



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

दिनांक: 6 मई, 2026

सेवा में/To,

एनआरपीसी एवं टीसीसी के सभी सदस्य एवं विशेष आमंत्रित (संलग्न सूचीनुसार)
Members of NRPC & TCC & Special Invitees (As per List)

विषय: 57 वीं तकनीकी समन्वय समिति (टीसीसी) और 82 वीं उत्तरी क्षेत्रीय विद्युत समिति (एनआरपीसी)
बैठक का कार्यवृत्त।

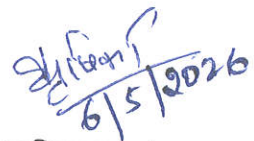
Subject: MoM of 57th Technical Co-ordination Committee (TCC) and 82nd Northern Regional Power Committee (NRPC) -reg

महोदय/महोदया,

57th meeting of the Technical Co-ordination Committee (TCC) was held on 17.04.2026 (10:00 AM) and 82nd meeting of Northern Regional Power Committee (NRPC) was held on 18.04.2026 (10:00 AM) at Rishikesh, Uttarakhand.

Minutes of the meeting is attached herewith. The same is also available on the [NRPC Website](#).

भवदीय,


6/5/2026

(ऋषिका शरण)

(Rishika Sharan)

सदस्य सचिव

Member Secretary

Copy to:

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2. Er. Sanjeev Kumar Sood, Director/Technical, PSTCL (dir-tech@pstcl.org).

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM



उत्तर क्षेत्रीय विद्युत समिति
NORTHERN REGIONAL POWER COMMITTEE



Minutes of
57th Meeting of
Technical Coordination Committee
&
82nd Meeting of
Northern Regional Power Committee

Date: 17th & 18th April 2026

Time: 10:00 AM

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***Contents**

Agenda for TCC and NRPC meeting.....	12
A.1 Approval of Minutes of the meeting of 56th TCC & 81th NRPC meeting.....	12
A.2 Status of action taken on decisions of 56th TCC & 81st NRPC meeting (Agenda by NRPC Secretariat).....	12
A.3 Replacement of 420kV 80MVAR Line reactor of 400kV Ballabgarh-Kanpur-1 line at Ballabgarh end under Add-Cap 2024-2029 (Agenda by POWERGRID).....	14
A.4 Request for certification in terms of Regulation 27(1)(c)(ii) of the IEGC, 2023, to allow declaration of COD for the Beawar S/s, LILO of both circuits of Ajmer Chittorgarh 765 kV D/C line and LILO of 400 kV Kota Merta line at Beawar (Agenda by Resonia).....	16
A.5 Procedure for approval of Protection Settings by NRPC (Agenda by NRPC Secretariat).....	19
A.6 Decision on restoration time of 400 KV Babai-Bhiwani Transmission Line after tower collapse – case of NRSSXXXVI (Agenda by NRPC Secretariat).....	21
A.7 Decision on restoration time of Transmission Line of ADHYDRO after tower collapse (Agenda by NRPC Secretariat).....	26
A.8 Decision on restoration time of 400 kV Jalandhar (PG)-Samba (PG) Transmission Line of NRSSXXIX after tower collapse (Agenda by NRPC Secretariat).30	
A.9 Decision on restoration time of 400KV AMRITSAR-BANALA-I and 400KV HAMIRPUR-BANALA Transmission Line of PGCIL (agenda by NRPC Secretariat).....	34
A.10 Static/Dynamic compensation requirement in the Northern Region Grid (Agenda by CTUIL).....	37
A.11 Communication outage Planning (Agenda by NRPC Secretariat).....	44
A.12 Resource adequacy for summer 2026 (Agenda by NRLDC).....	46
A.13 State-wise transmission constraints anticipated during high demand season of 2026 (Agenda by NRLDC).....	57
A.14 SPS for Champa-Kurukshetra HVDC (Agenda by NRLDC).....	63
A.15 Expediting transmission system related to evacuation of RE power in Western Rajasthan (Agenda by NRLDC).....	66
A.16 Rajasthan-related issues (Agenda by NRLDC).....	70
A.17 Mock testing of islanding scheme and simulation studies (Agenda by NRLDC) 74	
A.18 Non-Payment of NR Pool Account (Agenda by NRLDC).....	77
A.19 Additional Agenda 1: Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region (Agenda by CTUIL).....	79

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.20 Additional Agenda 2: Replacement/Upgradation of FOTE at ISTS Locations due to Bandwidth congestion in Northern Region (Agenda by CTUIL).....	83
A.21 Additional Agenda 3: Proposal for installation of Battery Energy Storage Systems (BESS) as Integrated Energy Storage Systems (IESS) for safe and reliable operation of the grid, at existing ISTS substations of POWERGRID and its subsidiaries in Northern Region (Agenda by POWERGRID).....	85
A.22 Additional Agenda 4: Proposal of Replacement of SAS at 765/400kV Ajmer Substation under ADDCAP (Agenda by POWERGRID).....	92
A.23 Additional Agenda 5: Proposal of Replacement of SAS at 400/220kV Kankroli Substation under ADDCAP (Agenda by POWERGRID).....	93
A.24 Table Agenda 1: Registration and Monthly Data Submission of Captive Power Plants on CEA Portal for Pan-India Monitoring (Agenda by CEA).....	94
Agenda for NRPC Meeting.....	97
B.1 Audit Report (Consolidated Receipt and Payment Account for 2024-25) based on audit conducted by external Agency hired through GeM Portal) (Agenda by NRPC Secretariat).....	97
B.2 Internal Audit of NRPC Fund for FY 2024-25 (Agenda by NRPC Secretariat).....	98
B.3 Annual Membership of NRPC for FY 2026-27 (Agenda by NRPC Secretariat).....	98
B.4 Status of Expenditure incurred during Quarter-3 and Quarter-4 of FY 2025- 26 from NRPC Fund and Annual expenditure during FY 2025-26 (Agenda by NRPC Secretariat).....	101
B.5 Capacity Building /Study Programmes on International Best Practices in Energy Transition for Constituents of Northern Regional Power Committee (Agenda by NRPC Secretariat).....	103
B.6 Annual Budget of NRPC Secretariat for FY 2026-27 (Agenda by NRPC Secretariat).....	104
B.7 Bank Interest earned in the “NRPC Fund” account (Agenda by NRPC Secretariat).....	106
B.8 Contribution towards NRPC Fund for the year 2026-27 by the Constituents (Agenda by NRPC Secretariat).....	107
B.9 Late Payment Charges for the FY 2024-25 and FY 2025-26 by Constituent Members (Agenda by NRPC Secretariat).....	108
B.10 Amendment in Conduct of Business Rules (COBR) of NRPC to include QCA as members in RE Sub-Committee (Agenda by NRPC Secretariat).....	109
B.11 Hiring of Manpower under Manpower Outsourcing Services (Minimum Wages Contract) through GeM Portal for the period 11-08-2026 to 10-08-2028 (Agenda by NRPC Secretariat).....	110
B.12 Procedure for Utilization of NRPC Guest House Charges Fund (Agenda by NRPC Secretariat).....	112
B.13 Hosting of next Physical Meeting of TCC/NRPC Forum (agenda by NRPC Secretariat).....	112

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

MINUTES
OF
57th MEETING OF TECHNICAL COORDINATION COMMITTEE
&
82nd MEETING OF NORTHERN REGIONAL POWER COMMITTEE

Time & Date of TCC meeting: 10:00 Hrs. on 17.04.2026

Time & Date of NRPC meeting: 10.00 Hrs. on 18.04.2026

Proceedings of 57th TCC Meeting

1. CTO, THDCIL welcomed all delegates to the 57th TCC and 82nd NRPC meeting at Rishikesh, Uttarakhand. He mentioned that India's power system is among the largest and most complex in the world, with installed capacity crossing 5.3 GW and peak demand nearing 250 GW, being met with near-zero deficit. He highlighted that over 50% capacity is from non-fossil sources, while grid frequency is being maintained close to 50 Hz with high discipline.

He emphasized that in the Northern Region, with vast geography and rising renewable penetration, the responsibility is greater, and forums like NRPC and TCC act as key platforms for coordination and grid discipline. He noted that increasing renewable integration and demand variability require precise and coordinated grid operation, with hydropower remaining the backbone of stability.

He further highlighted THDCIL's strategic role, including the Tehri Hydropower Complex and the Tehri Pumped Storage Project, which supports peak load management, renewable balancing, and grid flexibility. He concluded by appreciating all participants for strengthening collaboration and collective commitment.

2. Member Secretary, NRPC, Smt. Rishika Sharan welcomed all dignitaries and congratulated THDCIL for hosting the meeting. She stated that TCC is a vital forum for deliberating complex technical issues and translating them into actionable outcomes for grid reliability and resilience.

She mentioned that Ministry of Power has directed that no planned shutdown of thermal units be taken during April–August and partial outages be minimized to

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

ensure full availability. She highlighted that several states are facing resource adequacy gaps during April–June, especially during non solar hours, and requested timely power arrangements. She also emphasized the need for proper maintenance and patrolling of transmission lines/elements to ensure maximum availability and less trippings.

She noted that reserve requirements are increasing, with NR required to maintain around 8,000 MW up reserve and 7,800 MW down reserve, and urged states to comply. She also highlighted the benefits of AGC implementation for intra-state generators and requested states to take it up on priority.

She mentioned that Rihand-III generation has been shifted to NR from May 2026 to enhance TTC/ATC and stressed the importance of ensuring availability of the HVDC Champa–Kurukshetra link during summer, requesting POWERGRID to take timely action as per the recommendation made by the committee under NPC. She also raised concerns regarding low system strength in Rajasthan and suggested measures like installation of grid forming Invertors, N-1 contingency planning, synchronous condensers and timely transmission additions.

She also appreciated the quick implementation of the Delhi islanding scheme with NTPC Dadri. She concluded by thanking all participants and looking forward to meaningful discussions.

3. Chief Engineer, CEA welcomed all dignitaries and participants to the 57th TCC and 82nd NRPC meeting. He highlighted that the requirement of static and dynamic compensation in the Northern Region grid is an important issue for deliberation, especially as resource adequacy is becoming critical and non-solar peaks during April–June are increasingly difficult to meet.

He mentioned that with more RE expected to be added, these challenges will intensify, and emphasized the need for future-proof, long-term solutions. He also highlighted the importance of testing of islanding schemes and system studies, appreciating NR states for their efforts in implementing and testing such schemes.

He stressed that integration of BESS at POWERGRID substations is a key area, with CERC regulations enabling their use for grid stability and balancing solar and non-solar periods. He also mentioned SCADA upgradation and expressed hope that it will be aligned with the Make in India initiative.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

He highlighted the issue of technical minimum, noting that while 55% is currently maintained, CEA has specified 40%, and efforts are needed to enable greater RE integration. He observed that participation of state generating stations is limited due to regulatory challenges and suggested taking up such issues in OCC for resolution.

He emphasized that technical discussions should reflect policy implications for informed decision-making. He concluded by thanking THDCIL for the arrangements and expressing hope for fruitful discussions.

4. Sh. Sajjan George, Executive Director, NRLDC welcomed all dignitaries and participants to the 57th TCC and 82nd NRPC meeting. He mentioned that during the last financial year, the Northern Region witnessed significant capacity addition of around 10,000 MW, with major contribution from RE (~7,400 MW), followed by thermal (~1,300 MW), Tehri PSP (~750 MW), and BESS (~565 MW), highlighting the importance of PSP and BESS in enhancing grid flexibility and reliability.

He further mentioned that on the transmission front, about 5,400 km of ISTS lines and 50,000 MVA transformation capacity have been added, along with 10,800 MVAR of reactor capacity for voltage control. He noted that peak demand, which reached ~90 GW in 2025, may go up to ~97 GW this year due to likely adverse weather conditions, making the summer period challenging.

He emphasized the need for proper resource adequacy planning and requested states to tie up power in advance instead of relying on RTM. He also highlighted challenges due to limited gas availability and stressed accurate load forecasting, maintaining grid frequency close to 50 Hz, and avoiding load shedding.

He urged generating and transmission utilities to ensure high availability, preventive maintenance, and operational discipline, while adhering to technical minimum to facilitate RE integration. He also highlighted risks of transmission overloading and the importance of systems like ADMS, UFRs, islanding schemes, SPS, and black start facilities.

He stressed the need for skilled manpower at SLDCs and greater operational autonomy, and concluded by assuring continued support from NRLDC to all stakeholders.

5. Sh. Sanjeev Kumar Sood, Chairperson, TCC welcomed all guests and delegates. He highlighted the significant progress in the power sector, with renewable energy

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

contributing nearly 50%, rising per capita consumption, and expansion from lower voltage systems to a robust network including 400 kV and upcoming 765 kV systems.

He mentioned that NRPC meetings are valuable learning platforms, citing examples like drone-based inspection of transmission lines in Punjab, which helped identify defects and improve maintenance. He emphasized that such forums enable states to learn and adopt best practices from central utilities.

He also highlighted practical challenges at the state level, stating that rigid implementation of rules without considering ground realities can create difficulties, and stressed the need for a more proactive and practical approach in decision-making.

He concluded by urging stakeholders to take balanced and pragmatic decisions, aligning procedures with real-world constraints while supporting national growth in electricity consumption.

6. Thereafter, the agenda for the 57th TCC Meeting was presented & deliberated. The list of participants is attached as **Annexure-P**.

Proceedings of 82 nd NRPC Meeting
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1. CMD, THDC welcomed all delegates to the 82nd NRPC meeting. He described it as a crucial moment, highlighting developments such as the Bharat Electricity Summit and India achieving 50% renewable energy capacity ahead of target, along with progress in the nuclear sector.

He emphasized that increasing renewable generation and uneven consumption patterns, especially high solar output during the day with limited storage, pose challenges for grid stability. In this context, he highlighted the critical role of NRPC as a cornerstone for coordination, grid discipline, and regional cooperation in the Northern Region.

He further highlighted the contribution of THDC India Limited, including the commissioning of the 1000 MW Tehri Pumped Storage Project with advanced technology, describing PSPs as “water batteries” essential for grid flexibility and reliability, and thanked all stakeholders for their support.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

He concluded by referring to the national vision for 2047, expressing confidence that the meeting will lead to meaningful discussions and new ideas, and once again welcomed all participants.

2. Member Secretary, NRPC thanked THDCIL and their team for successfully hosting the 82nd NRPC meeting and welcomed all dignitaries and delegates. She stated that the previous day's TCC meeting covered key agenda items such as summer preparedness, reserve maintenance, transmission line maintenance and patrolling, TTC/ATC enhancement, commissioning of new elements, and delays in transmission projects.

She highlighted that resource adequacy for summer 2026 was a key focus, and states were requested to make timely power arrangements, minimize forced outages, ensure accurate demand forecasting, and reduce reliance on the market. She also emphasized the importance of maintaining ERS availability and undertaking proactive transmission maintenance to avoid prolonged outages.

