pickup settings in accordance with the OEM recommendations.</i> <i>4.400kV Buscoupler at Nagaluti/Masapet End</i> <i>PSSG had concluded that it may implement in compliance with the SR Protection Protocol</i> <i>5. 315MVA 400kV/33kV PTR-1 at Nagaluti/Masapet End</i> <i>PSSG had concluded that it may implement in compliance with the SR Protection Protocol</i> <i>6. 315MVA 400kV/33kV PTR-2 at Nagaluti/Masapet End</i> <i>PSSG had concluded that it may implement in compliance with the SR Protection Protocol</i> <i>PSSG recommended to ensure the coordination of distance as well as backup overcurrent & earth fault protection of all the elements connected at 400kV CPSS , Nagulpati SS</i> <i>Recommended to furnish all the relay details to PMS via DMNS tickets by M/s Greenko.</i>
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3	SECI_300MW SPV Plant Ramagiri_Protection setting approval	SECI	17.06.2026 - 18.06.2026	<i>PSSG in the Group chat held on 17.06.2026 - 18.06.2026 has analysed the proposed settings furnished by M/s SECI and concluded that it may implement in compliance with the SR Protection Protocol with following recommendations</i> <i>Observations on SECI 220kV RAMAGIRI- PGCIL 220kV PAVAGADA SS</i> <i>1. 220kV Ramagiri End</i> <i>PSSG had recommended the following:</i> <i>1.SOTF shall be enabled with Impedance function and breaker close command with Zone reach limited to Zone-2.</i> <i>2. Resistive reach (ph-ph) settings are more than the minimum load resistance to be reviewed in consultation with OEM.</i> <i>3.Overvoltage protection shall be kept disabled for 220 kV transmission lines</i> <i>4. During VT fuse failure, non-directional overcurrent and Earth Fault protection shall be enabled.</i> <i>2. 220kV Pavagada End</i> <i>PSSG had recommended the following:</i> <i>1. SOTF shall be enabled with Impedance function and breaker close command with Zone reach limited to Zone-2.</i> <i>2. Resistive reach (ph-ph) settings are more than the minimum load resistance to be reviewed in consultation with OEM.</i>
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				3.220kV Bus Coupler at Ramagiri End PSSG had recommended the following: 1.PSSG as recommended to disable the earth fault settings. 4. 160MVA 220kV PTR at Ramagiri End PSSG had recommended the following: 1.For the transformer differential protection settings, the 5th harmonic restraint shall be set at 25%. 2.Overfluxing protection shall be enabled and configured in accordance with the manufacturer's characteristic curve. 3. Backup overcurrent protection shall be set based on the results of the fault current study. The high-set overcurrent stage shall be configured with a 50 ms time delay. 4.Restricted Earth Fault (REF) and Differential Protection functions shall be enabled and implemented in separate relays. 5. 220kV BusBar at Ramagiri End PSSG had concluded that it may implement in compliance with the SR Protection Protocol SSG recommended to ensure the coordination of distance as well as backup overcurrent & earth fault protection of all the elements connected at 220kV Ramagiri SS
4	Relay settings of 132kV Kakinada-Yanam	APTRANSCO	05.06.2026	PSSG in the meeting held on 05.06.2026 has analysed the

	interstate feeder – approval requested as per the SRPC protection protocol			<i>proposed settings furnished by APTRANSCO and concluded that it may implement in compliance with the SR Protection Protocol with following recommendations and suggestions</i> Observations on 132kV Kakinada-Yanam Line 1. 132kV Kakinada END PSSG had suggested: <i>1. It is suggested to enable SOTF with CB Close command and Impedance function instead of current function as per the relay capability.</i> PSSG recommended to ensure the coordination of distance as well as backup overcurrent & earth fault protection of all the elements connected at 132kV Kakinada SS Recommended to furnish all the relay details to PMS via DMNS tickets by APTRANSCO.
5	Consent for relay settings of 400KV Ananthapur- Renew D/C line	PGCIL SR-I	05.06.2026	PSSG in the meeting held on 05.06.2026 has analysed the proposed settings furnished by PGCIL SR-1 and concluded that it may implement in compliance with the SR Protection Protocol with following Observations on ANANTHAPUR - RENEW_1 Line SS 1. 400kV Ananthapur END PSSG had concluded that it may implement in compliance with the SR Protection Protocol Observations on ANANTHAPUR - RENEW_2 Line SS 1. 400kV Ananthapur END

				<i>PSSG had concluded that it may implement in compliance with the SR Protection Protocol</i> <i>PSSG recommended to ensure the coordination of distance as well as backup overcurrent & earth fault protection of all the elements connected at 400kV Anantapuram SS</i> <i>Recommended to furnish all the relay details to PMS via DMNS tickets by PGCIL SR-I.</i>
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Note: For updation of PDMS, the following PRDC personnel may be contacted:

- Mr Varun S, varun.s@prdcinfotech.com
 - Mr Bharath B, bharath.b@prdcinfotech.com
- d) It was noted in the earlier meetings that several entities were not submitting the Relay settings as per the timeline mentioned in the Protection Protocol. It is reiterated that as per the SR Protection Protocol, the proposed settings shall be submitted by the entity two months in advance.
- e) In 118th PCSC Meeting (08.05.2024), it was noted that validity of provisional approval is one month only. Hence the entities whose settings were provisionally approved shall get the final approval of those settings within a months' time, else it would be treated as unapproved settings. Responsibility lies with the entity, if any grid occurrence happens due to unapproved settings. Also, the provisional approval of the settings cannot be given henceforth by PSSG if the complete & relevant files/settings are not submitted for the scrutiny and deliberations of PSSG.
- f) SRLDC is requested to ensure the protection settings recommended by PSSG are implemented by the entities during first time energization of the respective elements.
- g) All entities are requested to furnish the relay setting parameters in excel format as per the set values in relay. On analysis, it was observed that the excel file data were not matching with the downloaded relay data. PSSG will scrutinize the parameters given in excel files only and it is the responsibility of the entity to kindly ensure the parameter to be set as per the relay data given in excel file and to consider the recommendations/ suggestions specified.
- h) During first time energization (FTE) of the respective elements, SRLDC needs to verify the settings implemented by the entities and ensure that the proposed settings as per the excel sheets/computations & the recommendations of PSSG are implemented by the entities.

Deliberations:

1. SRPC informed that proposals for **Five** relay settings had been analysed, reviewed by the PSSG and the proposals had been approved. Recommendations, including specific

recommendations /suggestions were provided. Forum concurred to the above. SRPC emphasized the importance of implementing the recommended settings as advised.

2. SRPC requested all entities to submit proposed relay settings, in the specified format, well in advance (two months before the planned commissioning date) to SRPC/PSSG. This allows sufficient time for PSSG to review the settings and provide observations or recommendations. PSSG members were also urged to submit their observations, comments and views within the given timelines to facilitate the timely analysis and recommendation of relay settings.
3. Regarding verification of the settings during FTE process, SRLDC was requested to verify the major/important settings before granting energization clearance.
4. It was noted that some vital protection settings need to be cross-verified by SRLDC with the downloaded relay settings furnished by the entities to confirm that the implemented settings are as recommended by the PSSG, which would ensure reliable and protected power system. SRLDC agreed to check the vital/major settings.
5. SRPC informed that the following protection details/ relay settings (along with computations to arrive at the setting parameters in the relay, in excel file) shall be furnished by all the entities to the PSSG for assessment:

Line Protection	Line Differential Protection	Transformer/ Reactor	Bus Bar/ LBB	Generator Transformer connecting at 400 kV and above	Station Transformer connecting at 400kV and above
Single Line Diagram (SLD)	Single Line Diagram (SLD)	Nameplate Details	Single Line Diagram (SLD) with full feeders connected along with CT ratio	Nameplate Details	Nameplate Details
Line sketch/Gradation Chart	Line sketch/Gradation Chart	Fault level contribution (three phase and single phase) and local feeder with highest time setting for Overcurrent and EF	Differential settings with slope characteristics	Whether Earthing of neutral of Generator transformer is solidly earthed and high voltage winding is in star point	Whether Earthing of neutral of Station transformer is solidly earthed and high voltage winding is in star point
Zone Protection along with all computations, mainly resistive & reactive reach and timings	Differential settings along with Zone settings (slope characteristics). Whether Zone 1 is enabled whenever communication fails	Differential	Whether LBB is a part of BBP or external LBB along with Re-trip and back trip timing details	Overall differential protection (87OA)	Whether segregation of group-A and B protections from DC-1 and DC-2 source has been ensured
SOTF	SOTF	REF	End Fault Protection	Generator transformer differential protection (87GT) for single phase bank	Differential current protection (87)