She further mentioned concerns in the Rajasthan area regarding low system strength and SCR, leading to stability issues, and suggested measures such as maintaining higher SCR, N-1 contingency planning, and use of synchronous condensers and grid-forming inverters.

She added that CTU's proposals on static and dynamic compensation for the Northern Region were discussed in TCC and will be further deliberated in the NRPC meeting. She concluded by thanking all participants and looking forward to meaningful discussions.

3. Shri Hemant Jain, Member (GO&D), CEA, thanked THDCIL for hosting the 57th TCC and 82nd NRPC meetings and appreciated the well-coordinated arrangements made for the event. He mentioned that electricity drives the entire economy and continuity of supply is critical, emphasizing the need for a holistic approach towards maintenance of generation, transmission, and distribution systems. He stressed that adherence to planned maintenance schedules will reduce forced outages and ensure adequate availability. He also highlighted the importance of robust communication systems for complete visibility at SLDCs, including distributed generation.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

He emphasized that resource adequacy planning must be taken seriously with a long-term perspective, factoring in climate change impacts, and called for expediting clearances to ensure timely commissioning of projects. He also highlighted the growing importance of demand response and efficiency of end-use equipment in optimizing system performance.

He noted that pumped storage projects, such as the 1000 MW PSP by THDC, are critical for long-term grid stability and emphasized the need to expedite such projects. He highlighted that while solar-hour demand is manageable, meeting evening peak demand is a key challenge, requiring thermal units to remain available and system reliability to take precedence over cost considerations.

He further stressed the importance of environmentally responsible disposal of obsolete equipment and highlighted the need to strengthen load dispatch functions through skilled manpower and proper incentives. He concluded by appreciating THDC Limited for hosting the meeting and emphasized the need for a committed approach to address sectoral challenges.

4. Sh. Basant Garg, IAS, Chairperson NRPC and conveyed his greetings to all the esteemed dignitaries on the dais and the delegates present, and expressed his pleasure to be able to address this esteemed forum.

He stated that Punjab is very conscious of the importance that NRPC holds in ensuring grid stability and inter-regional coordination. He concluded by encouraging the participants to proceed with the discussions.

5. Thereafter, agenda for the 82nd NRPC Meeting were presented & deliberated. The list of participants is attached as **Annexure-Q**.

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***Agenda for TCC and NRPC meeting****A.1 Approval of Minutes of the meeting of 56th TCC & 81st NRPC meeting**

- A.1.1 EE, NRPC apprised that the minutes of the 56th TCC & 81st NRPC meeting (held on 30.10.2025 and 31.10.2025 respectively) were issued vide letter dtd. 01.12.2026.
- A.1.2 No comment on the minutes of the meeting has been received as of now.

TCC Deliberations

- A.1.3 Haryana submitted that they have some reservation on decision taken on agenda item No. 9 (Energy accounting of Auxiliary consumption at Grid Substations of BBMB).
- A.1.4 Haryana submitted that the revised mechanism of adjustment of Auxiliary energy consumption at BBMB Grid S/s in Punjab, Haryana, and UT of Chandigarh, was agreed upto 30.04.2025.
- A.1.5 However, for energy bill arrears from 01.05.2025 onwards, Haryana does not have consent to the approved mechanism of adjustment of Auxiliary energy consumption at BBMB Grid.
- A.1.6 TCC forum advised Haryana to bilaterally take up with BBMB on this matter.

Decision of the Forum:

Forum confirmed the Minutes of the 56th TCC & 81st NRPC meeting and advised Haryana to bilaterally take up with BBMB on this matter.

A.2 Status of action taken on decisions of 56th TCC & 81st NRPC meeting (Agenda by NRPC Secretariat)

- A.2.1 MS, NRPC conveyed that the agenda has been taken to track the status of action taken as per the decision of the last meeting. Accordingly, issues may be resolved at the earliest.
- A.2.2 Concerned utilities submitted the status of action taken and the same has been complied below:

S.N	Agenda	Decision of 56 th TCC & 81 st NRPC	Status of action taken
.			

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.3	Disaster Preparedness of Transmission Infrastructure: Procurement of 20 sets (300 Towers) of Emergency Restoration System under Make in India (Agenda by POWERGRID)	<i>i. Forum approved the procurement of 4 sets of ERS (60 towers) for the Northern Region (with estimated expenditure of Rs 88 Cr) through the Regulated Tariff Mechanism (RTM).</i> <i>ii. Further, Forum directed POWERGRID to submit the details of suitable strategic locations for placement of the aforesaid four sets of ERS to the OCC forum.</i>	• Completion Schedule of supply of ERS sets for NR as informed by POWERGRID is April'27. • POWERGRID is yet to submit to OCC forum the details of suitable strategic locations for placement of the aforesaid four sets.
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TCC Deliberations

A.2.3 POWERGRID informed the tentative locations for placements of 04 No. of ERS designated for NR as below:

Sr No	Substation Name	ERS Set	Delivery To be Completed By
1	400/220 kV New Wanpoh Sub Station (PG)	1 No.	04-Apr-27
2	400/220KV Moga Substation (PG)	1 No.	04-Apr-27
3	400/220 KV Ballabgarh Substation (PG)	1 No.	04-Apr-27
4	400/220KV Bassi Substation (PG)	1 No.	04-Apr-27

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.2.4 MS, NRPC highlighted that the importance of maintaining adequate ERS availability has been reiterated by MoP and CEA, particularly in the context of disaster preparedness and rapid grid restoration.
- A.2.5 Chairperson TCC stated that all states should procure the desired number of ERS towers as per the CEA guidelines.

NRPC Deliberation

- A.2.6 Member (GO&D), CEA, stated that the locations should be strategic, ensuring coverage for the entire region in case of an emergency.
- A.2.7 MS, NRPC submitted that the locations for the 4 No. of ERS Set communicated by POWERGRID would be deliberated in the OCC meeting.

Decision of the Forum:

Forum noted the locations communicated by POWERGRID for placement of the 04 No. of ERS Set in Northern Region. Further, these locations would be deliberated in OCC forum.

A.3 Replacement of 420kV 80MVAR Line reactor of 400kV Ballabgarh-Kanpur-1 line at Ballabgarh end under Add-Cap 2024-2029 (Agenda by POWERGRID)

- A.3.1 400/220kV Ballabgarh (PG) is connected to 400/220kV Kanpur (PG) through 01 No. 400kV S/C Kanpur (PG)-Ballabgarh (PG) CKT-1 (Line Length- 386.307Km) and 01 No. 400kV D/C Kanpur Ballabgarh CKT-2 & 3 (Line Length- 372.536Km each). Due to the longer lines, all 3 Circuit have been provided with non-switchable 80MVA Line Reactors at both ends.
- A.3.2 400kV, 80MVAR, MELCO (Japan) Make Line Reactor installed in 400kV S/C Ballabgarh-Kanpur-1 line at Ballabgarh end is commissioned since 03.10.1988 (Year of Manufacture– 1987) in the above line. After serving a life of more than 35 years, rise in fault gases is being observed in DGA samples from 2021 onwards.
- A.3.3 POWERGRID has mentioned that the DGA of the above is being done on three monthly basis & gases are showing increasing trend. Ethane (C₂H₆) is very high as compared to the permissible limit of 65ppm.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.3.4 As aforementioned line reactor has already completed 35 years of service life and based on current DGA, there are chances of its sudden failure. 400kV S/C Kanpur Ballabgarh Line is a long line and operation of the same without line reactor at each end is very difficult and could result in overvoltage conditions in the line.
- A.3.5 In view of the above and to avoid major failure & to prevent consequential damage, POWERGRID proposed to replace the existing 420kV 80MVAR MELCO make reactor with new reactor under Add-Cap 2024-2029.

TCC Deliberation

- A.3.6 EE, NRPC informed that POWERGRID has submitted that approval for replacement of line reactor for 400kV S/C Ballabgarh-Kanpur (Ckt-1) line at Kanpur end due to rising trend of DGA gases has been provided in 70th NRPC meeting held in Nov'23.
- A.3.7 Further, POWERGRID has highlighted the maintenance and spare challenges associated with these line reactor as the 400 kV Bushings (OIP type) used in above reactor is non-standard and similar spares is not available due to obsolescence.
- A.3.8 CTU stated that a line reactor is essential, as without it, the line voltage could rise to 42kV if the line is energized/charged from the opposite end during a shutdown or line trip. The voltage rise will be substantially reduced to about 14kV with a line reactor.
- A.3.9 EE, NRPC apprised that the said matter was deliberated in 242nd OCC meeting of NRPC and OCC forum recommended for replacement of 80MVAR Line reactor of 400kV S/C Kanpur Ballabgarh Line (Ckt-1) at Ballabgarh end.
- A.3.10 The proposal was recommended by the TCC forum.

NRPC Deliberation

- A.3.11 NRPC forum noted the deliberation held in the TCC meeting and the Forum was in agreement with the same.

Decision of the Forum:

Forum technically agreed with the POWERGRID's proposal for replacement of 80MVAR Line reactor of 400kV S/C Kanpur Ballabgarh Line (Ckt-1) at Ballabgarh end.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.4 Request for certification in terms of Regulation 27(1)(c)(ii) of the IEGC, 2023, to allow declaration of COD for the Beawar S/s, LILO of both circuits of Ajmer Chittorgarh 765 kV D/C line and LILO of 400 kV Kota Merta line at Beawar (Agenda by Resonia)

A.4.1 Beawar Transmission Limited (BTL) is implementing the Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase-III Part F (Part F Project).

A.4.2 Scope of Work (As per terms of TSA of this project) is as follows:

a) **Element 1:** 765 kV GSS Beawar Substation

- Along with Establishment of:
 - i. 2 × 1500 MVA, 765/400 kV Transformers
 - ii. 2 × 330 MVA (765 kV) Bus Reactors
 - iii. 2 × 125 MVA (420 kV) Bus Reactors

b) **Element 2:** LILO of both circuit of 765 kV D/c Ajmer-Chittorgarh line at Beawar

c) **Element 3:** LILO of 400 kV Kota–Merta line at Beawar

d) **Element 4:** 765 kV D/C Fatehgarh(III)–Beawar Line

- Along with: 330 MVA switchable line reactors (for each circuit, at both ends)

e) **Element 5: STATCOM at Fatehgarh-III**

- Installation of:
 - i. ±2 × 300 MVA STATCOM
 - ii. 4 × 125 MVA MSC
 - iii. 2 × 125 MVA MSR
 - iv. 2 nos. 400 kV bays at Fatehgarh-III

A.4.3 Resonia has sought certification for early COD (partial commissioning) of:

a) Beawar Substation (**Element 1**)

b) LILO of both circuit of 765 kV D/C Ajmer–Chittorgarh (**Element 2**)

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoMc) LILO of 400 kV line Kota–Merta **(Element 3)**

Ahead of commissioning of: 765 kV D/C Fatehgarh(III)–Beawar Line **(Element 4)**

TCC Deliberation

A.4.4 MS, NRPC stated that in terms of Regulation 27(1)(c)(ii) of the IEGC:

The COD of a transmission element of the transmission system under Tariff Based Competitive Bidding shall be declared only after the declaration of the COD of all the pre-required transmission elements as per the Transmission Services Agreement:

Provided that in case any transmission element is required in the interest of the power system as certified by the concerned RPC(s), the COD of the said transmission element may be declared prior to the declaration of the COD of its prerequired transmission elements.

A.4.5 NRLDC mentioned that after charging of 765kV LILO of Ajmer-Chittorgarh at Beawar, following can be achieved:

- i. T-GNA margin enhancement for RE evacuation;
- ii. N-1 compliance at 400kV Kota-Beawar and 400kV Merta-Beawar (Twin Moose lines);
- iii. Loading reduction on 400kV RAPP- Sujalpur D/C, reducing constraint for NR Export TTC/ATC

A.4.6 NRLDC submitted that the LILO of 400 kV Kota Merta line at Beawar would not provide a reasonable benefit without the LILO of both circuit of 765 kV D/c Ajmer-Chittorgarh line at Beawar.

A.4.7 SE (SO&LD), SLDC Rajasthan further apprised that due to operation of only partial elements of the 765 kV GSS Beawar Scheme, the 400 kV S/C Merta–Heerapura line is operating with overload condition. Accordingly, to mitigate overloading of the 400 kV Merta–Heerapura line, until LILO of both circuits of the 765 kV D/C Ajmer–Chhittorgarh line at 765 kV GSS Beawar is completed, the 765/400 kV transformers at Beawar shall be kept in open condition. Further, the 400 kV S/C Merta–Kota (PG) line shall be maintained in closed condition through the 400 kV bus of 765 kV GSS Beawar.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.4.8 Powergrid intimated that the tentative timeline for commissioning of 765kV D/C Beawar-Dausa line is 30th June 2026.
- A.4.9 NRLDC highlighted that if Elements 1, 2 & 3 are commissioned together, approximately 1500 MW – 2000 MW margin under TGNA may be available. Actual quantum to be confirmed by NRLDC post study and as per real time observations.
- A.4.10 MS, NRPC asked Resonia to expedite the commissioning of LILO of both circuit of 765 kV D/c Ajmer-Chittorgarh line at Beawar S/s, to which Resonia replied that tentative timeline for completion of this work is May'26.
- A.4.11 GM, NRLDC stated that the STATCOM at Fatehgarh-III is owned by Resonia, while the Fatehgarh-III substation is owned by POWERGRID. Accordingly, Resonia and POWERGRID should finalize a standard operating procedure (SOP) for STATCOM operations to ensure that instructions issued by NRLDC are effectively implemented at the site during real-time operations.
- A.4.12 SE(O), NRPC highlighted that there are significant ROW challenges affecting the commissioning of the 765 kV D/C Fatehgarh (III)–Beawar line. He stated that the issue was discussed in OCC meeting and it was deliberated that in the interest of the power system, the Elements 1, 2 & 3 may be declared COD prior to the COD of all the pre-required transmission elements. The commissioning of LILO of both circuit of 765 kV D/c Ajmer-Chittorgarh line at Beawar is necessary for declaring COD of the Elements 1, 2 & 3.
- A.4.13 TCC forum recommended that Elements 1, 2 & 3 may be declared COD prior to the COD of all the pre-required transmission elements of the scheme under provisions of Regulation 27(1)(c)(ii) of the IEGC and the effective date of COD of these three elements be considered from date of commissioning of LILO of both circuit of 765 kV D/c Ajmer-Chittorgarh line at Beawar.
- A.4.14 TCC Forum also advised NRLDC to examine the Rajasthan SLDC proposal and operational measures be taken accordingly.

NRPC Deliberation

- A.4.15 NRPC forum noted the deliberation held in the TCC meeting and the Forum was in agreement of the same.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.4.16 CTU clarified that these elements will support RE evacuation from Fatehgarh-III Substation; however, no GNA will become effective until all prerequisite transmission elements of the associated system are commissioned. In the interim, RE evacuation will be carried out under TGNA, based on real-time margins determined by GRID-INDIA.

A.4.17 CTU mentioned that STATCOM commissioning at Fatehgarh-III may also be expediated as there are severe voltage fluctuations issues observed in this Western Rajasthan RE complex.

A.4.18 NRLDC informed that model validation & FTC formalities of the STATCOM at Fatehgarh-III are currently in progress.

A.4.19 MS, NRPC asked Resonia to coordinate with GRID-INDIA and expedite model and FTC approval so that STATCOM is commissioned by the end of April 2026.

Decision of the Forum:

- (i) In the interest of the power system, after the commissioning of LILO of both circuit of 765 kV D/c Ajmer-Chittorgarh line at Beawar, Forum agreed for In-principle certification, under provisions of Regulation 27(1)(c)(ii) of the IEGC, that Elements 1, 2 & 3 may be declared COD prior to the COD of all the pre-required transmission elements.*
- (ii) M/s Resonia to coordinate with GRID-INDIA and expedite model and FTC approval so that STATCOM is commissioned by the end of April 2026.*
- (iii) NRLDC to examine the Rajasthan SLDC proposal and operational measures be taken accordingly.*

A.5 Procedure for approval of Protection Settings by NRPC (Agenda by NRPC Secretariat)

TCC Deliberation

A.5.1 EE, NRPC apprised that as per clause 14 (2) of IEGC 2023:

All users connected to the grid shall:

- i. obtain approval of the concerned RPC for (i) any revision in settings, and (ii) implementation of a new protection system;

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- ii. intimate to the concerned RPC about the changes implemented in the protection system or protection settings within a fortnight of such changes;

A.5.2 Accordingly, the procedure for approval of Protection Settings in the Northern Region was discussed in several PSC and NRPC meetings. Subsequently, the Forum finalized the procedure for approval of the protection setting in the 75th NRPC Meeting (held on 28th August 2024).

A.5.3 According to existing procedure for approval of Protection Settings in Northern Region; For First Time Charging of transmission lines/ Bays/ Transformer/ Reactor etc., to avoid any delay in charging of the new element, NRLDC shall allow integration of new ISTS element in the system as per prevailing NRLDC FTC practice. The settings shall be treated as provisional arrangement till approval in PSC (Protection Sub-Committee). (SLDC's to follow similar practice for Intra-state elements).

A.5.4 However, during the discussion of the agenda 'First Time Charging of transmission lines/Bays/Transformer/Reactor etc. by NRLDC, in the 63rd PSC meeting, it was decided that protection settings of all given FTCs by NRLDC in every month will be considered for final approval in the upcoming PSC. Utility does not need to submit the agenda separately for final approval of protection settings. Similarly, SLDCs have to share the FTC granted in a month in the same format as reported by NRLDC, along with the submission of the protection settings folder for final approval of the PSC forum.

A.5.5 In view of the above, there was a need to amend the earlier finalized procedure. Therefore, the same was deliberated in the 64th PSC meeting (held on 21.11.2025), wherein, after deliberation, the revised procedure was approved (attached as **Annexure-A.I)**

A.5.6 TCC approved the revised procedure for approval of Protection Settings in Northern Region.

NRPC Deliberation

A.5.7 NRPC forum noted the deliberation held in TCC meeting and the Forum was in agreement of the same.

Decision of the Forum:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Forum approved the revised procedure for approval of Protection Settings in NR and utilities may refer the same for compliance.

A.6 Decision on restoration time of 400 KV Babai-Bhiwani Transmission Line after tower collapse – case of NRSSXXXVI (Agenda by NRPC Secretariat)

A.6.1 On 13th June at 3:30 PM, the 400kV D/C Babai–Bhiwani line tripped on distance protection, and subsequent patrolling revealed the collapse of two towers (No. 300 and 301).

A.6.2 Following outage is put up for discussion in view of tower collapse due to high-velocity dust and wind storms:

Line	Period	No of outage days	Purpose
400 KV Babai-Bhiwani Transmission Line Ckt 2	13/06/2025 3:30PM to 01/07/2025 04:14 PM	~18	Restoration on ERS
400 KV Babai-Bhiwani Transmission Line Ckt 1	13/06/2025 3:30 PM to 16/07/2025 01:40 PM	~33	Restoration on ERS

A.6.3 Further, Licensee has taken following outages for restoration on **Permanent Tower**.

400 KV Babai-Bhiwani Transmission Line Ckt 1 (9:45 Hrs. of 24.10.2025 to 10:18 Hrs. of 30.10.2025) (144:32 Hrs.) **and** 400 KV Babai-Bhiwani Transmission Line Ckt 2 (11:54 Hrs. of 30.10.2025 to 06.11.2025 16:37 Hrs.) (172:43 Hrs.) (**Restoration on Permanent Tower**)

A.6.4 Report of *Standing* Committee of Experts on failure of EHV transmission towers failed during the period from January 2025 to June 2025(case-xxi) has concluded that- ***“After detailed deliberations, it was concluded that the primary cause of failure was the impact of high-velocity dust and wind storms. Furthermore, NRSSXXXVI was recommended to analyse requirement to increase the reliability level at power line crossings to ensure greater structural stability.”***

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.6.5 The case was discussed in a meeting chaired by MS, NRPC on 17.03.2026, wherein it was decided that as outage duration is more than 01-month, case may be discussed in NRPC forum for final decision on availability in consideration of reasonable restoration time. MoM of the meeting are attached as Annexure-A.III of Agenda.

A.6.6 The restoration time taken by licensee is more than 01 month. As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, approval of NRPC forum is required for consideration of Outage of elements due to force majeure events beyond the control of the transmission licensee as per Appendix-IV of CERC (Terms & Conditions of Tariff) Regulation 2024, mentioned below:

Quote

5.For the following contingencies, the outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under the period of consideration for the following contingencies:

i) Outage of elements due to force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by the Member Secretary, RPC, and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert or estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;

ii)

iii) The outage period which can be excluded for the purpose of sub-clause (i) and (ii) of this clause shall be declared as under:

- a. Maximum up to one month by the Member Secretary, RPC;*
- b. Beyond one month and up to three months after the decision at RPC;*
- c. Beyond three months by the Commission for which the transmission license shall approach the Commission along with reasons and steps taken to mitigate the outage and restoration timeline.*

Unquote

A.6.7 Central Electricity Regulatory Commission (Standards of Performance of inter-State transmission licensees) Regulations, 2012. reg 5 (1) (b) has mentioned restoration time of 12 days for restoration of Line on Emergency Restoration system (ERS) as below:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Sl. No.	Types of failures	Restoration Time (Days)
1.	Insulator failure	
	Plain Terrain	1
	Hilly Terrain	2
2.	Tower after collapse by Emergency Restoration System (ERS)	12
3.	Tower after collapse	
	Plain Terrain	30
	River Bed	50
	Hilly Terrain	50
4.	Snapping of phase conductor	
	Plain Terrain	2
	Hilly Terrain	3
5.	Failure of earth wire	

A.6.8 Proposal of NRPC Secretariat is mentioned below;

A)-

Line	Period	No of outage days	Purpose of outage	Proposal	Remarks
400 KV Babai-Bhiwani Transmission Line Ckt 2	13/06/2022 5 3:30PM to 01/07/2022 5 04:14 PM	~18	Restoration on ERS	~18 days as forced majeure	Natural Calamity; Network < 150 km; 10 nos. of ERS;
400 KV Babai-Bhiwani Transmission Line Ckt 1	13/06/2022 5 3:30 PM to 16/07/2022 5 01:40 PM	~33	Restoration on ERS	~28 days forced majeure ~5 days attributed to licensee (due to delay at licensee end)	Separate restoration of circuits due to Constraint of gantry for under passing line;

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

B)- Outage taken in Restoration of said line on permanent configuration is proposed under forced majeure event beyond the control of Licensee.

TCC Deliberation

- A.6.9 EE (P), NRPC informed that during the meeting chaired by MS, NRPC on 17.03.2026, the Licensee informed that no Emergency Restoration System (ERS) was available with them, as the transmission line length is less than 150 km, which is below the threshold (500 km) for mandatory ERS possession. Consequently, ERS was arranged and mobilized from multiple locations in Northern India, namely Lucknow, Mandola, and Muzaffarpur (Bihar).
- A.6.10 Further, it was apprised that restoration of the 400 kV Babai–Bhiwani double-circuit transmission line involved an under passing below the existing 400kV Mohindergarh (ATIL) - Bhiwani (PG) transmission line of M/s Adani transmission Limited, necessitating the erection of temporary gantry structures (Gantry-1 and Gantry-2) for each circuit independently to maintain electrical clearances. He emphasized that due to this configuration, Licensee has carried out restoration sequentially rather than simultaneously, thereby increasing the overall restoration time.
- A.6.11 EE (P), NRPC apprised that outage of **ckt-2** of around 18 days is proposed to be allowed as forced majeure and outages of **ckt-1** is proposed to be attributed to licensee for the following days:

Dates	Details
02, and 07 July 2025	No work done due to rain however no IMD data submitted for rain. Photographs have no substantial rain scenario visible.
03 July 2025	No work done.
04, & 05 July 2025	No work due to RoW but photographs have no GPS details.

- A.6.12 TCC forum noted the proposal presented by NRPC Secretariat.
- A.6.13 TCC Chairperson mentioned that Right of Way (RoW) issues generally arise due to compensation disputes between the Licensee and local villagers. He further stated

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

that, in such cases, the involvement of the district administration may be required for effective resolution.

A.6.14 The representative of NRSS XXXVI stated that the Bhiwani stretch is facing significant Right of Way (RoW) issues, and the district administration had been intimated at an early stage. He further informed that photographic evidence of local agitation has been submitted. Additionally, adverse site conditions due to rainfall were also cited as a contributing factor affecting the progress of work.

A.6.15 NRPC Secretariat stated that the photographs submitted in support of the RoW issues did not contain time, date, or GPS stamping. The photographs provided by the Licensee were also presented during the meeting for consideration.

A.6.16 TCC forum agreed to the proposal of the NRPC Secretariat regarding the restoration duration of **Circuit-2**. Further, the forum recommended that, for the restoration duration of Circuit-1, the RoW issues may be acknowledged and considered under Force Majeure. Accordingly, only 3 days may be attributed to the Licensee instead of 5 days, and the remaining duration may be treated as Force Majeure, in line with the proposal of the NRPC Secretariat.

NRPC Deliberation

A.6.17 NRPC forum noted the deliberation held in the TCC meeting and the Forum was in agreement of the same.

Decision of the Forum:

- i. Outage of 400 KV Babai-Bhiwani Transmission Line Ckt 2 from **13/06/2025 3:30:00 PM to 01/07/2025 04:14 PM (~18 days)** shall be considered under forced majeure condition beyond the control of Licensee.*
- ii. Outage of 400 KV Babai-Bhiwani Transmission Line Ckt 1 from **13/06/2025 3:30:00 PM to 13/07/2025 01:40(~30 days)** shall be considered under forced majeure condition beyond the control of Licensee and from **13/07/2025 01:40 to 16/07/2025 01:40 (3-days)** shall be attributed to Licensee.*
- iii. Outage taken in Restoration of said line on permanent configuration is considered under forced majeure event beyond the control of Licensee as below: 400 KV Babai-Bhiwani Transmission Line Ckt 1 (9:45 Hrs. of 24.10.2025 to 10:18 Hrs. of 30.10.2025) (144:32 Hrs.) **and** 400 KV Babai-*

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Bhiwani Transmission Line Ckt 2 (11:54 Hrs. of 30.10.2025 to 06.11.2025 16:37 Hrs.) (172:43 Hrs.).

A.7 Decision on restoration time of Transmission Line of ADHYDRO after tower collapse (Agenda by NRPC Secretariat)

A.7.1 220 kV AD Hydro-Nallagarh Ckt-1 and 220 kV Phozal-Nalagarh Ckt-1 was in outage from 11:08 Hrs of **20.08.2025** due to collapse of Tower No.157-158 of AD-Hydro jurisdiction due to landslide and falling of heavy boulders.

A.7.2 However in between of this event Tower No. 1 on the HPPTCL owned D/C LILO of the 220 kV Ad Hydro-Phozal and 220kV Phozal–Nalagarh transmission line (6.7 km section) collapsed on **26 August 2025** at 12:20.

A.7.3 EE(P), NRPC mentioned that following outage is put up for discussion:

Outage due to AD HYDRO tower collapse due to landslide:

- a) 220 kV AD Hydro-Nallagarh Ckt-1 (11:08 Hrs of 20.08.2025 to 15:55 Hrs of 19.09.2025) (724:46 hrs.) **[On ERS]~29 days**
- b) 220 kV AD Hydro-Nallagarh Ckt-1 (03.10.2025 09:24 Hrs to 17:10 Hrs) **[permanent tower]~1 day**
- c) 220 kV Phozal (HP)-NalagarhCkt-1 (11:08 Hrs of 20.08.2025 to 13:33 Hrs. of 08.10.2025 (1178:24 hrs.) **[permanent tower]~49 days**

Outage due to HPPTCL tower collapse:

- a) **220 kV Phozal (HP)-Nalagarh Ckt-1 (13:33 Hrs. of 08.10.2025 to till restoration date (in future)**
- b) **220 kV AD Hydro(AD)-Phozal(HP) Ckt-1 (12:20 Hrs. of 26.08.2025 to 13:37 Hrs. of 25.09.2025 (721:17 hrs.) (Restored after by-passing HPPTCL Collapsed Tower)~30 days**

A.7.4 The restoration time taken by licensee is more than 01 month.

A.7.5 As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, approval of NRPC forum is required for consideration of Outage of elements due to force majeure events beyond the control of the transmission licensee as per Appendix-IV of CERC (Terms & Conditions of Tariff) Regulation 2024, mentioned below:

Quote

5.For the following contingencies, the outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under the period of consideration for the following contingencies:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

i) Outage of elements due to force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by the Member Secretary, RPC, and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert or estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;

ii) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in a substation or bays owned by another agency causing an outage of the transmission licensee's elements, and tripping of lines, ICTs, HVDC, etc., due to grid disturbance. However, if the element is not restored on receipt of direction from RLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration;

iii) The outage period which can be excluded for the purpose of sub-clause (i) and (ii) of this clause shall be declared as under:

- a. Maximum up to one month by the Member Secretary, RPC;
- b. Beyond one month and up to three months after the decision at RPC;**
- c. Beyond three months by the Commission for which the transmission licensee shall approach the Commission along with reasons and steps taken to mitigate the outage and restoration timeline.