DEF-IDMT	DEF-IDMT	Over flux (LV & HV)	CT supervision	Restricted earth fault protection for generator transformer (87NGT)	Restricted earth fault protection for LV winding (87NLV)
OVR	OVR	Backup Distance Protection		Overhead line connection differential protection (87L) <i>[For 3 single phase banks, if 87L includes HV winding, separate 87NGT is not mandatory.]</i>	Restricted earth fault protection for HV winding (87NHV)
Load encroachment settings - Blinder	Load encroachment settings - Blinder	Backup directional overcurrent and EF Relay		Back- up earth fault protection on generator transformer HV Neutral (51NGT)	Back-up over-current protection on HV side (51)
A/R	A/R	Tertiary Winding Protection		Over-fluxing protection for generator transformer (99GT) <i>[To be duplicated for units of 500 MW and above]</i>	Back-up earth-fault protection (51N)
Broken Conductor	Broken Conductor			Back- up non-directional over-current protection in all phases on HV side of generator transformer (51GT)	Over-fluxing protection (99)
Communication Scheme adopted	Communication Scheme adopted			Generator transformer oil temperature indicator (OTI) trip (49Q) and winding temperature indicator (WTI) trip (49T)	Buchholz protection (63)
Mutual Compensation	Mutual Compensation			Generator transformer Buchholz (63), Pressure relief valve (PRV)/ other mechanical protections	Winding temperature high (49T)
STUB	STUB			Pole discrepancy protection of generator	Oil temperature high (49Q)

				transformer breaker (162) <i>[To be provided, if single pole breakers are used.]</i>	
PSB	PSB			Breaker failure protection of generator transformer breaker (50Z)	Pressure relief valve trip (PRV)
Zero sequence compensation	Zero sequence compensation			Start-up earth fault protection for LV and HV winding of generator transformer and UATs (64T) <i>[To be provided for GCB scheme only]</i>	Breaker failure protection (50Z)
VT Fuse failure	VT Fuse failure				
LBB- whether enabled in inbuilt relay, if yes settings	TEED Protection				
TEED Protection					
<i>Any other protection functions enabled shall be shared with the reason for setting the same and the computation.</i>					

6. Along with the Excel data, the entities need to share the computation files, stating the clear-cut steps for arriving at the value of each parameter. It is the responsibility of the entity to ensure the relay settings in the relay as arrived in the Excel computation files and approved by PSSG/forum.
7. The entities are required to furnish the details as suggested by the PSSG and only after the receipt of the relevant & complete details, it would be taken up for deliberation/assessment by the PSSG.
8. Regarding FTE verification, SRLDC confirmed that certain basic/major/important relay settings and DNMS ticket details were being validated and checked.
9. SRPC explained that whenever a new transmission/generation element is proposed for commissioning, an existing element is modified, or the protection settings of any existing element are revised, the concerned Generating Company or Transmission Licensee shall submit the protection settings, along with the prescribed format and detailed calculation sheets, to SRPC/SRLDC at least two months prior to the proposed commissioning, modification, or implementation of the revised settings. This requirement is applicable to all elements operating at 400 kV and above, as well as all inter-State transmission lines. All entities were requested to submit the relay settings within the stipulated timeline, instead of a day or two prior to commissioning, so as

to provide the Protection System Sub-Group (PSSG) with adequate time to review and deliberate on the settings before commissioning. The Forum noted the same

10. PCSC approved the relay settings of five elements, as listed above, recommended by the PSSG.

Recommendation:

-  **All entities to furnish the relay settings details as per the above finalized protection settings by the PSSG.**
-  **Entities to furnish the proposed relay settings in advance (two months before the planned commissioning date).**
-  **SRLDC to ensure the implementation of proposed protection settings along with the PSSG recommendations by the entity.**

7. Internal Protection Audit of Sub stations

The Clause (5) of Regulation 15 of IEGC Regulations, 2023 stipulates the following:
Quote

- (1) 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).
- (2) 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.

.....

- (5) 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."

7.1 Internal Audit Report 2026-27

The Summary of Reports Received for Internal audit for FY 2026-27 is as below

Internal Audit reports of STU's & PGCIL

Name of Utility	Total No. of Substations of 220kV & above	No. of Substations Internal Audit is proposed as per Plan for Quarter-I 2026	No. of Substations Internal Audit Report Submitted Quarter-I 2026
APTRANSCO	126	42	0
KPTCL	171	45	31

KSEBL	42	12	0
PED	0	0	0
PGCIL SR I	21	7	6
PGCIL SR II	37	8	8
TANTRANSCO	152	40	20
TGTRANSCO	135	22	0

Internal Audit reports of Genco's

Name of Utility	Total No. of Substations of 220kV & above	No. of Substations Internal Audit is proposed as per Plan for Quarter-I 2026	No. of Substations Internal Audit Report Submitted for Quarter-I 2026
APGENCO	9	0	0
APSPCL	7	1	0
BHAVINI	1	0	0
KPCL	11	0	0
KSPDCL	8	2	2
NLCIL	5	0	0
NPCIL	3	0	0
NTECL	1	1	1
NTPC	6	0	0
NTPL	1	0	0
STPP-SCCL	1	1	0
TGGENCO	12	0	0
TNGECL	5	0	0
TNPGCL	10	0	0

Internal Audit reports of Private Genco's, STU & RE-ISTS

Name of Utility	Total No. of Substations of 220kV & above	No. of Substations Internal Audit is proposed as per Plan for Quarter-I 2026	No. of Substations Internal Audit Report Submitted for Quarter-I 2026
ADANI Power Limited	3	0	0
Adani Transmission Limited	2	0	0
APSPCL	5	0	0
Arcelor Mittal Green Energy Pvt Ltd (AMGEPL)	2	0	0
AYANA Renewable	2	0	0
GREENINFRA	1	0	0
GREENKO	4	0	0
GRT Jewellers (India) Pvt Ltd	1	0	0
HNPCL	1	0	0
Indigrid	1	0	0
IL&FS	1	1	0
Jindal Power Limited (Simhapuri Unit)	1	0	0
JSW	5	0	0
JSWEL	2	0	0
KLEIO SOLAR	2	1	0
Meenakshi Energy Limited	1	1	1
MYTRAH	1	0	0
NTPC Green	1	0	0
RENEW	4	0	0
SAEL Solar	2	0	0
SEIL-P1	1	0	0
SEIL-P2	1	0	0
Sembcorp Green Infra Limited	1	0	0

Serentica Renewables India Pvt Ltd	4	2	2
SPRNG Renewable Energy	1	0	0
TATA POWER	2	0	0
Vena Energy	1	0	0
Vivid Solaire Energy Pvt Ltd	1	0	0
Zenataris Renewable Energy	1	0	0

Deliberations:

1. KSEBL informed that internal audits had been conducted at six stations and the corresponding audit reports are yet to be submitted to SRPC.
2. TANTRANSCO and TGTRANSCO informed that internal audits of the stations scheduled for Quarter-I of FY 2026–27 had been completed and the corresponding reports are yet to be submitted to SRPC.

Recommendations

🚩 **Entities to furnish the internal audit report along with recommendation and action plan for rectification of deficiencies detected, if any, to SRPC after completion of the audit. (only soft copy of Internal Audit report may be furnished, while hard and soft copy of the recommendations and action plan need to be furnished).**

🚩 **Entities to include the ‘Verification of the relay setting coordination with the connected elements’ in the internal protection audit checklist as well as in the audit report.**

🚩 **SRLDC also to take up with RE ISTS Entities (220kV & above).**

8. Third-Party Protection Audit

The Clause (5) of Regulation 15 of IEGC Regulations, 2023 specifies the following:
Quote

(2) 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.

.....

(5) 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."

8.1 Third Party Protection Audit report 2025-26

1. In FY 2025–26 Third-Party Protection Audit (TPPA) of 125 substations/switchyards, had been completed from SCTPPA entities.

- 2.
3. In the 143rd PCSC meeting NTPC informed the following:
 - **NTECL Vallur:** Third-party audit was carried out by CPRI during 22.09.2025 to 27.09.2025. Report would be furnished by June -26.
4. In 140th PCSC meeting M/s **Moxie Power** informed that the third-party audit was completed on 03rd January 2026 and would furnish the report soon. No participation by Moxie power in 143rd PCSC Meeting
5. RE ISTS to furnish the Third-party audit reports for 2025-26.

Deliberations:

1. SRPC requested SRLDC to coordinate with RE ISTS entities through REMC to ensure submission of third-party protection audit reports & audit plans of substations at 220 kV and above voltage levels. SRLDC agreed to the same.
2. Moxie Power informed that they had received the final third party audit report.

 ***Entities (connected at 220 kV & above) to furnish the internal and Third-party audit plans to SRPC at the earliest.***

 ***SCTPPA entities to carryout Third party audit as per schedule.***

 ***SRLDC also to pursue with RE ISTS entities to furnish Third party audit plans***

8.2 Third Party Protection Audit Plan for FY 2026-27

1. In line with the Clause (5) of Regulation 15 of IEGC Regulations, all entities were requested to submit the annual audit plan for the substations 220 kV and above voltage level for FY 2026-27 to SRPC by **31.10.2025**.
2. SRPC, vide letter dated 20.03.2026 (**Annexure-9a**), issued the schedule to carry out Third Party Protection Audit through SRPC Coordination for FY 2026-27 (**Annexure-9b**). 121 number of Substations in the Region for the period April 2026 - March 2027 as mentioned in the Annexure-9b are to be audited under SCTPPA by the Audit teams constituted by SRPC.
3. **The scheduled audits have to be taken up strictly as per the SCTPPA schedule to enable proper monitoring. In the event of extreme exigencies, the audit may be rescheduled as soon as possible, in consultation with the respective auditors and intimate to SRPC.**
4. All RE –ISTS entities to submit the Third-party Audit plans in the above Google sheet link

Recommendations:

 ***SCTPPA entities to carryout Third party audit as per schedule.***

 ***SRLDC also to pursue with RE ISTS entities to furnish Third party audit plans.***

9. Submission of Internal & Third-Party Protection Audit Reports for FY 2026-27

All utilities/entities are requested to submit the Internal Protection Audit Reports and Third-Party Protection Audit Reports for FY 2026–27 onwards through the designated **Zoho Forms**.