Unquote

A.7.6 Central Electricity Regulatory Commission (Standards of Performance of inter-State transmission licensees) Regulations, 2012. reg 5 (1) (b) has mentioned restoration time of 12 days for restoration of Line on Emergency Restoration system (ERS) as

Sl. No.	Types of failures	Restoration Time (Days)
1.	Insulator failure	
	Plain Terrain	1
	Hilly Terrain	2
2.	Tower after collapse by Emergency Restoration System (ERS)	12
3.	Tower after collapse	
	Plain Terrain	30
	River Bed	50
	Hilly Terrain	50
4.	Snapping of phase conductor	
	Plain Terrain	2
	Hilly Terrain	3
5.	Failure of earth wire	

below:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.7.7 *The case was discussed in a meeting chaired by MS, NRPC on 17.03.2026, wherein it was decided that as outage duration is more than 01 month, case may be discussed in NRPC forum for final decision on availability in consideration of reasonable restoration time. MoM of the meeting are attached as Annexure-A.III of Agenda.*

A.7.8 Proposal of NRPC Secretariat is mentioned below;

- i. Outage of 220 kV AD Hydro-Nallagarh Ckt-1 **(11:08 Hrs of 20.08.2025 to 15:55 Hrs of 19.09.2025 (724:46 hrs.)** on ERS and during permanent restoration **(03.10.2025 09:24 to 17:10)** may be considered under forced majeure event beyond the control of licensee.
- ii. 220 kV Phozal (HP)-NalagarhCkt-1: Following outage may be considered under forced majeure event beyond the control of licensee:
 - a) **(11:08 Hrs of 20.08.2025 to 13:33 Hrs. of 08.10.2025 (1178:24 hrs.) [restoration on permanent ADHYDRO tower]**
 - b) **(13:33 Hrs. of 08.10.2025 to 11:08 Hrs. of 20.11.2025) [Under Outage due to HPPTCL tower collapse]**
- iii. In 220 kV Phozal (HP)-NalagarhCkt-1, outage after **11:08 Hrs. of 20.11.2025 to till revival of HPPTCL tower**, availability may be decided by Hon'ble CERC after petition by licensee to Hon'ble commission as period is beyond 3 months.
- iv. 220 kV AD Hydro(AD)-Phozal(HP) Ckt-1 **(12:20 Hrs. of 26.08.2025 to 13:37 Hrs. of 25.09.2025 (Restoration after By-Passing Collapse HPPTCL Tower)) (721:17 hrs.)** may be attributed to others due to collapse of HPPTCL tower.

TCC Deliberation

A.7.9 NRPC Secretariat presented the video submitted by the Licensee depicting the collapse of tower locations 157–158 under the Ad-Hydro jurisdiction, attributed to a landslide accompanied by the impact of heavy boulders

A.7.10 TCC forum agreed to the proposal of the NRPC Secretariat and sought an update from HPPTCL regarding the status of the collapse of the LILO portion tower. In response, the representative of HPPTCL apprised that the restoration has been delayed due to site-specific constraints, including its location within a forest area and proximity to a river bank.

NRPC Deliberation

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.7.11 NRPC forum noted the deliberation held in TCC meeting and the Forum was in agreement of the same.

Decision of the Forum:

- i. **Outage of 220 kV AD Hydro-Nallagarh Ckt-1 (11:08 Hrs of 20.08.2025 to 15:55 Hrs of 19.09.2025 (724:46 hrs.) on ERS and during permanent restoration (03.10.2025 09:24 to 17:10) may be considered under forced majeure event beyond the control of licensee.**
- ii. **220 kV Phozal (HP)-NalagarhCkt-1: Following outage may be considered under forced majeure event beyond the control of licensee:**
 - a) **(11:08 Hrs of 20.08.2025 to 13:33 Hrs. of 08.10.2025 (1178:24 hrs.) [restoration on permanent ADHYDRO tower]**
 - b) **(13:33 Hrs. of 08.10.2025 to 11:08 Hrs. of 20.11.2025) [Under Outage due to HPPTCL tower collapse]**
- iii. **In 220 kV Phozal (HP)-NalagarhCkt-1, outage after 11:08 Hrs. of 20.11.2025 to till revival of HPPTCL tower, availability may be decided by Hon'ble CERC after petition by licensee to Hon'ble commission as period is beyond 3 months.**
- iv. **220 kV AD Hydro(AD)-Phozal(HP) Ckt-1 (12:20 Hrs. of 26.08.2025 to 13:37 Hrs. of 25.09.2025 (Restoration after By-Passing Collapse HPPTCL Tower)) (721:17 hrs.) may be attributed to others due to collapse of HPPTCL tower.**

A.8 Decision on restoration time of 400 kV Jalandhar (PG)-Samba (PG) Transmission Line of NRSSXXIX after tower collapse (Agenda by NRPC Secretariat)

A.8.1 On 26/08/2025 5:13:00 PM, Tower at location 236 has completely collapsed with damages in the adjacent tower number 235 and 237. Also, peak and crossarm has damaged at location no. Nos. 234 & 238. It was observed that the foundation of tower no. 236 was damaged due to flooding & soil erosion, while for other towers, the foundations were not affected.

A.8.2 EE(P), NRPC mentioned that following outage is put up for discussion in view of heavy flooding of the Ravi River:

- 400 kV Jalandhar (PG)-Samba (PG)-I from **26/08/2025 5:13:00 PM to 30/09/2025 6:40:00 PM ~35 days** and 400 kV Jalandhar (PG)-Samba (PG)-II from **26/08/2025 5:13:00 PM to 16/10/2025 05:20 PM. ~51 days**

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.8.3 Report of *Standing* Committee of Experts on failure of EHV transmission towers failed during the period from July 2025 to December 2025 has concluded that- ***“the Committee observed that the tower failure occurred due to heavy flooding of the Ravi River caused by heavy rainfall in the upstream regions, which resulted in soil erosion around the tower foundations and collapse.”***
- A.8.4 The case was discussed in a meeting chaired by MS, NRPC on 17.03.2026, wherein it was decided that as outage duration is more than 01-month, case may be discussed in NRPC forum for final decision on availability in consideration of reasonable restoration time. MoM of the meeting are attached as Annexure-A.III of Agenda.
- A.8.5 The restoration time taken by licensee is more than 01 month. As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, approval of NRPC forum is required for consideration of Outage of elements due to force majeure events beyond the control of the transmission licensee as per Appendix-IV of CERC (Terms & Conditions of Tariff) Regulation 2024, mentioned below:

Quote

5.For the following contingencies, the outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under the period of consideration for the following contingencies:

i) Outage of elements due to force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by the Member Secretary, RPC, and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert or estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;

ii)

iii) The outage period which can be excluded for the purpose of sub-clause (i) and (ii) of this clause shall be declared as under:

- a. Maximum up to one month by the Member Secretary, RPC;*
- b. Beyond one month and up to three months after the decision at RPC;*
- c. Beyond three months by the Commission for which the transmission licensee shall approach the Commission along with reasons and steps taken to mitigate the outage and restoration timeline.*

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM**Unquote**

A.8.6 Central Electricity Regulatory Commission (Standards of Performance of inter-State transmission licensees) Regulations, 2012. reg 5 (1) (b) has mentioned restoration time of 12 days for restoration of Line on Emergency Restoration system (ERS) as

Sl. No.	Types of failures	Restoration Time (Days)
1.	Insulator failure	
	Plain Terrain	1
	Hilly Terrain	2
2.	Tower after collapse by Emergency Restoration System (ERS)	12
3.	Tower after collapse	
	Plain Terrain	30
	River Bed	50
	Hilly Terrain	50
4.	Snapping of phase conductor	
	Plain Terrain	2
	Hilly Terrain	3
5.	Failure of earth wire	

below:

A.8.7 Proposal of NRPC Secretariat:

Line	From	To	Attribute	Remarks
400 kV Jalandhar (PG)- Samba (PG)-I	26/08/2025 5:13:00 PM	06/09/2025 5:13:00 PM	<i>Natural Calamity 11 days</i>	<i>Due to lack of access of site in view of flooding</i>
	<i>06/09/2025 5:13:00 PM</i>	<i>13/09/2025 5:13:00 PM</i>	<i>Licensee 7 days</i>	<i>Delay at licensee end (in movement of ERS)</i>
	<i>13/09/2025 5:13:00 PM</i>	<i>30/09/2025 6:40:00 PM</i>	<i>Natural Calamity 17 days</i>	<i>Restoration</i>
	<i>03/10/2025 11:13:00 AM</i>	<i>03/10/2025 6:42:00 PM</i>	<i>Natural Calamity 7 hours</i>	<i>Restoration</i>
400 kV Jalandhar (PG)- Samba (PG)-II	26/08/2025 5:13:00 PM	06/09/2025 5:13:00 PM	<i>Natural Calamity 11 days</i>	<i>Due to lack of access of site in view of flooding</i>
	<i>06/09/2025</i>	<i>27/09/2025</i>	<i>Licensee</i>	<i>Delay at licensee end (unable to restore</i>

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

	5:13:00 PM	24:00	21 days	parallel ckt)
	28/09/2025 00:00	16/10/2025 05:20 PM	Natural Calamity 18 days	Restoration

TCC Deliberation

- A.8.8 EE(P), NRPC stated that Licensee has presented day wise restoration plan and site photographs in meeting held on 17.03.2026. Based on the assessment, it was observed that restoration of Circuit-2 could have been undertaken in parallel with Circuit-1, considering that the site conditions for both circuits were identical. Further, it was noted that the Licensee executed multiple restoration activities in a sequential (linear) manner, rather than adopting parallel work fronts, which resulted in an extended overall restoration timeline.
- A.8.9 Hence, in view of above it was proposed that Outage of 7 days in case of circuit-1 and 21 days in case of circuit-2 may be attributed to licensee, and remaining days ~28 days for circuit-1 and ~29 days as presented in above table may be considered under force majeure condition beyond the control of Licensee.
- A.8.10 TCC forum noted the proposal presented by NRPC Secretariat and asked the NRSSXXIX representative to share their views.
- A.8.11 NRSSXXIX representative requested that the outages were beyond the reasonable control of NRSS XXIX and should be forced majeure. It is humbly submitted that the outage time considered under the minutes of meeting held on 17.03.2026 may kindly be reassessed by NRPC in view of NRSSXXIX letter dated 15.04.2026 wherein some additional facts have been submitted.
- A.8.12 NRSSXXIX representative highlighted that the entire set of ERS towers (12 nos.) utilized for restoration of circuit 1 & 2 were available at the location on 13.09.2025 and there had been no delays due to mobilization of manpower and resources. It was only due to the feasibility challenge due to water accumulation to the level of 3 meters at the proposed ERS location of circuit 2 that the restoration of Circuit 2 was not possible along with Circuit 1.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.8.13 The TCC forum decided to provide one additional opportunity to NRSS XXIX to present its case before MS, NRPC. Accordingly, the matter shall be taken up for discussion in the next TCC/NRPC meeting.

NRPC Deliberation

A.8.14 NRPC forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Decision of the Forum:

Forum decided to provide one additional opportunity to NRSS XXIX to present its case before MS, NRPC. Accordingly, the matter shall be taken up for discussion in the next TCC/NRPC meeting.

A.9 Decision on restoration time of 400KV AMRITSAR-BANALA-I and 400KV HAMIRPUR-BANALA Transmission Line of PGCIL (agenda by NRPC Secretariat)

TCC Deliberation

A.9.1 On the evening of 26.08.2025, local villagers of intimated huge sound emanating from the tower no. 39. Immediately after that POWERGRID T/L team inspected the tower but nothing abnormal was noticed. Again, on the evening of 27.08.2025, local villagers reported huge sound emanating from the tower and on inspection, tower was found to be little bend, some of the tower members and Tower nut bolts had completely sheared off, few broken nuts and bolts were found on the ground. Immediately line was taken under S/D and restoration work started.

A.9.2 Following outage is put up for discussion in view of replacement of tower:

- ***Outage of 400KV AMRITSAR-BANALA-I from 20:15 Hrs of 27.08.2025 to 21:20 Hrs of 28.09.2025.***
- ***and 400KV HAMIRPUR-BANALA from 20:03 Hrs of 27.08.2025 to 21:31 Hrs of 28.09.2025.***

A.9.3 Line was taken under Emergency S/D to restore Tower No. 39 as said tower had become critical due to unequal settlement of land caused by incessant rains and landslides in the area during Sep'2024.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.9.4 In past, the issue of LOC No 39 was reported to NRPC by PGCIL and to ascertain cause of criticality, committee constituted by NRPC and consisting of members from NRPC, HPPTCL and AD Hydro visited tower on 06.12.2024 and submitted report. Conclusion and recommendations of report were as-

“As tower location 39 of 400 kV Banala – Amritsar & Banala Hamirpur Transmission line has become vulnerable due to land sinking and consequent bending of main legs and other tower members. POWERGRID may assess the strength of tower and may take necessary action to support tower structure. Patrolling of tower may be increased. PowerGrid may take necessary preventive action including assessing measures for diversion of line from affected tower on new tower located in stable area.”

- A.9.5 *The case was discussed in a meeting chaired by MS, NRPC on 17.03.2026, wherein it was decided that as outage duration is more than 01-month, case may be discussed in NRPC forum for final decision on availability in consideration of reasonable restoration time. MoM of the meeting are attached as Annexure-A.III of Agenda.*

- A.9.6 The restoration time taken by licensee is more than 01 month. As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, approval of NRPC forum is required for consideration of Outage of elements due to force majeure events beyond the control of the transmission licensee as per Appendix-IV of CERC (Terms & Conditions of Tariff) Regulation 2024, mentioned below:

Quote

5.For the following contingencies, the outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under the period of consideration for the following contingencies:

i) Outage of elements due to force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by the Member Secretary, RPC, and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert or estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;

ii) ...

iii) The outage period which can be excluded for the purpose of sub-clause (i) and (ii)

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

of this clause shall be declared as under:

- Maximum up to one month by the Member Secretary, RPC;
- Beyond one month and up to three months after the decision at RPC;
- Beyond three months by the Commission for which the transmission license shall approach the Commission along with reasons and steps taken to mitigate the outage and restoration timeline.

Unquote

A.9.7 Central Electricity Regulatory Commission (Standards of Performance of inter-State transmission licensees) Regulations, 2012. reg 5 (1) (b) has mentioned restoration time of 50 days for restoration of Line on permanent tower in hilly terrain as below:

Sl. No.	Types of failures	Restoration Time (Days)
1.	Insulator failure	
	Plain Terrain	1
	Hilly Terrain	2
2.	Tower after collapse by Emergency Restoration System (ERS)	12
3.	Tower after collapse	
	Plain Terrain	30
	River Bed	50
	Hilly Terrain	50
4.	Snapping of phase conductor	
	Plain Terrain	2
	Hilly Terrain	3
5.	Failure of earth wire	

Complete outage may be considered under forced majeure event beyond the control of Licensee.

TCC Deliberation

A.9.9 EE (P), NRPC mentioned constraints faced by PGCIL in restoration. Mandi to Kullu National highway was closed due to NH washed away at multiple locations. Further, link road from National highway to tower location (which was around 7KM) also remained blocked at multiple locations and required tower material/conductors was head loaded up-to 2-3KM. During meeting on 17.03.2026, in support of their claim, POWERGRID presented newspaper cuttings, Mandi traffic police advisory, NHAI advisory indicating NH remains blocked for about 14 days. POWERGRID also presented photo showing right of way issues and deployment of police and army to

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

clear off right of Way. It was apprised that 2 number of permanent towers were installed within 31 days despite the challenging site conditions.