The respective links for submission of relevant details can be accessed from the email sent.

~~(Note: In case the links do not open directly from the PDF, entities are requested to copy the URL and paste it into a web browser.)~~

Further, all entities shall ensure that Audit Reports are sent to **srpc.protectiondata@gmail.com**, immediately after successful submission of the respective forms. All entities are requested to adhere strictly to the above procedure for timely and effective data compilation.

Deliberations:

1. SRPC informed all entities to submit the internal and third-party audit reports via Zoho forms for FY 2026-27 onwards for uniform data collection and tracking.
2. SRPC requested SRLDC to coordinate with RE ISTS entities for ensuring submission of internal and third-party protection audit plans for substations at 220 kV and above voltage levels via Zoho forms. SRLDC agreed to the same.

10. Protection Performance Indices

1. As per the Protection Protocol of SR prepared in compliance with the IEGC Regulations 2023, Users/Entities shall submit the protection performance indices of previous month to SRPC and SRLDC on monthly basis for 220 kV and above by 15th of the subsequent month and the same shall be reviewed in the ensuing PCSC meeting of SRPC.
2. Protection performance Indices for the months of **May 2026** are pending from the following entities:

ADANI_ATL	APSPCL	Ayana Renewable Power Six Pvt Ltd	BHAVINI
GREENINFRA	HIRIYUR_ZREPL	TNGECL	INDIGRID
KPTCL	KSEB	LKPPL	MYTRAH
TNPGCL	NPCIL_MAPS	NTPC	SAEL
SCCL	SEPC	SEPL	

3. The consolidated details of protection performance indices received from the entities for the months of May 2026 are at **Annexure 10a**. The same would be reviewed in the meeting.
4. KPTCL, APSPCL informed that they had verified the protection performance indices for the month of May 2026.

5. The non-compliance of IEGC Regulations/Protection Protocol of SR by the entities (who have not furnished the protection performance indices of May 2026) would be deliberated in the meeting.
6. In the 126th PCSC meeting, all STUs confirmed that the Protection Performance Indices (PIs) of their Embedded Entities/Independent Power Producers (IPPs) are included in their respective STU/TRANSCOs Monthly PPI reports.
7. In the 135th PCSC meeting SRLDC requested all entities to recheck the classification report before clicking the verify button and to contact SRLDC in case of any discrepancies or variations between the user and SRLDC data.
8. SRLDC to modify the Tripping Classification after discussion in the previous PCSC meetings and furnish the updated Tripping Classification report.
9. In the 140th PCSC meeting SRPC requested all entities to ensure that successful Auto Reclosure (A/R) operations are also entered in the PPI portal.
10. In the 140th PCSC meeting SRPC further highlighted that several variations were observed in the tripping classifications furnished by the utilities and SRLDC and requested all entities and SRLDC to coordinate closely and rectify the classification errors, as the errors lead to inaccurate PPI indices.
11. As decided in the 139th PCSC meeting, one of the SR utilities would make a detailed presentation, in each meeting, on the PPI performance of its system, including analysis carried out and corrective actions taken. Accordingly, TANTRANSCO is requested to present on their PPI report in the 144th PCSC meeting.

12. Decisions of the 119th PCSC Meeting:

The following actions were agreed upon:

Submission of Protection Performance Indices:

- SLDCs/TRANSCOs shall ensure submission of Protection Performance Indices for all State-embedded entities.
- SRLDC shall coordinate with ISTS-connected entities (including RE generators) to ensure submission of Protection Performance Indices.

Verification of Submitted Data:

- SRLDC & SLDC shall verify the Protection Performance Indices submitted by entities/users. Any discrepancies observed shall be reported to PCSC forum during meetings.

13. Submission and Verification of Tripping Data:

In line with the recommendations of the 119th PCSC meeting, SRPC requested SRLDC to verify the tripping of ISTS lines and the respective SLDCs to verify the tripping of intra-state lines. However, SRLDC stated that all ISTS line trippings are automatically logged in the SPOORTHY portal. SRLDC further informed that successful auto-reclosure (A/R) operations cannot be validated through the portal, as such operations are not captured in SPOORTHY.

SRPC highlighted that monitoring of successful A/R operations is essential for accurate calculation of PPI and therefore requested SRLDC to validate and provide the relevant data accordingly.

The summary of trippings, as furnished by various utilities for the month of May 2026, is provided below

Utility	Total Trippings	Utility	Total Trippings
ADANI_APL	2	NTPC	0
APGENCO	43	NTPC_KUDGI	3
APSPCL	0	NTPC_RSTPS	9
APTRANSCO	375	NTPC_SIMHADRI	1
HINDUJA	6	NTPC_TESTPP	1
ILFS	1	OSTRO_KANNADA	1
JSW_RE	2	PGCIL SR-1	83
JSW_THERMAL	0	PGCIL SR-2	120
KPCL	5	PONDICHERRY	2
KPTCL	84	RENEW POWER PVT LTD	1
KSPDCL	1	TANTRANSCO	324
NLC	6	TATA	1
NPCIL_KAIGA	3	TGGENCO	34
NPCIL_KKNP	1	TGTRANSCO	132
NTECL	6		

Deliberations:

1. SRPC expressed serious concern over the continued non-submission of Protection Performance Indices (PPIs) by several ISTS and RE entities. It was reiterated that, in accordance with the IEGC Regulations and the SR Protection Protocol, submission of PPIs on a monthly basis to SRPC and SRLDC is mandatory and shall be ensured by all entities without exception.
2. SRLDC was requested to follow up with the concerned ISTS and RE entities to ensure timely compliance, as deliberated in the earlier PCSC meetings. Further, SRLDC was requested to verify the correctness of the PPIs submitted by the entities and report any discrepancies observed during the PCSC meetings.
3. SRPC requested all entities to ensure that all successful Auto Reclosure (A/R) operations are also updated in the PPI portal.
4. SE, SRPC expressed concern regarding the low PPI indices observed for several utilities and enquired about the corrective measures being taken by the respective entities to improve their performance indices.

5. SE, SRPC requested all entities to treat the PPI as a preliminary diagnostic tool and advised that detailed internal analysis should be carried out by the respective utilities, particularly in cases where low PPI indices are observed.
6. As deliberated during the 143rd PCSC Meeting, SRPC requested TANTRANSCO to present its PPI analysis for the month of April 2026. Accordingly, TANTRANSCO presented the PPI analysis report.
7. TANTRANSCO presented the PPI summary for the month of May 2026 as follows.

Name of the Utility	Trippings in order as per protection operation (Nc)	No. of Unwarranted Operations (Nu)	No. of Failed Operations (Nf)	Ni = Nu + Nf	Security Index [S = Nc / (Nc + Nu)]	Dependability Index [D = Nc / (Nc + Nf)]	Reliability Index [R = Nc / (Nc + Ni)]
TANTRANSCO	324	7	30	37	0.9789	0.9153	0.8975

8. TANTRANSCO categorised 30 number of Failed Operations as follows.

FOTE defect at Alagarkoil SS	Carrier issue at Villupuram, Ariyalur & Mettur auto	Human Error- AR Kept OFF position	AR relay _Output contact issue at Karambayam 230kVSS	Breaker Issue	Relay Issue	AR Scheme issue
9	6	2	3	6	2	2

9. TANTRANSCO categorised the 7 number of unwanted operations as follows.

Human Error	Relay setting	Scheme issue
4	1	2

S.No.	Name of the Feeder	Date of Tripping	Time of Tripping	Classification	Reason & Remedial action
1	400KV-ALAMATHY-SUNGAVARACHATRA M-1	19-05-2026	10:44	Human Error	OVR trip inadvertently set low value during setting revision
2	400KV-NCTPS_STAGE_II-MANALI-1	12-05-2026	01:42	Human Error	GD stage 3 trip shift operator inadvertently switched off the DC MCB
3	400KV-MANALI-PULIYANTHOPE-1	09-05-2026	22:05	Human Error	DC disturbance Shift operator inadvertently switched OFF DC MCB
4	400KV/110KV MANALI-ICT-3	09-05-2026	22:05	Human Error	
5	230KV-KORATTUR-MANALI-1	11-05-2026	22:26	Relay setting	Over reached tripping for line fault in 230kV Manali - Central CMRL

					feeder Remedial action: Resistive Reach setting revised
6	230KV-TTPS-AUTO-TTPS-1	20-05-2026	18:33	Scheme issue	SOTF Operated for the line fault in 230kV Kinnimangalam TTPS line Remedial action: NC switch defect. Programmed to replace during next line clear
7	230KV-Chekkannurani-KINNIMANGLAM-1	22-05-2026	05:04	Scheme issue	LDP_R PHASE_M2 circuit CT Secondary circuit wire from junction box to relay panel got short circuited, resulting in the operation of differential protection Remedial action: The same was attended at Checkarunni end

10. After detailed deliberations, the forum requested all SLDCs and STUs to coordinate closely with each other, actively monitor all tripping events, and ensure that every tripping event, including successful Auto Reclosure operations, is updated in the SPOORTHI portal.
11. As decided in the 139th PCSC meeting, one of the SR utilities would make a detailed presentation, in each meeting, on the PPI performance of its system, including analysis carried out and corrective actions taken. Accordingly, TGTRANSCO is requested to present on their PPI report in the 145th PCSC meeting.

Recommendations:

- + TGTRANSCO is requested to present on their PPI report in the 145th PCSC meeting.**
- + Entities to furnish the Protection Performance Indices for the month of May 2026.**
- + Users/ Entities to submit the monthly Protection Performance Indices of the month i.r.o 220 kV and above voltage level to SRPC/ SRLDC by 15th of the subsequent month to enable review in the ensuing PCSC meeting.**
- + Along with the Protection Performance Indices details (including all the element tripping details), Users/ Entities to submit the inter-state lines tripping details, however, the entities shall not count those occurrences/incidences while computing Performance Indices.**
- + All entities to furnish all tripping details, along with the Protection Performance Indices.**
- + ISTS connected RE entities to submit the Protection Performance Indices.**

- ✚ **SRLDC/REMC to take up with ISTS connected entities (including RE) and ensure the submission of Protection Performance Indices.**
- ✚ **SRLDC to verify the Protection Performance Indices furnished by the ISTS entities/ Users and discrepancies, if any, may be reported to PCSC in the meetings.**
- ✚ **SRLDC to update the tripping classification details after discussion in the PCSC meeting.**
- ✚ **Utilities to give presentation on the PPI performance of its system, including analysis carried out and corrective actions taken.**

11. Status of Islanding Schemes Reviewed during 2025-26

1. Monitoring of Islanding Schemes by SLDCs/SRLDC

- (i) In accordance with Standard Operating procedure (SOP) issued by MoP/CEA, SRLDC and SLDCs (Nodal LDCs of the islanding Schemes) need to monitor the Island generation and load on real-time basis. SOP clauses are reproduced below:

“2. Monitoring of Vital Parameters

- i. *Since formation of Island can take place at any time, monitoring of the following vital parameters, which have a significant role in on successful Island formation, is of paramount interest:*

- a. *Anticipated/ actual Generation within the electrical boundary of the Island.*
- b. *Anticipated/ actual Load within the electrical boundary of the Island.*
- c. *Voltage, Frequency & Power Flows along the peripheral lines which are required to be tripped to form the Island.*

- ii. *Above parameters are to be monitored in real-time basis in the Control Room/Despatch Centre (i.e., Sub SLDCs/SLDC/RLDC/NLDC) of the area by creating a dedicated page specific to the Islanding Scheme in the SCADA display. To accomplish this, provision should also be made, if required, for installing adequate measuring instruments (like PMU) at suitable locations within the Island.”*

2. As per the earlier PCSC meeting deliberations, SRLDC to act as a Nodal agency for Neyveli & Kudankulam Islanding schemes, since the IS are covered in 2-3 states/UT and monitor the critical parameters including the Load & Generation of the island in real time. Following are the nodal LDCs of the Islanding Schemes of SR:

Islanding Scheme	Nodal LDC
Vijayawada & Vishakhapatnam IS	AP SLDC
Bengaluru IS	KAR SLDC
Chennai IS	TN SLDC
Hyderabad IS	TG SLDC
Neyveli IS	TNSLDC, KERSLDC, PUDSLDC, SRLDC
Kudankulam IS	TNSLDC, KERSLDC, SRLDC

3. SCADA monitoring displays are made available in the respective SLDCs & SRLDC. Nodal LDCs need to furnish the Island LGB data for four scenarios for previous month along with their observations & SCADA data on monthly basis by 25th of the month in the following format to SRPC:

Peak Load scenario in the Island during the previous month		Off- Peak Load scenario in the Island during the previous month		Maximum Generation scenario in the Island during the previous month		Monthly Average data scenario	
Generation in MW	Load in MW	Generation in MW	Load in MW	Generation in MW	Load in MW	Generation in MW	Load in MW

Note:

Generation in MW: Generation data of all generators participating in the Island scheme only.

Net Load in MW: Total surviving load after deducting the AUFR+df/dt+ (Island feeders, if any) in the Island.

4. SRLDC, vide mail dated 30.06.2026, furnished the Monthly Islanding data which is illustrated below. The Islanding Plots furnished by SRLDC is at **Annexure-12:**

Island	Peak Load Generation	Peak Load	Peak Load Time	Off Peak Generation	Off Peak Load	Off Peak Load Time	Maximum Generation	Load at Maximum Generation	Maximum Generation Time	Average Generation	Average Load	RE Max Gen	RE Max Load
Bangalore	3119	4439	15-05-2026 12:02	3528	2327	30-05-2026 03:47	5054	3593	23-05-2026 19:59	3492	3260	4366	3017
Chennai	2321	3451	2/5/2026 22:42	2124	1079	10/5/2026 10:27	2906	2123	16-05-2026 22:32	2375	2088	2706	2305
Hyderabad	4424	5656	26-05-2026 15:53	4455	3159	27-05-2026 01:12	6150	5134	16-05-2026 22:31	4416	4585	4590	4433
Kudankulam	4599	8525	27-05-2026 11:27	4555	3555	10/5/2026 7:57	7054	4968	18-05-2026 23:04	5339	5300	6783	5562
Neyveli	5397	4577	14-05-2026 17:18	4087	2216	25-05-2026 12:39	6035	3745	16-05-2026 22:52	4455	3371	5310	3410
Vijayawada	1988	2908	26-05-2026 14:57	1268	899	28-05-2026 22:45	2271	2218	14-05-2026 20:56	1733	2033	1977	2469
Visakhapatnam	3053	2418	26-05-2026 14:35	1631	1071	3/5/2026 9:17	3536	2197	19-05-2026 21:49	2629	1757	3178	2112

5. Substantial variations in the LGB, owing to flexing of generation by conventional generating stations participating in the Islanding Schemes and participating load quantum during high RE injection, particularly during high solar generation period, have been observed. To analyse the IS LGB under various scenarios to enable appropriate review and remedial action, SRLDC is requested to present snapshot of SCADA display of the Islanding page during **solar peak hour** of the previous day.

6. **Nodal LDCs were requested**

- To furnish their observations regarding the LGB data.
- To provide reasons for Low / High LGB observed.
- Nodal LDCs should present the following for the Island for the month of **May** 2026 during the PCSC meeting:
 - Load Duration Curve
 - Generation Duration Curve
 - G/L Duration Curves

7. **STU/TRANSCOs are requested to coordinate with SLDC and to present the data in the PCSC Meeting**

8. In the earlier meetings, it was emphasized that SLDCs and SRLDC are responsible to monitor new elements being added inside or across the island boundaries of the respective islands of their control area (Nodal LDC for the Islanding scheme), and if any element gets added across the boundary of the Island (Island boundary as per the reviewed island document issued by SRPC), UFR at islanding frequency shall be implemented by respective SLDC/TRANSCO/TSP on those elements with intimation to SRPC and SRLDC. In addition, SRLDC shall also monitor the transmission elements getting added across interstate boundaries affecting the existing islands and intimate the same to respective SLDCs for UFR implementation.
9. SRLDC had been requested to present the new elements added in the grid, as per the PSSE case for June 2026 in the 144th PCSC
10. In the 134th PCSC Meeting SRPC suggested that SRLDC may consider developing a portal for STUs to enter details of monthly additions of new grid elements, which would enable effective monitoring and uniform data availability.
11. Subsequently in the 63rd & 64th COMSR meeting SRLDC informed that a provision in the Communication outage equipment portal is provided for entry of any new elements added in the grid. It was informed that data for the substation and elements are being taken from SPOORTHI Portal.
12. In the 138th PCSC meeting forum requested SRLDC to give login credentials to the PCSC forum members for entry in the portal or they can replicate a similar dashboard under SPOORTHI portal. SRLDC stated that they would check and update in this regard.
13. In the 140th PCSC meeting SRPC requested SRLDC to take up issues with the respective SLDCs whenever erratic SCADA data is observed, so that the issues can be addressed in real time. SRLDC agreed to inform their SCADA department accordingly.
14. All entities were requested to enter the details in the portal regarding the new elements added in the grid on regular basis.

Deliberations:

1. SRLDC informed that, during the mid of May 2026, the generation in the Kudankulam Islanding Scheme (IS) area exceeded the load demand, whereas for the remaining period of the month, the load demand was higher than the generation. SRLDC further informed that the generation-to-load (G/L) ratio remained above 1.00 for nearly 50% of the time and Kudankulam average load demand 5400 MW for the month of May 2026.
2. SRPC observed that the load in the Kudankulam Islanding Scheme remained on the higher side for most of the time and advised TANTRANSCO and KSEBL to verify the load mapping and assess the load growth within the Kudankulam Islanding Scheme. SRLDC was requested to coordinate with TANTRANSCO and KSEBL regarding load growth in Kudankulam IS.
3. SRLDC further informed that Tuticorin Units 1 and 2 and Sabarigiri Unit-2 remained under outage throughout the month of May 2026. Further, Lower Periyar Unit-3

remained under outage for ten days during May 2026, which contributed to the lower generation-to-load (G/L) ratio.

4. SRLDC further informed that, in the Neyveli Islanding Scheme, generation remained higher than the load throughout the month of May 2026 and the generation-to-load (G/L) ratio remained above 1.1 for about 85% of the time. SRLDC also informed that Kadanparai Units 1, 2 and 4 remained under outage for certain periods during May 2026. In addition, Kundah-IV Unit-1 and ILFS Unit-1 were also under outage for some duration during the month.
5. SRPC enquired about the substantial reduction in generation and the high demand in the Hyderabad Islanding Scheme. In response, SRLDC informed that Ramagundam Units 1, 3, 5,6 and 7 were under outage, which resulted in lower generation in the islanding scheme.
6. SRLDC vide mail dated 06-07-2026 furnished the new elements added in the grid, as per the PSSE case for June 2026.