A.9.10 CE(GM), CEA enquired about the actions taken by PGCIL subsequent to the Committee's site visit in December 2024. He further sought clarification on the reasons for the delay in execution of the tower replacement works.

A.9.11 CGM, NR-2, PGCIL informed that necessary action was initiated immediately following the Committee's report. It was decided to replace the affected tower, and accordingly, the foundation was completed and kept ready in April 2025. However, the outage required for carrying out the replacement could not be availed, as it was not permitted in the OCC forum due to grid constraints highlighted by NRLDC.

A.9.12 TCC Forum agreed to the proposal of NRPC Secretariate and allowed 31 days under forced majeure beyond the control of licensee.

NRPC Deliberation

A.9.13 NRPC forum noted the deliberation held in TCC meeting and the Forum was in agreement of the same.

Decision of the Forum:

Following shall be considered under forced majeure event beyond the control of Licensee:

- I. Outage of 400KV AMRITSAR-BANALA-I from 20:15 Hrs of 27.08.2025 to 21:20 Hrs of 28.09.2025.***
- II. and 400KV HAMIRPUR-BANALA from 20:03 Hrs of 27.08.2025 to 21:31 Hrs of 28.09.2025.***

A.10 Static/Dynamic compensation requirement in the Northern Region Grid (Agenda by CTUIL)

Transmission Scheme

A.10.1 CTU representative apprised that in 236th OCC meeting, CTU had been tasked to carry out a comprehensive study analysis to examine the requirement of reactive power devices for voltage control in Northern region.

A.10.2 In joint study meetings held in Dec'25 among CEA, CTU, Grid-India & RVPN, issues of low SCR in western Rajasthan RE complex as well as Over voltage/Under voltage

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

in the Northern Region Grid was also discussed in detail considering Grid India Quarterly Operational Feedback, deliberations in earlier OCC/CMETS-NR meetings.

- A.10.3 In the meeting, CTU informed that comprehensive studies has been carried out for voltage analysis in NR from voltage profile (of past one year) provided by Grid-India and identified suitable nodes for installation of static and dynamic compensation based on space availability and voltage regulation requirement.
- A.10.4 In Joint study meeting, it was highlighted that during winter, issues of over voltage issue persist in Punjab, Haryana, Delhi and UP; and several 765kV and 400kV lines get opened on regular basis to control the high voltages. Further due to inadequate reactive compensation in J&K STU network, severe low voltages have been observed in J&K grid.
- A.10.5 CTU mentioned that that a major grid event occurred on 17th June 2024 in the Northern Region, leading to a substantial load reduction of approximately 16.5 GW. This event started with the tripping of both bi-poles of the +/-800 kV HVDC Champa (WR) – Kurukshetra (NR). There was simultaneous reduction of around 2800 MW of RE based generation in the Rajasthan RE complex. There was also trippings of conventional generating units leading to a generation loss of 3909 MW at the all India level. The significantly higher load loss resulted in the rise in frequency of the Indian power system from 50.03 Hz to 50.68 Hz. The load drop resulted in a rise in the voltages of stations in the Northern region. This high voltage resulted in the tripping of 18 nos. of EHVAC lines in Non over-voltage protection. Based on the observations, several actions incl. planning for dynamic reactive power sources near load centers based on load composition were recommended for avoiding the recurrence of such grid event.
- A.10.6 Further as part of committee report formed under Chairmanship of Member Secretary, NRPC along with members from CEA, NRPC, NRLDC, NLDC, NTPC, BHEL, CTU and STUs to do futuristic analysis for the requirement of Synchronous Condensers based on the inertia considerations for NR, seven nos. of SynCons were identified at RE pooling stations incl. Fatehgarh-II, Ramgarh, Bhadla-III and Fatehgarh IV (Sec-II) in RE complexes in Rajasthan for placement of Synchronous Condensor with implementation schedule of 2026-27 to 2029-30.
- A.10.7 Further in 38th NCT meeting held on 25.02.2026 Grid-India also highlighted that fault level / SCR at some of the ISTS RE pooling buses in Northern Region (Rajasthan

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

RE complex) and Western Region (especially Khavda and Pachora complex) is on the lower side. In the Rajasthan RE complex, oscillations (oscillatory behaviour linked to low SCR) are being observed on a daily basis due to high RE penetration and inadequate system strength. Commissioning of additional transmission lines is not expected to significantly improve the fault level, and therefore SCR is expected to reduce further in the near future with addition of new RE generation. Grid-India suggested Planning and commissioning of Synchronous Condensers or any other suitable device for improvement in fault level and dynamic reactive power support on priority as a remedial measure for ensuring the stability of RE complexes. In the NCT meeting CTUIL was directed to plan suitable measures for improvement in fault level on priority.

A.10.8 In the above Joint study meeting several pockets/Substation were discussed & finalized for installation of Synchronous Condensor /STATCOM/Bus reactors to improve SCR in western Rajasthan as well as for voltage regulation in the Northern Region.

A.10.9 Based on the decision taken in Joint study meeting, proposal was deliberated and agreed in the 44th CMETS-NR meeting held on 03.03.26. Details of scheme is as under:

Static/Dynamic compensation requirement in the Northern Region Grid

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
A	Synchronous Condensor	
1	2 nos. of Synchronous Condensor units at 400kV level of 765/400/220kV Bhadla-III PS along with 2 nos. of 400kV Syncon bays (1 no. of SynCon unit comprises dynamic support of +300MVar/-200MVar (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum))	- Synchronous Condensor units- 2 nos. 400kV Syncon Bay- 2 nos.
2	2 nos. of Synchronous Condensor units at 400kV level of 765/400/220kV Ramgarh PS along with 2 nos. of 400kV Syncon bays (1 no. of SynCon unit comprises	- Synchronous Condensor units- 2 nos. 400kV Syncon Bay- 2 nos.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
	dynamic support of +300MVar/-200MVar (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum))	
3	1 no. of Synchronous Condensor units at 220kV level of 765/400/220kV Fatehgarh-IV(Sec-2) PS along with 1 no. of 220kV Syncon bay (1 no. of SynCon unit comprises dynamic support of +300MVar/-200MVar (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum))	- Synchronous Condensor units- 1 no. 220kV Syncon Bay- 1 no.
B	STATCOM	
1	1 unit of STATCOM(±300MVar) along with MSC (1x125 MVar) & MSR (2x125 MVar) at 765/400kV Aligarh (PG) S/s	1 unit of STATCOM(±300MVar) along with MSC (1x125 MVar) & MSR (2x125 MVar) 400 kV STATCOM (GIS) bay: 1 No.
2	2 units of STATCOM (±300MVar) along with MSC (2x125 MVar with each unit) at 400/220kV Wagoora(PG) S/s	2 units of STATCOM (±300MVar) along with MSC (2x125 MVar with each unit) at 400/220kV Wagoora (PG) S/s 400 kV STATCOM bays: 2 Nos.
3	2 units of STATCOM (±300MVar) along with MSC (2x125 MVar with each unit) at 400/220kV Amargarh (Indigrid) S/s	2 units of STATCOM (±300MVar) along with MSC (2x125 MVar with each unit) at 400/220kV Amargarh (Indigrid) S/s 400 kV STATCOM (GIS) bays: 2 Nos.
4	2 units of STATCOM(±300MVar) along with MSC (2x125 MVar with each unit) & MSR (1x125 MVar with each unit) at 400/220kV Jhatikara(PG) S/s	2 units of STATCOM (±300MVar) along with MSC (1x125 MVar with each unit) & MSR (2x125 MVar with each unit) at 400/220kV Jhatikara(PG) S/s 400 kV STATCOM bays: 2 Nos.
5	1 unit of STATCOM(±300MVar) along with MSC (1x125 MVar) & MSR (2x125 MVar) at 400/220kV	1 unit of STATCOM(±300MVar) along with MSC (1x125 MVar) & MSR (2x125 MVar)

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
	Mandola (PG) S/s	400 kV STATCOM bay: 1 No.
C	Bus Reactor	
1	1 no. of 125 MVAR (420kV) Bus Reactor at 765/400/220kV Agra(PG) S/s	125 MVAR (420kV) Bus Reactor-1 No. 400kV Bus reactor bay – 1 No.
2	1 no. of 125 MVAR (420kV) Bus Reactor at 400/220kV Patran (IndiGrid) S/s	125 MVAR (420kV) Bus Reactor-1 No. (in existing half diameter)
3	1 no. of 330 MVAR (765kV) additional Bus Reactor at 765/400kV Orai(PG) S/s	330 MVAR Bus Reactor-1 No. 765kV Bus reactor bay – 1 No.

Note:

1. Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed.
2. Bus extension wherever required, shall also be executed under present scope.
3. Land is not available in the existing S/s boundary at Amargarh and Wagoora S/s. Additional land adjacent to existing S/s to be acquired.

A.10.10 CTU intimated about the estimated cost of the scheme is Rs 6500 Cr and Implementation timeframe is 24-30 months from allocation (24 months for STATCOM/Bus reactor, 30 months for Synchronous Condensor).

TCC Deliberation

A.10.11 CTU informed that SynCOs are planned in 3 nos. of RE pooling stations i.e. Ramgarh PS, Bhadla-III PS & Fatehgarh-IV (Sec-II) PS in western Rajasthan due to weaker Grid strength (low SCR ratio) and prevailing voltage oscillations (low/high frequency) in real time in Rajasthan RE complex. Further, Synchronous Condensor proposed at the Bhadla-III PS and Ramgarh PS are associated with the HVDC system.

A.10.12 The synchronous condensers proposed in the Rajasthan area will provide inertial support and also improve the Short Circuit Ratio (SCR) in the region as well as support the HVDC system operation.

A.10.13 CTU intimated that, apart from Rajasthan, STATCOMs have been planned near load centres based on detailed deliberations in Joint study meeting and operational

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

feedback provided by GRID-INDIA. A total of five STATCOM locations have been identified. Out of these, 765/400 kV Aligarh (PG) S/s, 765/400 kV Jhatikara (PG) S/s, and 400/220 kV Mandola (PG) S/s are catering to load centres of Delhi and Uttar Pradesh complex which is having severe voltage regulation issues. The remaining two locations i.e. 400/220 kV Wagoor (PG) S/s and 400/220 kV Amargarh (IndiGrid) S/s—have been planned to address severe low-voltage issues in Jammu & Kashmir arising due to inadequate reactive power compensation in the J&K STU network.

A.10.14 CTU apprised that bus reactors have been planned for three location wherein there is issue of persistent high voltage and several 765kV and 400kV lines get opened on regular basis in winter to control the high voltages.

A.10.15 CTU stated that at 765/400kV Orai S/s, 2 nos. 330MVA bus reactor are already in service and 1 no. of 330MVA bus reactor is under implementation (conversion of 330MVA fixed line reactor at Orai end of 765kV Ishanagar - Orai line to bus reactor at Orai). Decision may be taken on installation of 4th bus reactor at Orai S/s. Grid-India stated that considering the voltage profile of Orai S/s, additional bus reactor (4th) will help in improving voltage profile of complex. CTU endorsed the views of Grid-India.

A.10.16 GM, CTU informed that the above proposed transmission scheme has already been agreed in the CEMTS-NR meeting.

A.10.17 MS, NRPC enquired whether CTU had considered the placement of a STATCOM at the Kurukshetra end in its studies. CTU responded that considering HVDC at Kurukshetra as well as space constraint for installation of STATCOM, they are examining alternative viable options near to Kurukshetra. MS, NRPC also requested NRLDC to submit the report of the committee constituted for study of Root cause analysis for oscillations in Rajasthan area on 04.02.2026.

A.10.18 SE(O), NRPC enquired about the interaction behavior of a STATCOM and a Synchronous Condenser installed at the same location. CTU replied that interaction studies is being carried out by successful TSP as part of RfP document.

A.10.19 ED, NRLDC enquired whether the Short Circuit Ratio (SCR) mentioned by CTU refers to a single synchronous condenser or to all three condensers. CTU replied that the joint study team has analyzed the Short Circuit Ratio (SCR) both for each synchronous condenser individually and for all of them collectively.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.10.20 Forum agreed with the proposal submitted by CTUIL regarding the static and dynamic compensation requirements in the Northern Region grid, while advising that CTUIL may ensure the issues currently observed in the STATCOM installations at Bhadla, Fatehgarh, and Bikaner are addressed in future implementations.

NRPC Deliberation

A.10.21 NRPC forum noted the deliberation held in TCC meeting and the Forum was in agreement of the same.

A.10.22 Member (GO&D), CEA enquired whether the ratings and specifications for the Synchronous Condensor, as well as the potential suppliers, are clearly defined.

A.10.23 CTU intimated that ratings and specifications for Synchronous Condensor and STATCOM have been decided in consultation with CEA and GRID-INDIA.

A.10.24 Member (GO&D), CEA suggested that for state generators whose units have not been in normal operation for a long time or very old, these units should be examined for synchronous condensor operation. CEA, CTU, NRPC, NRLDC, and the respective state generators can conduct a joint analysis or study in this regard.

A.10.25 Member (GO&D), CEA advised the state utilities also to consider installing STATCOMs at their major stations, as this would place dynamic compensation closer to the load centres and reduce the requirement from the ISTS accordingly.

A.10.26 Member (GO&D), CEA opined that there are costs associated with the integration of renewable energy (RE) into the system, and these costs should also be considered when evaluating the total cost of RE. Forum noted the same.

A.10.27 Further, Member (GO&D), CEA suggested that in present scenario of enhanced RE integrated grid the deliberation on grid reliability charges is need of hour. Forum noted the same.

Decision of the Forum:

Forum agreed on CTU proposal and taken up by CTU in the upcoming NCT to installation of Synchronous Condenser /STATCOM/Bus reactors as part of Static/Dynamic compensation requirement in the Northern Region Grid at an estimated cost of Rs 6500 Cr. with implementation timeframe of 24-30 months from award (24 months for STATCOM/Bus reactor, 30 months for Synchronous Condenser).

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***A.11 Communication outage Planning (Agenda by NRPC Secretariat)****TCC Deliberation**

A.11.1 EE, NRPC apprised that the RPC Secretariat is required to carry out monthly outage planning of communication systems, in line with the Standard Operating Procedure (SOP) for Communication System Outage Planning, as mandated under Regulation 7.3 of CERC (Communication System for Inter-State Transmission of Electricity), 2017 and Regulation 10 of CEA (Technical Standards for Communication System in Power System Operations), 2020

A.11.2 As per approved SOP, Communication System Outage Planning shall be carried out for the following communication systems:

- i) ISTS Communication System including ISGS
- ii) Intra-state Communication System being utilized for ISTS Communication
- iii) ICCP links between Main & Backup NRLDC, Main & Backup SLDCs & Main & Backup NLDCs.
- iv) Inter-regional AGC links

A.11.3 Communication Outage Planning has been initiated in NRPC Secretariat from October 2025 in accordance with the NPC approved SOP.