From_Bus	To_Bus	From_Name	To_Name	ID	From_Bus_Area_Name	To_Bus_Area_Name
414067	414071	ANANTHAPUR 400.00	RVSPL_ANP 400.00	1	SR_ISTS_AP	ANP_W
414067	414071	ANANTHAPUR 400.00	RVSPL_ANP 400.00	2	SR_ISTS_AP	ANP_W
432030	432104	HASAN-PG 220.00	HNPURA 220.00	D 1	SR_ISTS_KA	KARNATAKA
441880	441926	HOSUR21 110.00	ZUZUVAD1 110.00	2	TAMILNADU	TAMILNADU
442077	442247	SINGARAPET 230.00	SATHAMADURAI 230.00	K 1	TAMILNADU	TAMILNADU
442123	442247	TRVLM-N 230.00	SATHAMADURAI 230.00	K 1	TAMILNADU	TAMILNADU
452024	452038	TRIVENDRUM 220.00	NEWKATAK ADA 220.00	M 1	SR_ISTS_KL	KERALA
412195	414063	TALAYAPALM2122 0.00	TALLAYAPALEM 400.00	2	ANDRAPRADESH	ANDRAPRADESH
412230	414067	ANANTHAPUR 220.00	ANANTHAPUR 400.00	5	SR_ISTS_AP	SR_ISTS_AP
412230	414067	ANANTHAPUR 220.00	ANANTHAPUR 400.00	6	SR_ISTS_AP	SR_ISTS_AP
412230	414067	ANANTHAPUR 220.00	ANANTHAPUR 400.00	7	SR_ISTS_AP	SR_ISTS_AP
441017	444063	KORATR21 110.00	KORATTUR	1	TAMILNADU	TAMILNADU

			400.00			
441017	444063	KORATR21 110.00	KORATTUR 400.00	2	TAMILNADU	TAMILNADU
441716	444030	KAYATHAR41 110.00	KAYATHAR 400.0 0	5	TAMILNADU	TAMILNADU

Recommendations:

✚ **Nodal SLDCs of the Islanding Schemes to monitor new elements being added across the island boundaries of the respective islanding scheme and to ensure implementation of UFR at islanding frequency.**

✚ **SRLDC to monitor the transmission elements getting added across interstate boundaries affecting the existing IS and intimate the same to respective SLDCs for UFR implementation.**

15. Furnishing of Monthly Certificate on Healthiness of Islanding Schemes by Generators/ Transmission Utilities / SLDCs/ DISCOMS

1. All Constituents as listed below were requested to submit certificate on Healthiness of Islanding Schemes on monthly basis –by the first week of every month (i.e. status for a month shall be sent before the 3rd day of the succeeding month) to SRPC as per the formats, circulated vide SRPC letter dated 09 August 2021:

Islanding Scheme	Constituents
Hyderabad (Ramagundam) IS	TGTRANSCO, SLDC-TGTRANSCO, TGGENCO, PGCIL (SR-I), NTPC-Ramagundam
Chennai IS	TANTRANSCO, SLDC-TANTRANSCO, PGCIL (SR- II)
Neyveli IS	TANTRANSCO, SLDC-TANTRANSCO, PGCIL (SR- II), PED, NLCIL, NNPTPS, KSEBL
Kudankulam IS	TANTRANSCO, SLDC-TANTRANSCO, PGCIL (SR- II), KSEBL
Visakhapatnam (Simhadri) IS	APTRANSCO, SLDC-APTRANSCO, APGENCO, PGCIL (SR-I), NTPC-Simhadri
Bengaluru IS	KPCL, KPTCL, PGCIL (SR-I), PGCIL (SR-II), UPCL, NTPC-Kudgi, NPCIL-Kaiga
Vijayawada IS	APTRANSCO, SLDC-APTRANSCO, APGENCO, PGCIL (SR-I)

2. As decided in 112th Meeting of PCSC held on 06th November 2023, all Utilities concerned are requested to furnish the certificate in the prescribed format regularly (before 7th day of every month) for onward reporting to CEA/ MoP.
3. The Certificate of Healthiness of Islanding Schemes for the month of **May 2026** has been received from all the utilities.

Recommendations:

 **All the entities concerned to submit the certificate of Healthiness of Islanding Schemes on monthly basis, by the first week of every month (i.e. status for a month shall be sent before the 7th day of the succeeding month), to SRPC as per the formats circulated, vide SRPC letter dated 09th August 2021.**

12. Ensuring Readiness of Islanding Schemes

1. In view of the prevailing security concerns across the country and as per the directions issued by the Ministry of Power, it is imperative to ensure the operational reliability and effectiveness of the existing Islanding Schemes. Accordingly, all Nodal Load Despatch Centres (SLDCs), State transmission utilities and ISTS transmission licensees are requested to ensure the following in respect of Southern Region Islanding Schemes (IS) under their jurisdiction:

Sl. No.	Activity	Entity Responsible
1	Testing and verification of all stages of Under Frequency Relays (UFR) and df/dt relays within the Islanding Scheme were requested to be ensured.	Nodal SLDC, STU & ISTS
2	Testing and verification of other relay set points, such as Under Frequency (U/f) and Over Frequency (O/f) settings of the participating generators, PILM feeders, etc., identified within the Islanding Scheme, were advised to be carried out.	Nodal SLDC, STU & ISGS Stations within the Island
3	Confirmation regarding the operational healthiness and readiness of the Islanding Schemes was requested to be provided.	Nodal LDC
4	Continuous monitoring of the Islanding Schemes through SCADA visibility in the LDCs was advised to be ensured.	Nodal LDC

2. Following are the nodal LDCs of the Islanding Schemes of SR:

Islanding Scheme	Nodal LDC
Vijayawada & Vishakhapatnam IS	AP SLDC
Bengaluru IS	KAR SLDC
Chennai IS	TN SLDC
Hyderabad IS	TG SLDC
Neyveli IS	TNSLDC, KERSLDC, PUDSLDC, SRLDC
Kudankulam IS	TNSLDC, KERSLDC, SRLDC

- SRPC, vide email dated 14.05.2025, requested that a report of confirmation of the above may please be shared to SRPC at the earliest.
- APTRANSCO, vide mail dated 02.06.2025, informed that testing and verification of test points was done and found satisfactory.
- Subsequently, TGTRANSCO, TANTRANSCO, KPTCL & PED had confirmed the testing and verification of UFR relays under their purview.
- In the 133rd PCSC meeting PGCIL SR-I informed that they do not have standalone UFR relays and that actual UFR testing would be carried out during Line Clearance (LC). They further confirmed that the physical setting of test points in the relay display had been verified and that testing would be completed during LC.
- In the 134th PCSC meeting KSEBL confirmed that AUFR testing verification was completed.

✚ **All SLDCs to ensure monthly verification of set points.**

✚ **All Nodal Load Despatch Centres (SLDCs), State transmission utilities and ISTS transmission licensees to furnish confirmation report on Island Readiness to SRPC immediately.**

13. Review of SR-Islanding Schemes

1. Due to the variation in generation and load growth in the already designed Islanding Schemes, the Annual Review of SR Islanding Schemes is being undertaken every year.
2. Accordingly, the review meetings of all SR Islanding Schemes were conducted as per the schedule given below:

Sl. No.	Islanding Scheme	Date of Review Meeting			Date of Issuance of Reviewed IS Document
		Review meetings →	1 st Review	2 nd Review	3 rd Review
1	Hyderabad		11.06.2025	25.09.2025	17.02.2026
2	Bangalore		11.06.2025	09.12.2025	17.02.2026
3	Vijayawada		11.07.2025	25.09.2025	----
4	Visakhapatnam		11.07.2025	25.09.2025	17.02.2026
5	Chennai		15.07.2025	09.12.2025	17.02.2026
6	Neyveli		15.07.2025	16.12.2025	-----
7	Kudankulam		15.07.2025	16.12.2025	-----

Deliberations:

1. With respect to the review of Islanding Schemes, all Transcos/SLDCs to identify some loads, preferably on a priority basis to shed, in order to achieve the load Generation balance of the island before its formation, if LGB is unfavourable at that point. Quantum of such loads may be identified at various LGB scenarios (to

shed prior to the islanding), say at frequency 48.4 Hz, and may be worked out depending upon the maximum Load Generation gap +/- some moderation point.

- The quantum of load reduction shall correspond to the actual Load–Generation gap at that frequency, with some moderation, up to the maximum recommended load quantum limit.
 - If the gap exceeds the maximum limit, only the maximum load quantum will be curtailed.
 - If the gap is less than the maximum limit, only that actual quantum will be curtailed.
- 2. SRPC highlighted that, considering the highly varying nature of generation, pre-Islanding load reduction is essential and needs to be implemented to improve the survivability of the Island.
- 3. In this regard, it was decided to form a committee to analyse the feasibility of implementing pre-Islanding load reduction dynamically through SCADA.
- 4. In line with the deliberations in 135th PCSC meeting, the Committee would consist of members from SLDCs, STUs, SRLDC, and SRPC and outlined the following Terms of Reference (ToR):
 - Evaluate and identify feasible method(s) to implement the load reduction of the island through the existing SCADA system.
 - If not feasible with the existing SCADA, identify feasible method(s) to implement after on-going up gradation of the SCADA system.
 - To recommend feasible alternate approaches.
- 5. The First meeting of the committee was held on **26th November 2025** to recommend feasible methods to implement pre-islanding load reduction in Electrical Islands of SR. The committee deliberated on the concerns raised by some of the SLDCs, with respect to the capability and limitations of the existing SCADA systems, considering the ADMS implemented through SCADA. One of the OEMs presented about the latest features available in the SCADA systems. The Second Committee meeting was held on **09.02.2026**.
- 6. A comprehensive final report of the Committee was prepared subsequent to the group visit to Tata Power, Trombay Sub-SLDC, Mumbai, conducted on 29th May 2026, with the objective of familiarizing the Committee members with the practical aspects of implementing pre-islanding load reduction, in accordance with the deliberations held during the Third Meeting of the Committee on 04th May 2026. Accordingly, final report of the Committee for finalizing Implementation Methodology for Pre-islanding Load Reduction was issued via mail dated 06.07.2026.
- 7. The Committee noted that pre-islanding load reduction is implementable and suggests all the concerned utilities to adopt the possible ways for implementation of pre-islanding load reduction.
- 8. SRPC enquired regarding the implementation status of Vijayawada, Visakhapatnam and Chennai Islanding Schemes. APTRANSCO informed that SCADA mapping and implementation activities for Vijayawada Islanding Scheme has been completed. Further, it was informed that for Visakhapatnam Islanding Scheme, SCADA mapping has been completed and implementation activities were pending.

9. TANTRANSCO informed that, as per the Chennai Islanding Scheme review document, load relief is required to be provided at 27 locations. TANTRANSCO further informed that the work at 11 out of the 27 locations has been completed, while the works at the remaining locations are pending due to non-availability of line clearances and UFR relays. TANTRANSCO informed the load relief implementation is expected to complete by 31st August 2026.
10. In addition to the above, all Transcos/SLDCs are requested to furnish the following:
- Validated SCADA / Energy meter data pertaining to the Islanding Scheme (IS) for the April 2024 to March 2025 period.
 - Average of SCADA data for every 1- hour intervals (computed for the year 2024-25).

The data shall be provided in the following format (Excel file):

From 01-04-2024 to 31-03-2025 (Time Slot)	Average Island Generation without RE Generation (MW)	Average Island Generation with RE Generation (MW)	Average Island RE Generation (MW)	Average Island Load (MW)
00:00:00 to 01:00:00 Hrs				
01:00:00 to 02:00:00 Hrs				
...				
23:00:00 to 24:00:00 Hrs				

Status of receipt of the above data:

S.no	Name of Islanding Scheme	Latest Status
1	Hyderabad IS	✗
2	Chennai IS	✗
3	Kudankulam IS	✗
4	Bengaluru IS	✗
5	Neyveli IS	✗
6	Visakhapatnam IS	✗
7	Vijayawada IS	✗

✓ -- Furnished

✗ -- Not Furnished

14. Nodal Officer Details for Islanding Schemes — Role, Responsibility & Coordination Activities

As per the Standard Operating Procedure (SOP) (Annexure-13) for Islanding Schemes,

- Roles and responsibilities of the organizations/officers involved in designing and operating the Islanding Schemes are defined in *Annexure-III* of the SOP.
- A **Nodal Officer** is to be nominated by each utility participating in the Island (owners of generating stations, substations, transmission lines, distribution lines, etc.) along with a **Chief Nodal Officer** from the concerned Despatch/Control Centre.
- The Chief Nodal Officer from the LDC and utility-specific Nodal Officers shall ensure free flow of information regarding operational status of the Islanding Scheme and prompt communication between SCADA Control Centres and stations.
- Further, each RLDC shall designate a **Coordination Officer** for regional level monitoring.

Entity	Required Level of Nodal Officer	Key Role/Responsibility
RPCs (Regional Power Committee)	<i>Superintending Engineer</i> (nominated by Member Secretary, RPC)	Preparation, coordination, and periodic review of Islanding Schemes
RLDCs (Regional Load Despatch Centres)	<i>General Manager & above</i>	Coordinating Nodal Officer for region; monitor vital parameters of schemes at SCADA; recommend PMUs/ communication upgrades; certify healthiness of systems
LDCs (State Load Despatch Centres)	<i>Chief Engineer & above</i>	Chief Nodal Officer at state level; coordinate DISCOM/TRANSCO/ GENCO nodal officers; ensure proper data flow; monitor health of SCADA, relays, communication; certify components monthly; implement schemes at state level.
GENCOs (Generating Companies)	<i>General Manager / Chief Engineer & above</i>	Implement schemes at generation end; provide data for study/review; ensure healthiness of generating units, relays, communication; submit monthly certification
STUs / PGCIL (Transmission Utilities)	<i>General Manager / Chief Engineer & above</i>	Implement schemes at transmission end; ensure healthiness of substations, lines, relays, communication; provide data for review; monthly certification.
DISCOMs (Distribution Companies)	<i>General Manager / Chief Engineer & above</i>	Identify essential and defence loads; implement schemes at distribution end; ensure feeder/relay/communication health; monthly certification.

- An updated list of contact details of all such Nodal Officers is to be maintained by the LDC.

- SLDC, STU, SGS, ISGS, ISTS & RLDC were requested to furnish the details in the below format
- SLDCs to coordinate with respective DISCOMs w.r.t nomination of nodal officer and discharge of IS related responsibilities.

Utility Name & Location	Name	Designation	Organization	Email ID	Mobile No.

The latest status of nominations received is as below:

S.No	Name of Islanding Scheme	STU	SLDC	Gencos
1	Telangana	✓	✓	✓
2	Andhra Pradesh	✓	✓	✓
3	Tamil Nadu	✓	✓	✗
4	Karnataka	✓	✓	✓
5	Kerala	✓	✓	✓
6	Puducherry	✓	✓	NA
7	PGCIL (SR)	✓	NA	NA
8	NTPC (SR)	NA	NA	✓
9	NPCIL KGS 1&2	NA	NA	✓
10	NPCIL KGS 3&4	NA	NA	✓
11	NPCIL MAPS	NA	NA	✓
12	NPCIL KKNPP	NA	NA	✓
13	ADANI (APL/ATL)	✗	NA	✓
14	HNPCL	NA	NA	✓
15	NLCIL	NA	NA	✓
16	SRLDC	✓		

✓ -- Furnished

✗ -- Not Furnished

NA- Not Applicable

✚ Utilities to furnish the details of Nodal Officer as per the SoP.

15. Periodic Inspection / Audit of Essential Components of Islanding Schemes

As per the Standard Operating Procedure (SOP) for Islanding Schemes, periodic inspection / audit of all essential components is required to ensure continued healthiness and operational reliability. The SOP specifies the following frequency and scope:

- ❖ **Under Frequency Relays (UFR)** on Island forming elements (Lines & ICTs) – *Quarterly*
- ❖ **Associated communication equipment** at all stations within the Island – *Bi-monthly*
- ❖ **Associated DC supply** for control panels and communication systems – *Bi-monthly*

The inspection / audit is to be carried out by a **third party** and the reports submitted to the respective RPC

- In the 138th PCSC meeting, all STUs expressed concern regarding the practical feasibility of implementing the third-party audit frequency of essential components as notified in the SOP.
- SRPC informed that the matter of periodic inspection/audit frequency of essential components in Islanding Schemes had been taken up with the NPC. It was further stated that till any revision of the SOP is notified by NPC, the existing frequency for third-party audit, as specified in the SOP, needs to be complied.

 **All Island Participating Utilities to ensure the same.**

16. Monitoring of Vital Parameters for Islanding Schemes

As per the Standard Operating Procedure (SOP) for Islanding Schemes:

- Continuous monitoring of critical system parameters is essential since Island formation can occur at any time.
- The following parameters must be monitored on a real-time basis within the electrical boundary of each Island:
 - Anticipated / actual **generation**
 - Anticipated / actual **load**
 - **Voltage, frequency, and power flows** on peripheral lines that are to be tripped to form the Island
- A **dedicated SCADA page** for each Islanding Scheme is to be created in the control rooms / despatch centres (Sub-SLDCs / SLDC / RLDC / NLDC) to display these parameters. If required, **PMUs or other measuring instruments** should be installed at suitable locations.
- **RLDCs/SLDCs are to submit monthly data** in the prescribed format to RPCs certifying the healthiness of the communication system used for monitoring these parameters.

S. No.	Name of Islanding Scheme	Healthiness of Communication Channel

Deliberations:

1. SRPC informed that as per the Standard Operating Procedure (SOP) for Islanding Schemes, following parameters, within the electrical boundary of each Island, must be monitored on a real-time basis:
 - Anticipated / actual generation
 - Anticipated / actual load
 - Voltage, frequency, and power flows on peripheral lines that are to be tripped to form the Island
2. RLDC/SLDCs were requested to furnish monthly data, in the prescribed format, to SRPC certifying the healthiness of the communication system used for monitoring these parameters.

SRLDC & SLDCs to furnish the healthiness certifying the Monitoring of Vital Parameters

17. Certificate for Healthiness of Batteries

- (i) As per the MoP direction, given in pursuant to recommendations of the Enquiry Committee (NEW grid disturbance on 30th & 31st July, 2012), *the monthly certificate for healthiness of batteries, installed at 220 KV and above voltage level Substations (for power supply to Relays, RTUs and PLCC equipment)* are required to be obtained by RPCs, from their respective Constituents and furnish the same to CEA/ MoP.
- (ii) With reference to above, the Constituents have been requested to submit the certificate on healthiness of batteries on monthly basis (i.e. status for a month shall be sent by the 7th day of the following month) to SRPC Secretariat.
- (iii) The Certificate of Healthiness of Batteries has been received from all the entities for the month of **May 2026**.