Monthly outage planning schedule is as follows:

- i) 1st working day of every month – NRPC Secretariat circulates an email requesting all entities to submit their communication system outage proposals.
- ii) By 8th of every month – Entities to submit their outage requests in the prescribed format.
- iii) NRPC Secretariat shall compile all received outage requests and forward them to NR-NMT/NRLDC for their observations/input.
- iv) Outage Planning Meeting for the communication system shall be conducted in the third week of every month to finalize the proposed outages.
- v) The proposed monthly outage plan shall be published on the NRPC website.
- vi) Entities shall avail the approved outages in coordination with NRLDC and NR-NMT.
- vii) Deviation reports (if any) are to be submitted by 10th of the following month in the prescribed format

A.11.4 First Communication Outage request was received from POWERGRID for the month of February. Subsequently, the first Communication Outage Planning Meeting for the Northern Region was convened on 27th January 2026 for communication outages

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

for February 2026. Subsequently outage planning meeting was also conducted for March, 2026.

- A.11.5 However, outage proposals are not being submitted consistently by all entities, which is impacting effective outage planning and communication system reliability. Among TSPs, POWERGRID has been submitting data from January onwards; however, submissions have not been consistent. All TSPs, STUs and SLDCs were requested to submit communication outage proposals on a regular monthly basis.
- A.11.6 It is imperative that all entities furnish outage requirements on a regular and timely basis to enable structured outage planning and minimize the occurrence of forced outages. Planned submission of outage is also required to ensure availability of alternate communication paths/channels during outages.
- A.11.7 MS, NRPC highlighted that communication outage planning is mandated under CERC regulations. She further mentioned that communication outage portal is being developed by CTU/POWERGRID under National UNMS; meanwhile, planning is being carried out through Excel.
- A.11.8 CTU informed that the National UNMS project has recently been awarded with an implementation timeline of 24 months
- A.11.9 It was apprised that although it has been awarded with National UNMS, development works of regional communication outage portal is independent of development of National UNMS. Accordingly, regional communication outage portal and National NMS may be developed simultaneously in order to complete it at the earliest.

NRPC Deliberation

- A.11.10 Member (GO&D) requested all utilities to submit required data to NRPC Secretariat within stipulated timeline, as mandated under regulatory provisions.
- A.11.11 NRPC forum noted the deliberation held in TCC meeting and the Forum was in agreement of the same.

Decision of the Forum:

Utilities were advised to submit outage and deviation data, wherever applicable, in the prescribed format. Forum noted the information.

A.12 Resource adequacy for summer 2026 (Agenda by NRLDC)

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.12.1 Considering the high demand expected in the upcoming months, the Ministry of Power (MoP), in the meeting held on 15-01-2026, has directed RLDCs to carry out Resource Adequacy studies for all States of their respective control regions. Accordingly, NRLDC has conducted Resource Adequacy studies for all the northern region states for the period April-June 2026. The RA study results (Annexure-A.VI of Agenda) based on inputs from SLDCs, indicate an elevated adequacy gap in forecasted demand and available generation from all sources in the April-June period, particularly during non-solar hours. A higher risk of unserved energy is observed during this period, highlighting the need for timely and firm power arrangements to meet the state's demand smoothly.
- A.12.2 Resource adequacy exercise by SLDCs is also mandated as per Indian Electricity Grid Code (IEGC) 2023. As per clause 31 of IEGC

Quote

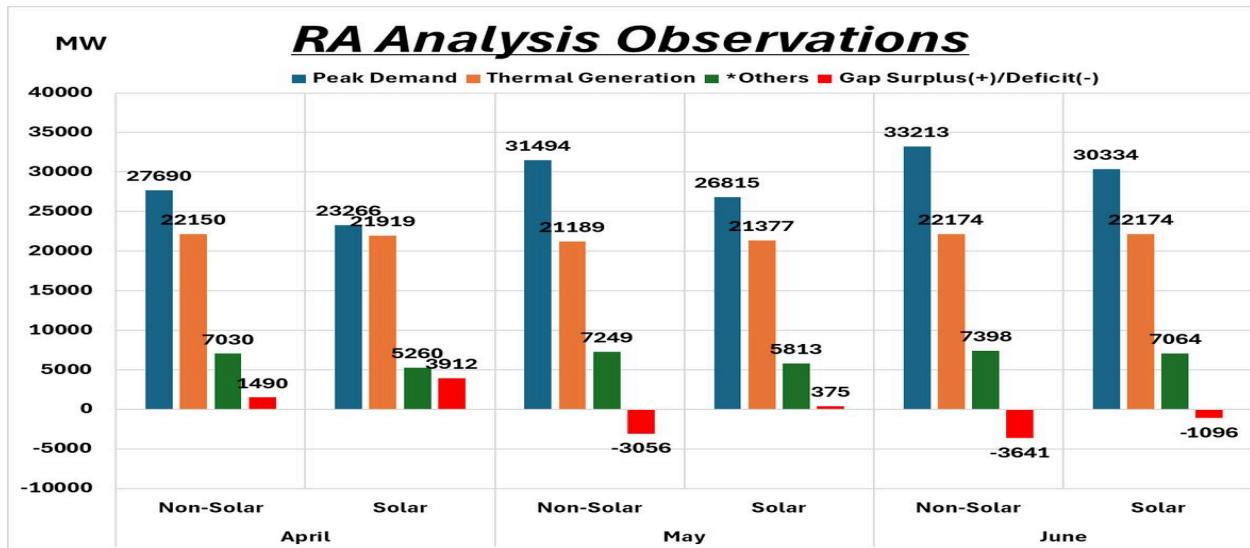
(4) Adequacy of Resources (a) SLDCs shall estimate and ensure the adequacy of resources, identify generation reserves, demand response capacity and generation flexibility requirements with due regard to the resource adequacy framework as specified under Chapter 2 of these regulations.

Unquote

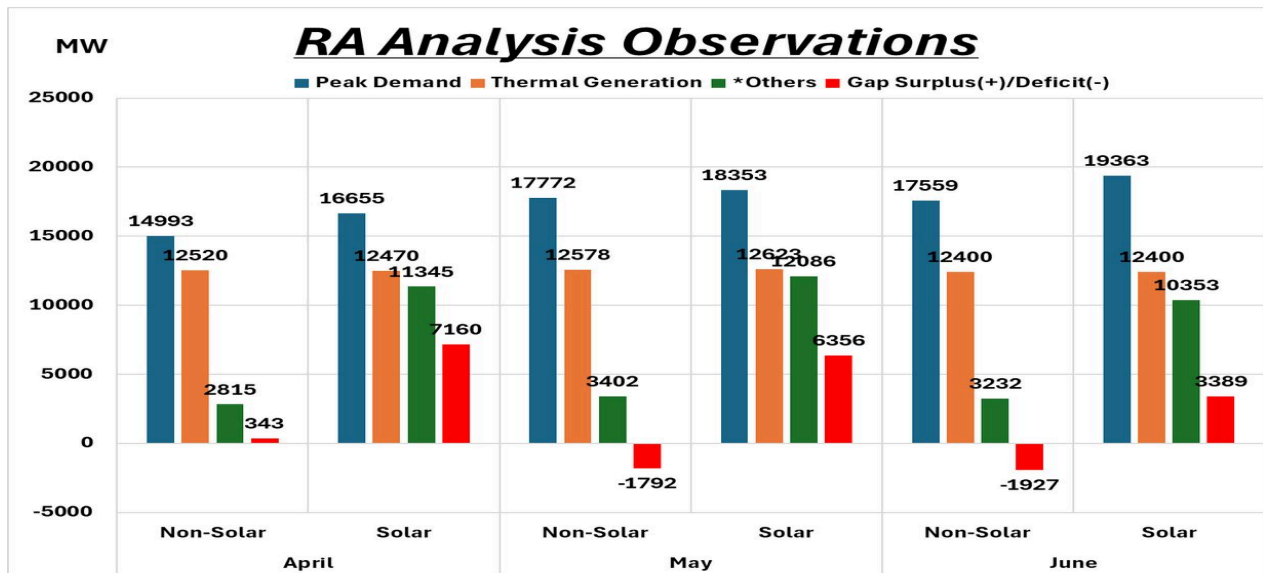
State-wise summary of actions taken till date and latest state-wise status as available with NRLDC is shown below:

- A.12.3 NRLDC representative presented state-wise RA analysis for the month of April-June 2026 and submission by respective state in OCC meeting.

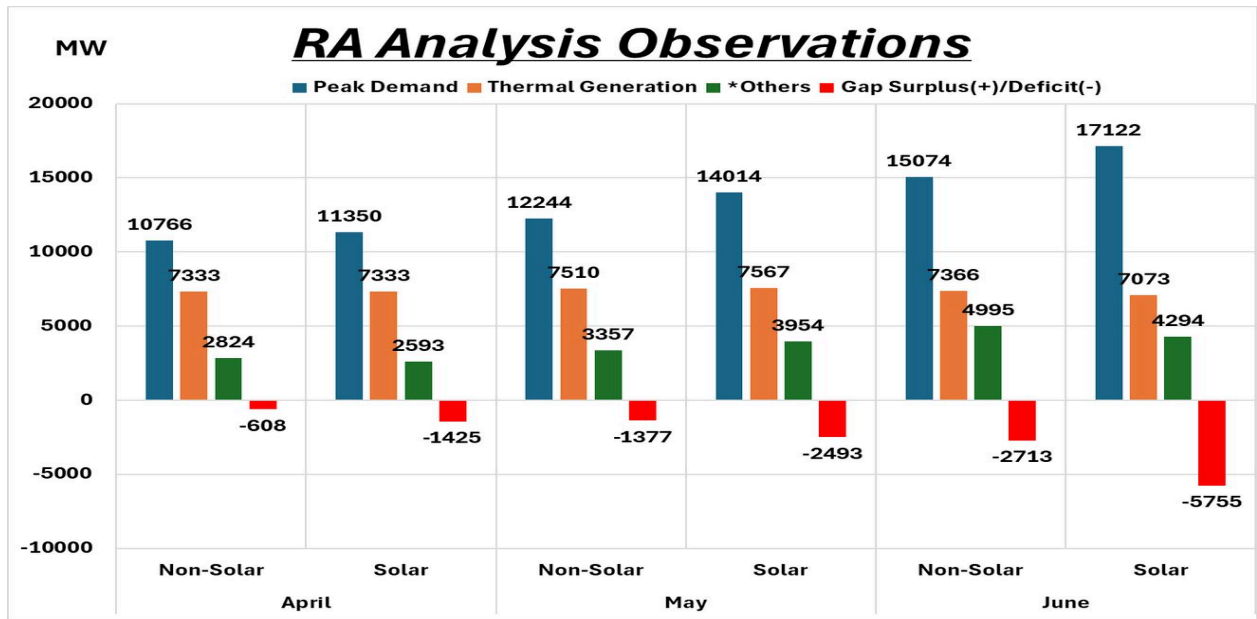
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57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