Deliberations:

1. The Certificate of Healthiness of Batteries had been received from all the entities for the month of **May 2026**.
2. SRPC requested all the entities to mention appropriate action plan, with respect to unhealthy batteries, in the monthly status of battery healthiness report.

18. Compliance by the Users of the Grid

Submission of Annual Audit Plans by the State embedded Users/IPPs

- (i) Clause (5) of Regulation 15 of IEGC Regulations, 2023 envisages as below:

Quote

(1) *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).

- (2) *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*

.

- (5) *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."*

Unquote

As per the above Regulations, Users (Entities/Embedded entities/IPPs connected at 220kV & above voltage level) shall furnish the annual audit plans (Internal & third party) for the next financial year to SRPC by 31st October of every year.

- (ii) In the PCSC meetings, it was observed that some users especially State embedded entities/IPPs (including RE) connected at 220kV & above voltage level) have not submitted the Annual Audit Plans.
- (iii) In various meetings, it was requested to SLDCs/TRANSCOs to take up with the Users (Entities/Embedded entities/IPPs connected at 220kV & above voltage level) to furnish the **Audit Plan, both Internal as well as Third party audit plan.**
- (iv) Similarly, SRLDC was requested to take up with ISTS connected entities/Users (including RE) and ensure the submission of Protection Performance Indices and both audit plan.
- (v) State SLDCs/TRANSCOs had been requested to take up with the respective entities to furnish the audit plan both Internal as well as Third Party audit plan for FY 2025-26.

Recommendations:

✚ SLDCs/TRANSCOs to ensure submission of the internal & third-party audit plans by all Users (Entities/Embedded entities/IPPs connected at 220kV & above voltage level).

✚ SRLDC to take up with ISTS connected entities/Users (including RE) and ensure submission of Protection Performance Indices as well as internal & third-party audit plans.

✚ SLDCs/SRLDC to issue non-compliance letters to the Users (Entities/Embedded entities/IPPs connected at 220kV & above voltage level), which are not complying with the Regulations.

✚ Submission of the Flash Report/ DR / EL / Detailed Report of the Grid Events

- (i) Regulations 37(2) of IEGC 2023 envisages below:

37(2) System Security Aspects

Regulation 37(2) of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023, all the Regional Entities of Southern Region

subsequent to the incident, including the intimation, flash report, data from Disturbance Recorder (DR), Station Event Logger (EL), Data Acquisition System (DAS) and Detailed Reports are to be submitted, allowing for comprehensive analysis within defined time frames.

Sr. No.	Grid Event* (Classification)	Flash report submission deadline (users/ SLDC)	Disturbance record and station event log submission deadline (users/ SLDC)	Detailed report and data submission deadline (users/ SLDC)	Draft report submission deadline (RLDC/ NLDC)	Discussion in protection committee meeting and final report submission deadline (RPC)
1	GI-1/GI-2	8 hours	24 hours	+7 days	+7 days	+60 days
2	Near miss event	8 hours	24 hours	+7 days	+7 days	+60 days
3	GD-1	8 hours	24 hours	+7 days	+7 days	+60 days
4	GD-2/GD-3	8 hours	24 hours	+7 days	+21 days	+60 days
5	GD-4/GD-5	8 hours	24 hours	+7 days	+30 days	+60 days

^ The classification of Grid Disturbance (GD)/Grid Incident (GI) shall be as per the CEA Grid Standards.

- (ii) In the earlier PCSC Meetings, it was decided that SRLDC to issue non-compliance notices to entities that do not follow the timelines stipulated in the IEGC regulations. SRLDC to sensitize the entities & SLDCs on the above Regulations and SRLDC to take up with the entities that have not furnished the required details/information in the specified formats and ensure that all the details of the grid event are available in the portal.

Recommendations:

-  **All the users shall adhere to the above Regulatory Provisions and the Timelines.**
-  **SRLDC to take up with the entities that had not furnished the required details/information in the specified formats and ensure that all the details of the grid event are available in the portal.**

19. Implementation of OVR gradings for 400 kV and 765 kV Transmission Lines of Southern Region (SR)

1. A comprehensive exercise for OVR grading of 400 kV and 765 kV transmission lines of the Southern Region (existing/known elements as on March 2026) has been carried out.
2. SRPC, vide mail dated 10.03.2026, circulated the draft OVR gradings for 400 kV and 765 kV Transmission Lines of Southern Region (SR).
3. After incorporating the received comments appropriately, the OVR, Stage-I gradings to be adopted for 400 kV and 765 kV lines in the Southern Region is finalized and circulated vide SRPC Letter dated 17.04.2026 enclosed at **Annexure-19** for kind implementation.
4. The OVR gradings as applicable to the respective system shall be implemented by the Constituent/ Utility concerned **with immediate effect**. Utilities concerned are requested to confirm implementation of new OVR gradings by filling the below form, latest by **30.04.2026**.
5. In this regard, it may be noted that the concerned utility shall update the implementation status in the above form only after successful implementation of OVR gradings for all lines under its jurisdiction.

6. The Confirmation of Revised OVR grading's is received from KSEBL, APTRANSCO, TGTRANSCO, JSWEL, KPTCL, KPCL, PGCIL SR-II, PGCIL SR-I & NLCIL only till date.

Recommendations:

✚ All Constituents to confirm the implementation of revised OVR gradings

✚ SRLDC is also requested to take up with RE-ISTS entities for Implementation of OVR gradings

20. Submission of Static IPv4 Addresses for Whitelisting – Access to SRLDC Web Applications

In line with the deliberations held during the 138th PCSC Meeting dated 07-01-2026, and as communicated vide the letter issued by the Chief Information Security Officer, SRLDC (CISO-SRLDC) (**Annexure-20**), which was also circulated vide email dated 12-02-2026, all users/entities are requested to furnish their Static IPv4 address details at the earliest by submitting the information through the prescribed Google Form using the link shared through mail

While submitting the details, a **letter of authorization for the IP addresses** may also be uploaded (file upload facility is available in the form). Users who have already submitted the required details need not submit them again; however, in case of any modification, the updated details may be submitted afresh. **Early submission** of the above details is requested to facilitate further necessary action related to **access control and cybersecurity compliance**.

For checking the IPv4 address, users may visit www.whatismyipaddress.com. In case of any difficulty in the whitelisting process or for any clarification, the matter may be taken up with **SRLDC** through email/official correspondence, or the undersigned may be contacted.

Recommendations:

✚ All the users shall furnish the static IP address to SRLDC.

21. Third Party Protection Audit of Stations due to severe Grid Occurrences

As per the clause 15(3) of IEGC regulations 2023

Quote

“After analysis of any event, each RPC shall identify a list of substations / and generating stations where third-party protection audit is required to be carried out and accordingly advise the respective users to complete third party audit within three months.”

Accordingly, in line with the IEGC regulations considering severe Grid occurrences affecting the stability of Grid the following stations are recommended for Third party Protection Audit of substations through External agency and are requested to submit the Report **Within 90 days** from the date of the PCSC forum recommendation.

S. No	Name of station	Voltage Level	Utility	Remarks
1	Koppal Pooling Station	400kV	Indigrid	Frequent Grid occurrences with Protection Issues observed in 141 st , 142 nd & 143 rd PCSC Meeting
2	Kalpakka	400kV	APTRANSCO	Frequent Trippings of NTPC-Simhadri, Kalpakka lines affecting Generation and Protection related issues of AR operation etc observed.
3	Kemar	220kV	KPTCL	Frequent Tripping with unwanted protection operations leading to Generation loss of 400kV UPCL. In 143 rd PCSC meeting due to incorrect operation of Kemar 600 MW Generation loss is seen.

Deliberations:

1. SRPC advised IndiGrid, APTRANSCO and KPTCL to carry out third-party protection audits at 400 kV Koppal Pooling Station, 400 kV Kalapaka and 400 kV Kemar Substations, respectively, and to submit the audit reports within the stipulated time(90days).
2. KPTCL informed that the issues related to Transfer of Trip (ToR) and auto-reclosure at the 400 kV Kemar station had been rectified and requested that the station be excluded from the proposed third-party protection audit.
3. SRPC emphasized the need to conduct the third-party protection audit at the 400 kV Kemar station, considering that the grid disturbances at Kemar had resulted in a generation loss of about 600 MW at the UPCL generating station (Grid Disturbance of 143rd PCSC).

22. High Short Circuit Levels in 220kV & above substations in SR -region

As per the ATC Peak Demand case file submitted by SRLDC (**Annexure-22**) vide email dated 25.06.2026, it is observed that the following stations in the SR region are experiencing high three-phase short-circuit currents, and the short-circuit levels are exceeding the fault level capacity of station equipment.

The concerned utilities of the stations mentioned below are advised to submit the details of necessary actions taken/planned to mitigate the short-circuit levels.

Bus Number	Name	Utility	Unit	Current	Angle
412021	[TALLAPLLI 220.00]	APTRANSCO	AMP	40884.3	-133.36

412025	[VTS 220.00]	APGENCO	AMP	47420.2	-130.4
412038	[NUNNA 220.00]	APTRANSCO	AMP	40187.5	-130.2
414010	[KURNOOL4 400.00]	APTRANSCO	AMP	54271.1	-130.82
414013	[VTS-IV 400.00]	APGENCO	AMP	40649.2	-128.62
414021	[SATENAPALI4 400.00]	APTRANSCO	AMP	40440.5	-128.74
414029	[NELLORE-AP4 400.00]	APTRANSCO	AMP	59663	-128.39
414030	[SDSTPS 400.00]	APGENCO	AMP	45455.2	-128.15
414058	[SEIL-P2_AP 400.00]	SEIL	AMP	41888	-128.1
414060	[GREENCO_CPSS400.00]	GREENKO	AMP	48684.1	-132.56
414064	[GREENCO_PSP 400.00]	GREENKO	AMP	44470.6	-133.47
422003	[GHANAPUR 220.00]	TGTRANSCO	AMP	41750.4	-132.08
422023	[BPD 220KV SS220.00]	TGTRANSCO	AMP	42323.5	-129.94
422024	[MALKARAM 220.00]	TGTRANSCO	AMP	49612.7	-130.91
422031	[MMP 220 BUS 220.00]	TGTRANSCO	AMP	46976.1	-131.47
422037	[HIAL 220.00]	TGTRANSCO	AMP	42270.9	-131.58
422144	[RAIDURG 220.00]	TGTRANSCO	AMP	40562.3	-131.36
424006	[MAMIDIPALLI 400.00]	TGTRANSCO	AMP	47107.4	-129.26
424019	[DINDI 400.00]	TGTRANSCO	AMP	44445.5	-130.42
424022	[MAHES-TS 400.00]	TGTRANSCO	AMP	66567.5	-127.77
860090	[ZSWSH_860090400.00]	TGTRANSCO	AMP	44445.5	-130.42
424002	[RSTPS NTPC 400.00]	NTPC	AMP	41549.8	-128.26
424043	[RSPTS_FSP 400.00]	NTPC	AMP	41549.8	-128.26
434006	[RAICHUR TPS 400.00]	KPCL	AMP	42740.9	-127.58
442015	[BASINBRIDGE 230.00]	TANTRANSCO	AMP	43886.8	-134.97
442016	[CHECKN42 230.00]	TANTRANSCO	AMP	40400.7	-126.22
442038	[KOYAMBEDU 230.00]	TANTRANSCO	AMP	41290.9	-134.65
442076	[SPBUDUR2 230.00]	TANTRANSCO	AMP	46918.9	-136.14
442082	[TARAMANI 230.00]	TANTRANSCO	AMP	42229.5	-134.79
442083	[TONDIARPET 230.00]	TANTRANSCO	AMP	41807.6	-134.96
442119	[KOYCMRL 230.00]	TANTRANSCO	AMP	40095.6	-134.62
442128	[ALDRCMRL 230.00]	TANTRANSCO	AMP	40926.1	-134.47
442129	[GUINDY 230.00]	TANTRANSCO	AMP	42229.6	-134.52
442151	[RAPURAM 230.00]	TANTRANSCO	AMP	41250.3	-134.59
442216	[PULIYANTHOP 230.00]	TANTRANSCO	AMP	44001.7	-134.98
414001	[GOOTY 400.00]	APTRANSCO	AMP	41885.5	-131.18
414003	[NELLORE-PG 400.00]	PGCIL SR-I	AMP	59663	-128.39
414004	[CHINAKMPALLI400.00]	PGCIL SR-I	AMP	45138.7	-131.89
414006	[CNP-FSC2 400.00]	PGCIL SR-I	AMP	45138.7	-131.89
414023	[NELLORE-PS 400.00]	PGCIL SR-I	AMP	58106.5	-128.22
414031	[KURNOOL-PG 400.00]	PGCIL SR-I	AMP	58351.4	-131.2
414032	[GTYNLM-FSC 400.00]	PGCIL SR-I	AMP	41885.5	-131.18
414033	[GTYSMN-FSC 400.00]	PGCIL SR-I	AMP	41885.5	-131.18
414052	[CUDDAPA GIS 400.00]	PGCIL SR-I	AMP	45138.7	-131.89
424003	[GHANAPUR 400.00]	PGCIL SR-I	AMP	40253.6	-130.05
424004	[KHAMMAM 400.00]	PGCIL SR-I	AMP	41958.6	-129.24
424021	[MH SWRM-PG 400.00]	PGCIL SR-I	AMP	66960.5	-127.73
434008	[TUMKUR 400.00]	PGCIL SR-II	AMP	41218.7	-132.67
434009	[RAICHUR-PG 400.00]	PGCIL SR-II	AMP	44929.3	-128.03

444005	[TIRUNELVELLI400.00]	PGCIL SR-II	AMP	45245.2	-126.43
414012	[SIMHADRI400.00]	NTPC	AMP	38197.1	-124.24

Deliberations:

1. APTRANSCO informed that the high short-circuit levels at the APTRANSCO substations listed above had been observed. APTRANSCO further informed that a detailed short-circuit study would be carried out for these substations and the findings, along with the proposed mitigation measures, would be submitted to SRPC.
2. APGENCO informed that the short-circuit level at 400 kV SDSTPS Stage-I is 45.45 kA, whereas the installed circuit breakers are rated for 40 kA. SRPC enquired about the mitigation measures proposed by APGENCO to address the issue. In response, APGENCO informed that the matter would be discussed with the Power System Wing of APTRANSCO and that the details of the mitigation measures would be furnished subsequently.
3. APTRANSCO enquired about the possible mitigation measures for reducing the short-circuit levels. In response, SRLDC informed that the installation of a bus series reactor at the 400 kV Thiruvalem substation had significantly reduced the short-circuit levels. SRLDC further informed that other measures, such as the installation of line series reactors and implementation of bus splitting schemes, could also help in reducing the short-circuit levels.
4. TGTRANSCO informed that 220 kV Ghanapur and 220 kV Malkaram substations are connected through LILO arrangements at Moulali. TGTRANSCO further informed that bus-split operation at Moulali is being planned to reduce the short-circuit levels at 220 kV Ghanapur and 220 kV Malkaram substations.
5. TGTRANSCO further informed that bus sectionalization at the 400 kV Maheshwaram substation has been planned and approved with a view to reducing the fault levels at the station.
6. NTPC, RSTPS informed that, during the third-party protection audit carried out at the 400 kV RSTPS substation, the short-circuit levels had been examined and were found to be within the circuit breaker ratings. SRPC, however, stated that recent studies indicate an increase in the fault levels and advised NTPC, RSTPS to take necessary mitigation measures. In response, NTPC, RSTPS informed that the matter would be discussed with its engineering team and that the details of the proposed mitigation measures would be furnished subsequently.
7. KPCL informed that the existing short-circuit level at the 400 kV Raichur substation is 42.74 kA. However, KPCL further informed that the equipment ratings at the 400 kV Raichur substation have recently been upgraded to 63 kA.
8. TANTRANSCO presented the following regarding the high short circuit levels at TN substations.

Bus No.	Substation Name	Short-circuit current as per the ATC Peak Demand case file	Circuit breaker rating available
442015	Basin Bridge	43886.8 A	40 kA
442016	Checkanurani_230	40400.7 A	Out of 11 bays, 6 bays having 50 kA and 5 bays having 40 kA

442038	Koyembedu	41290.9 A	Out of 7 bays, 5 bays having 50 kA and 2 bays having 40 kA
442076	Sriperumpudur	46918.9 A	All bays having 50 kA
442082	Tharamani	42229.5 A	All bays having 50 kA
442119	Koyembedu CMRL	40095.6 A	All bays having 50 kA
442083	Tondiarpet	41807.6 A	Out of 8 bays, 1 bay having 50 kA and the remaining bays having 40 kA
442128	Alandur CMRL	40926.1 A	All bays having 50 kA
442129	Guindy	42229.6 A	All bays having 50 kA
442151	RA Puram	41250.3 A	All bays having 50 kA
442216	Puliyanthope	44001.7 A	All bays having 50 kA

9. TANTRANSCO informed that action has already been initiated to replace the existing 40 kA-rated equipment with 50 kA-rated equipment in all the bays of the substations listed in the above table.
10. PGCIL SR-I informed that the ATC Peak Demand case file submitted by SRLDC would be shared with its engineering team for validation. PGCIL SR-I further informed that the necessary measures would be implemented in accordance with the recommendations of CTUIL.
11. APGENCO, 400 kV VTS-IV informed that all the circuit breakers associated with the recently commissioned 800 MW unit are rated for 50 kA, whereas the remaining breakers are rated for 40 kA. APGENCO further informed that the matter would be discussed internally and that necessary mitigation measures would be taken accordingly.
12. GREENKO confirmed that their equipment are rated for 63kA and the fault level at station is within limit.

Recommendations:

 ***SRPC advised all the concerned entities to examine the short-circuit levels at their respective substations in light of the observations made in the ATC Peak Demand case studies submitted by SRLDC and to undertake suitable mitigation measures, wherever necessary, to ensure that the fault levels remain within the interrupting capacities of the installed equipment. The entities were further advised to furnish the status of the mitigation measures undertaken and the action plan for the remaining works to SRPC at the earliest.***

23. Sending Agenda items for the PCSC meetings

The entities are requested to furnish the agenda, if any, to deliberate in the ensuing monthly PCSC meeting by 25th of the preceding month to SRPC.

24. Date & Venue of next PCSC meeting

Date & Venue of 145th PCSC meeting would be informed in due course.

25. Conclusion

MS, SRPC thanked all the participants for their active participation in the meeting. It was noted that the deliberations during the meeting were productive and informative.

SE, SRPC suggested all concerned utilities to comply with the recommendations made during the meeting and to furnish periodic updates and compliance status. This would facilitate the productive utilization of meeting time for addressing key technical issues and discussions.