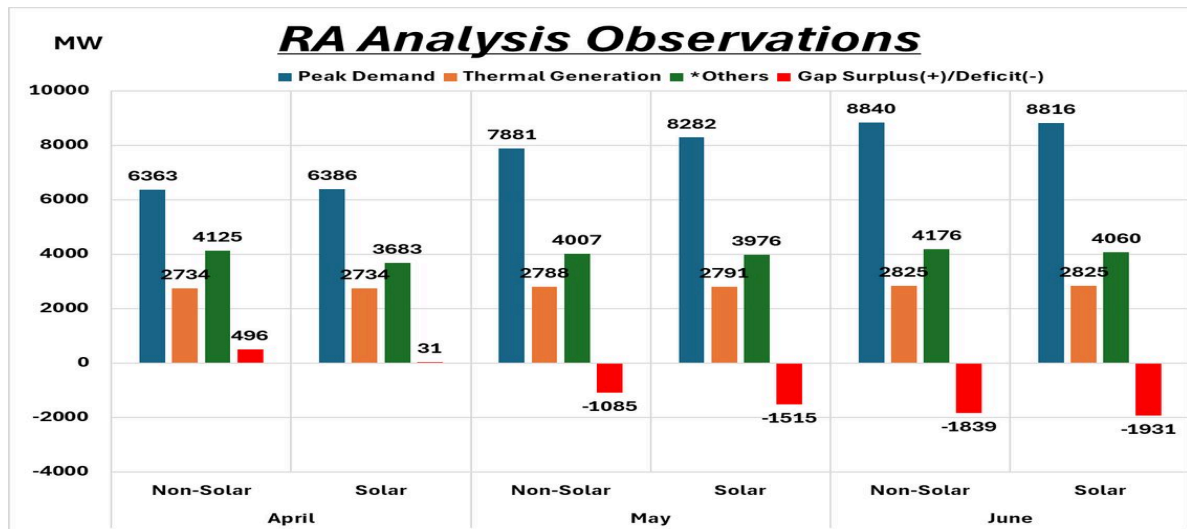
RAJASTHAN



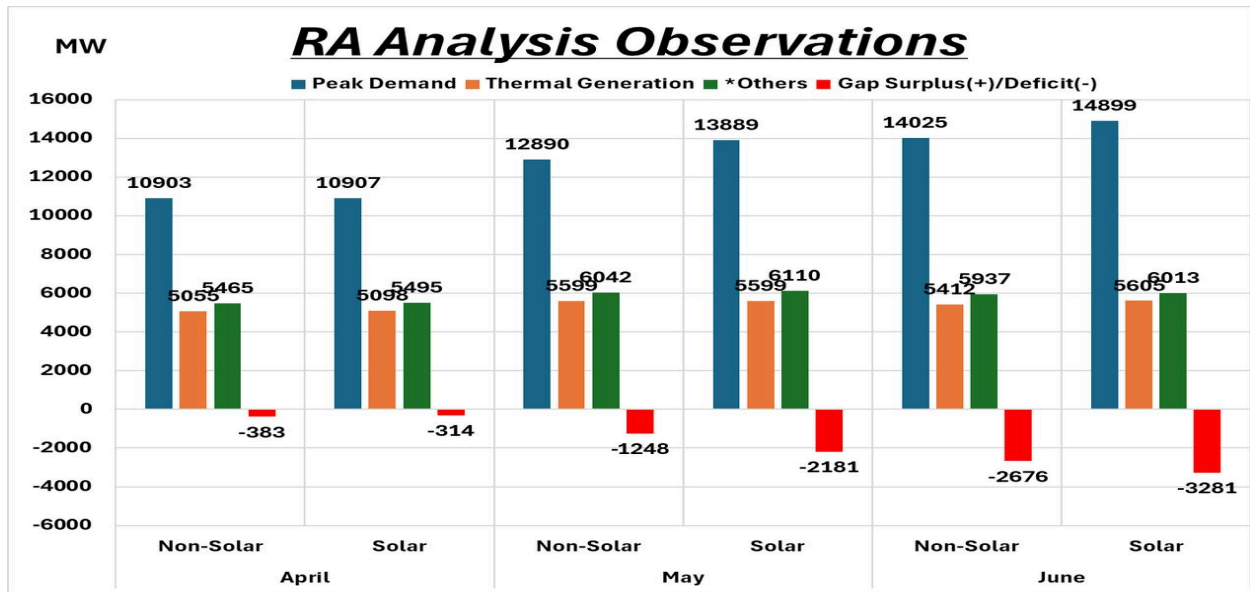
PUNJAB

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

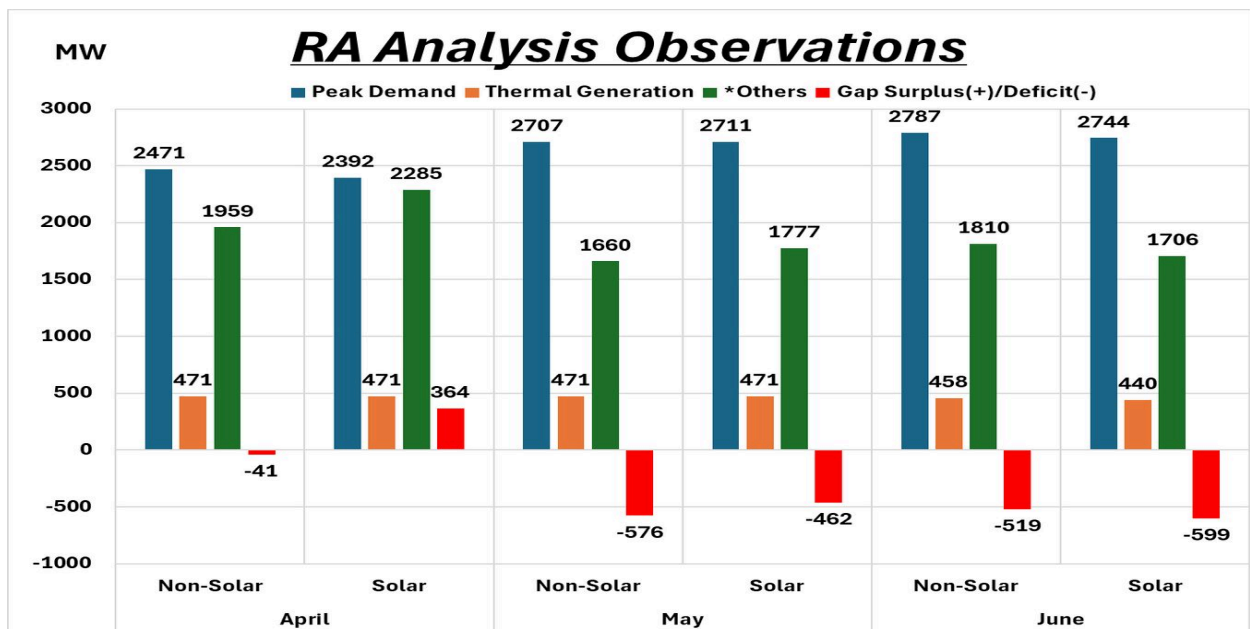
DELHI



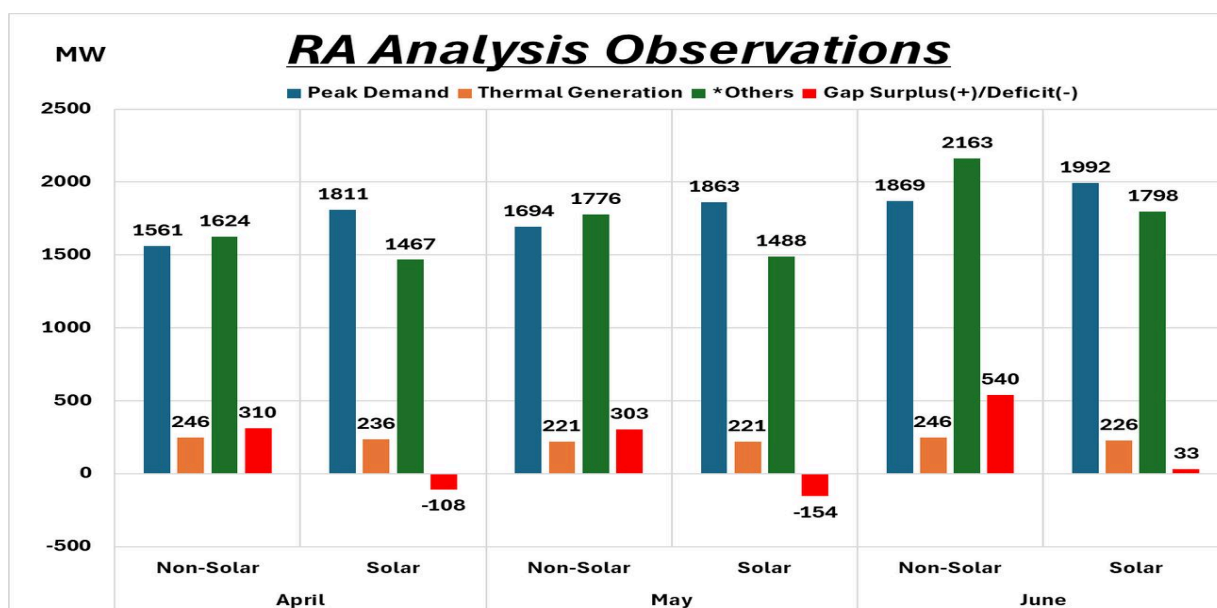
HARYANA

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

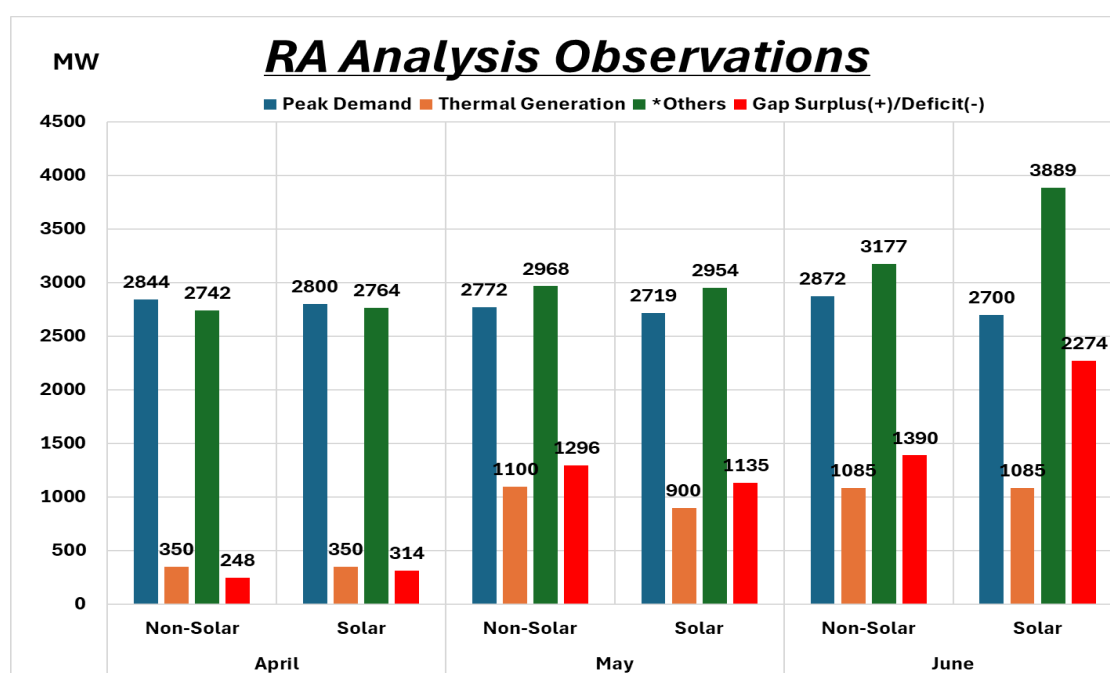
UTTARAKHAND

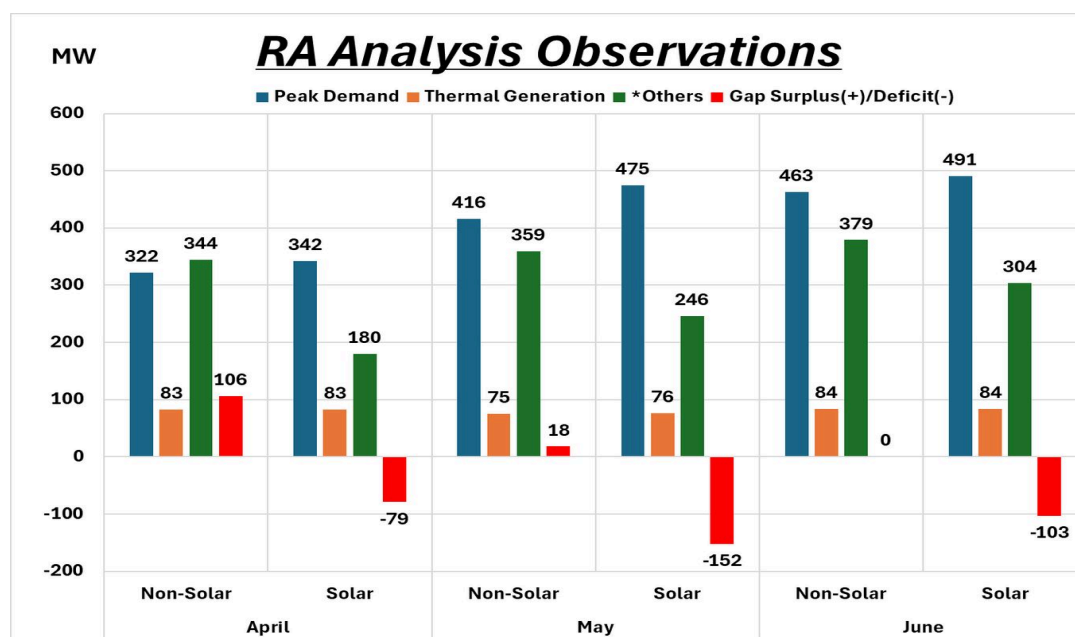


HIMACHAL PRADESH

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

JAMMU KASHMIR & LADAKH



57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM**CHANDIGARH****TCC Deliberation:****UTTAR PRADESH**

A.12.4 UP representative informed that PMC (Power Management Cell) has floated 3 bids which were unsuccessful. Further fresh bid would be invited. 500MW of banking arrangement is under progress. No planned outages were allowed for intra-state generators in the UP. Partial generation outages are also being followed up at higher level.

A.12.5 MS, NRPC suggested that all the states should have reserve also for the peak hours to ensure demand met in a reliable manner. It is highly expected that power may not be available in DAM/RTM (Day Ahead Market/ Real Time Market) segments and suggested for procurement planning in advance for meeting the peak demand.

A.12.6 States can also explore the OTC (Over the counter) and TAM (Term Ahead Market) market products in its advance planning for meeting its peak demand.

A.12.7 NRLDC representative also emphasized on operating reserve margin and suggested to kept it in the system to mitigate any last-minute contingency.

A.12.8 SLDC-UP may kindly share the details of further tied up/ arrangements to meet the peak demand with NRLDC and NRPC.

RAJASTHAN

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.12.9 Rajasthan representative stated that 105MW RTC contract was executed for May 2026. He also informed that Hon'ble SERC has approved for 55% MTL for thermal generating station and it would further help us to control the OD/UD during solar/non-solar hours. 1000MW of CGS allocation has been allotted from Ministry of Power (MoP) for upcoming summer months. On policy level, all the new RE contract would come compulsorily with 5% BESS .
- A.12.10 NRLDC representative informed that flexibility is a low hanging fruit and it can be effectively utilized by all the constituents.
- A.12.11 ED, NRLDC has stated that Rajasthan being a RE rich state and having high potential RE integration in future, it can explore all the avenues such as MTL, flexibility, better forecasting, Ancillary services in intra-state, BESS deployment and explore the RTC (Round the Clock) or FDRE (Firm & Dispatchable Renewable Energy) contract instead of plain vanilla contract of solar.
- A.12.12 MS, NRPC suggested SLDC-Rajasthan to closely monitor technical minimum level of thermal generators and ensure the compliances in intra-state generators. She also enquired about availability of Dholpur-Gas & Ramgarh-Gas in upcoming summer months.
- A.12.13 Rajasthan representative informed that it ran the Dholpur Gas generation during Rabi season and peak demand period earlier and it would further explore the possibility for this summer by purchasing the gas in spot market. Ramgarh GAS generation is sourced from local gas fields and already running as per fuel availability.
- A.12.14 CTU representative informed that 10% BESS advisory is already issued by Ministry of Power (MoP) and same may be considered by Rajasthan in its upcoming contracts. MS, NRPC also supported higher level of BESS integration in upcoming solar projects.

PUNJAB

- A.12.15 Punjab representative stated that 475MW power has already been tied up at CGPL, Mundra. Another 250MW additional allocation has been done by Ministry of Power (MoP) for summer months. Further Punjab is pursuing another 1000MW of power via banking arrangement or TAM or allocation from central pool. He has also informed in case of non-availability of power, it will reschedule its agriculture load to those blocks where there is no shortage.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.12.16 MS, NRPC suggested Punjab to kindly explore the banking possibilities from Southern region states to utilize the diversity in demand.

A.12.17 ED, NRLDC also advised Punjab not to rely on last minute avenues such as DAM/RTM.

DELHI

A.12.18 Delhi representative informed that 300MW generation in Bawana will be on bar as gas supply will be available as per Hon'ble Supreme Court order. He also stated that Delhi will be running 350-400MW embedded gas-based generation by procuring gas from spot market at any cost as it is very much required for reliability of the intra-state network of Delhi.

A.12.19 MS, NRPC enquired that whether the gas supply can be diverted from Bawana to Delhi embedded gas generation as discussed in special meeting with Delhi.

A.12.20 Delhi representative replied that Bawana gas can't be diverted to embedded gas generation due to administrative issue.

A.12.21 He further informed that considering all these factors, there would be no shortage in Apr and May months and 250MW shortage may be there in June 2026 for which Delhi is exploring possibility of tie up.

HARYANA

A.12.22 Haryana representative informed that month wise tie up has been done for short term RTC (Round the clock) power in the range of 300-1000MW. Apart from it, approximately 300MW allocation has been increased by Ministry of Power (MoP). Further 380MW tie up has been done with CGPL, Mundra.

A.12.23 NRLDC representative asked to share the exact details with NRLDC and NRPC.

UTTARAKHAND

A.12.24 Uttarakhand representative stated that 100MW RTC (Round the clock) power was finalized from 15-30 Apr 2026. Further for 300MW RTC, Uttarakhand has filed petition before Hon'ble UERC (state regulatory commission). Power in the range of 6-10% of its demand has also been arranged from unallocated quota of CGS (Central Generating Station).

HIMACHAL PRADESH

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.12.25 HP representative informed that equity power allotted to GoHP (Govt. of HP) will be utilized by HPSEB to meet its own demand and shortage during solar hours may be met from collective markets. He further informed that some banking power will be returned as per bilateral agreement.

A.12.26 HP representative also informed that there would not be any shortage in its state control area.

JAMMU KASHMIR & LADAKH

A.12.27 J&K representative informed that with the availability of hydro power and low demand in summer months, power position in J&K is expected to be comfortable.

CHANDIGARH

A.12.28 No representative from Chandigarh was available during the meeting.

A.12.29 ***Following are some of the actions that need to be implemented by all NR states for summer 2026 as per previous discussions:***

- a. *NR States may plan in advance for firm power procurement such as bilateral/banking arrangements for the entire summer period (April–June and beyond).*
- b. *Reliance on short-term market purchases such as Day Ahead Market/ Real-Time Market for meeting peak summer demand should be minimised and treated only as supplementary.*
- c. *All states to review their demand forecast submissions and plan accordingly including a plan for up to 5-6% forecast error. States should also try and ensure reserves which shall be around 3% of the state's demand.*
- d. *As per the directions from Ministry, no planned outages of generating units to be approved for Apr-June period. Accordingly, all planned outages may be expeditiously taken, and work may be completed at the earliest.*
- e. *All SLDCs to review the resource adequacy results and provide their comments along with the proposed tie-ups to avoid shortfall during Apr-Jun 2026.*
- f. *NR states should take up for tie-ups with other states, especially SR states where demand is much lower during this period timely so that based on inter-regional transfer capability limits, their arrangement get priority and gets scheduled in case of any congestion on the inter-regional corridor and avoid relying on DAM and RTM bids.*
- g. *Visibility/monitoring of all the plants at Real-Time Generation (RTG) monitoring portal with data correctness.*

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- h. Minimize hydro generation during solar hours and in off peak night hours so that the conserved water could be utilized for peaking requirements especially during non-solar hours*
- i. Partial and Forced Outages monitoring in Thermal Power plants.*
- j. Physical feeders checking, measures to control OD in real-time*
- k. Week-ahead (on rolling) and day-ahead RA Assessment for bringing intrastate units on bar*
- l. Complete the pre summer maintenance of transmission network.*

A.12.30 TCC forum suggested the following:

- a. Ensure resource adequacy including operating reserves throughout the day.
- b. To ensure the MTL (Minimum Turndown Level) in intra-state thermal generators as per Central Electricity Authority (Flexible Operation of Coal-based Thermal Power Generating Units) Regulations, 2023. Apart from it, also minimize the hydro generation during solar hours and utilize the same during evening peak hours.
- c. all the constituents to not rely on last moment reliance on DAM/ RTM and arrange the power well in advance through banking/ OTC/ TAM/ advance bilateral etc.
- d. Instructed to postpone all planned outages of generating stations after September in line with MoP (Ministry of Power) directions.
- e. To complete all pre-summer maintenance activities of transmission network
- f. To ensure the healthiness of all feeders to be opened under physical regulation.

NRPC Deliberation

A.12.31 NRPC forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

A.12.32 Member(GO&D), CEA advised Delhi to make sure that intra-state Gas plants are necessarily run as per its commitment even at high cost in spot market so as to reliably meet the Delhi demand in coming summer period.

A.12.33 Member (GO&D), CEA emphasized on pre-emptive actions to be taken by States to be prepared for meeting anticipated demand.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.12.34 Further, all constituents were requested to kindly stick to the planned maintenance schedules as approved at various forums. Since, planning is done in such a manner to always have adequate power available in the system.

A.12.35 Member (GO&D), CEA suggested the states to augment their intra-state network to avoid drawl above their ATC limits. Further, Central allocation from the unallocated quota of CGSs may not be fully beneficial to states due to ATC limitations. States should therefore proactively focus on strengthening their intra-state networks and augmenting ICTs to enhance their TTC/ATC.

A.12.36 Member (GO&D), CEA also asked states not to rely on the market (DAM/RTM) to meet their demand rather use markets only to manage their demand during any unforeseen conditions.

A.12.37 Further, states were urged to enter into banking arrangements with states having complementary demand.

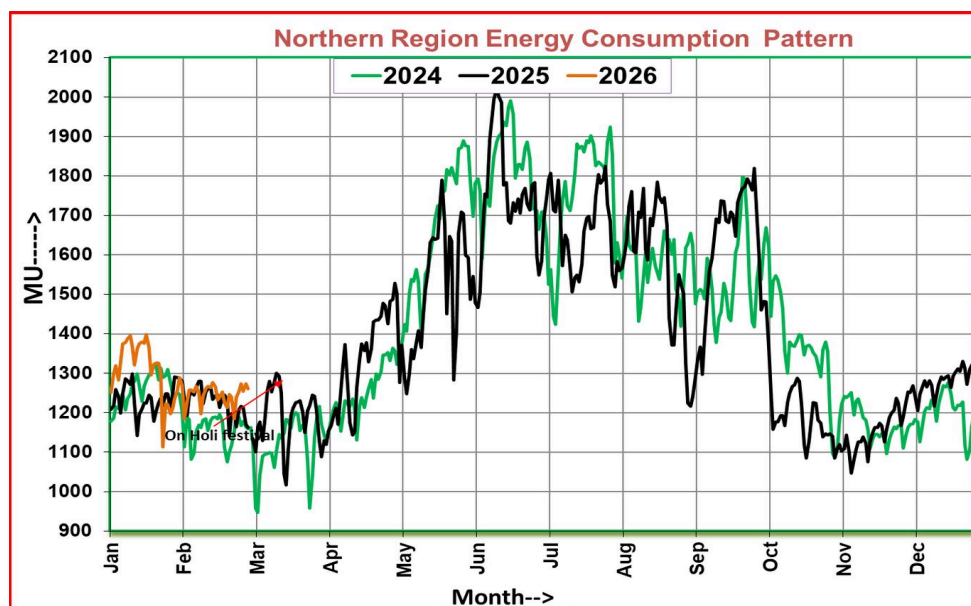
A.12.38 NRLDC representative has requested to states to start RA (Resource Adequacy) analysis on weekly rolling basis also and share the data with NRLDC.

Decision of the Forum:

NRPC forum asked all constituents to take necessary actions as mentioned above.

A.13 State-wise transmission constraints anticipated during high demand season of 2026 (Agenda by NRLDC)

A.13.1 Most of the NR states especially those lying in plain areas such as UP, Rajasthan, Punjab, Haryana, Delhi, Chandigarh U/T record their maximum demand met and maximum energy consumption during summer/monsoon months every year. With the increase in temperature and humidity, demand of Northern Region starts increasing. This year also it is expected that maximum demand met and energy consumption of Northern region and NR states will break many previous records. The past energy consumption pattern also suggests the same:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.13.2 During the high demand season, the transmission system in Northern region remains heavily loaded. Transmission constraints observed in the grid during high demand period are regularly being highlighted in OCC meetings. Same is also being submitted to CTUIL and CEA through quarterly operational feedback.

A.13.3 Even after several follow-ups, it is observed that progress of several transmission elements are not up to the mark and expeditious actions from transmission utilities are required so that minimal issues are observed at transmission level during the high demand season.

TCC Deliberation

A.13.4 State-wise issues and measures required thereof as discussed in the meeting are listed below.

Punjab:

A.13.5 Punjab representative provided the estimated timelines for each element as follows:

- i. LILO of one circuit of 220kV Mansa- Bathinda Refinery at 400kV Behman Jassa: end of April 2026
- ii. Commissioning of 400/220kV 4th 500MVA ICT at 400kV Rajpura (PSTCL) : end of May 2026
- iii. Conductor augmentation of 220kV Patran- Patran (PTCL) D/C from Zebra to HTLS : end of May 2026

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- iv. Commissioning of additional 2 no. 220kV inter-connecting circuits from 400kV Ropar to 220kV GGSSTP/Ropar : end of April 2026
- v. Connectivity of 220kV Dhandari Kalan-Sherpur : Physical work has been completed. CTU approval pending for bay interchange at Sherpur substation. MS, NRPC enquired the reason for the delay in approval from CTU end. CTU representative informed that it is a unique case and they will resolve it at the earliest.

Haryana:

- A.13.6 Haryana representative informed the forum that SPS at 400/220kV Panipat (BBMB) has been commissioned.
- A.13.7 POWERGRID representative stated that 400/220 kV, 500 MVA ICT-4 at Hisar (PG) will be commissioned by the 15th of June 2026 and further PGCIL will be trying their best to commission the ICT by end of May 2026.
- A.13.8 For Reconductoring of 220kV Hissar (PG)-Hissar (IA) D/C, PGCIL representative informed the forum that due to non-availability of man and material, shutdown was delayed.
- A.13.9 MS, NRPC advised POWERGRID to expedite the process as it is linked with Haryana TTC/ATC enhancement. POWERGRID representative informed the forum that they will be applying for Shutdown at the earliest.
- A.13.10 NRLDC stated that as interim measure SPS was planned for ICTs at Hissar (PG) which was not commissioned due to apprehension from Punjab end.
- A.13.11 PSTCL granted consented for the wiring of the 220 kV Hissar–Sangrur line for SPS only up to 31 May 2026. With the commencement of the paddy season from June onwards, the loading on the 220 kV Ludhiana–Dhandharikalan line is expected to increase this year and is likely to remain around 200 MW on each circuit on a continuous basis, leaving no additional margin.
- A.13.12 Further, TCC Forum suggested PGCIL to take all necessary measures to commission ICT at Hissar (PG) at earliest till 31st May 2026, which will further remove the need of the SPS. Requirement of SPS and changes required in Hissar(PG) SPS may be discussed in next OCC meeting.

Delhi:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.13.13 Delhi representative informed the forum that SPS at Harsh Vihar has been commissioned. Further, New ICT at Harsh Vihar will be commissioned by 2028.

A.13.14 Delhi representative informed the forum that civil work for new ICT at Bawana has been completed and it is expected to be charged by 3rd week of May 2026.

A.13.15 DTL representative also informed that under voltage relay at Bamnauli and Bawana is in healthy condition.

A.13.16 PGCIL informed that 1500MVA ICT-5 at Jhatikara will be commissioned by end of June 2026.

A.13.17 NRLDC raised concern about the rising load of Delhi and N-1 non-compliance of 400/220kV ICTs at Mundka, Bawana, Harsh Vihar in Delhi.

A.13.18 Delhi representative informed that 7 ICTs have been ordered with expected commissioning by 2028.

Uttar Pradesh:

A.13.19 UP representative informed the forum that one 240MVA refurbished ICT would be charged at Obra (UP) before end of April 2026. New 315MVA ICTs at Obra (UP) would be commissioned next year.

A.13.20 UP representative informed the forum that SPS for 400/220kV ICTs at Bareilly & SPS for 400/220kv ICTs at Panki will be commissioned by end of May 2026.

A.13.21 UP representative informed the forum that SPS for 400/220kV ICTs at Sahupuri & SPS for 400/220kV ICTs at Jetha will be commissioned by end of June 2026.

A.13.22 POWERGRID confirmed healthiness of Agra (PG) SPS and New 400/220kV 500MVA ICT will be commissioned by Oct-2026.

A.13.23 PGCIL further informed that SPS for 400/220kV ICTs at Lucknow (PG) will be commissioned by end of Apr-2026 and new 400/220kV 500MVA ICT will be commissioned by May-2027.

Uttarakhand:

A.13.24 NRLDC raised concern about the N-1 non-compliance of Rishikesh ICTs.

A.13.25 Uttarakhand representative informed a plan of augmentation of 400/220kV 500MVA ICT at Rishikesh. However, new ICTs will only be commissioned by 2028.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.13.26 NRLDC representative inquired about the increased flow in already overloaded 220kV network resulting from commissioning of 400/220kV 500MVA new ICT at Rishikesh.

A.13.27 Uttarakhand representative informed a plan of reconductoring (Zebra to HTLS) of 220kV transmission lines emanating from Rishikesh is under approval.

A.13.28 MS, NRPC suggested a joint study between CTU, NRLDC, SLDC Uttarakhand and PTCUL for exploring interim arrangement to mitigate high loading condition of Rishikesh ICTs.

TCC forum suggested all the utilities to expedite the commissioning of both inter-state intra-state transmission elements for safe drawl from the grid and for enhancement of TTC/ATC. Forum also suggested SLDCs to proactively give the operational feedback to respective STUs to plan the network to relieve the congestion in the intra-state network.

NRPC Deliberation

A.13.29 NRPC forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Delhi:

A.13.30 In order to meet Delhi expected demand of around 9000MW, Delhi has agreed that gas will be procured from spot market at any price for generating 350-400MW power in embedded gas generators at 220kV intra-state level.

A.13.31 Member (GO&D), CEA highlighted that lack of ICTs in Delhi area will becoming a challenge in order to meet the rising demand of Delhi control area and there may be a scenario where Delhi may not be able to draw their allocated quantum from Central Generating Stations. He further emphasized that the limited development of DTL's intra-state network in recent years could lead to supply constraints in the Delhi control area, despite adequate allocation from central generating stations.

A.13.32 NRLDC apprised the forum that SPS are a temporary measure and not a permanent solution for lack of elements in transmission system. Further, with growing fleet of EVs in Delhi, demand is expected to rise at a faster rate in the upcoming years.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.13.33 Forum asked DTL to take all necessary measures in order to avoid any limitation in power drawing capabilities of Delhi control area.
- A.13.34 Member (GO&D), CEA stated that in the event of low generation at embedded gas generators in central Delhi, onus of meeting the power demand in Delhi Control area lies on DTL, Delhi generating units and SLDC-Delhi.
- A.13.35 Further, in case of failure to make adequate arrangements to draw power in upcoming years from national grid due to lack of ICTs in sub-station of Delhi control area. DTL will be responsible for any shortage of power in Delhi control area since, even if more allocations are made for Delhi, DTL won't be able to draw power.
- A.13.36 Forum suggested that Delhi utilities need to take this matter to State government and state regulatory commission for timely intervention in the right direction to ensure uninterrupted power supply in Delhi control area.

Uttarakhand:

- A.13.37 Since, Rishikesh is getting power from Tehri pooling station, forum asked NRPC, CTU, NRLDC, SLDC Uttarakhand, PTCUL and Tehri for a joint meeting to find an interim solution to mitigate this high loading scenario till new ICT is commissioned at Rishikesh.
- A.13.38 Representative from Uttarakhand stated that due to upcoming Kumbh Mela in Uttarakhand next year, additional ICT is required at Rishikesh to cater the demand. MS NRPC enquired about if any spare is available at Uttarakhand. Representative from Uttarakhand conveyed that they have no spare available and requested POWERGRID to spare one ICT which was kept at Allahabad (PG) from regional pool for Kumbh Mela preparation.
- A.13.39 Representative from POWERGRID conveyed that they will intimate NRPC about its availability from regional pool.

Decision of the Forum:

Forum raised serious concern about the less development in intra-state network and asked all transmission utilities to expedite the commissioning of both inter-state and intra-state transmission elements for safe drawl from the grid and for enhancement of TTC/ATC.

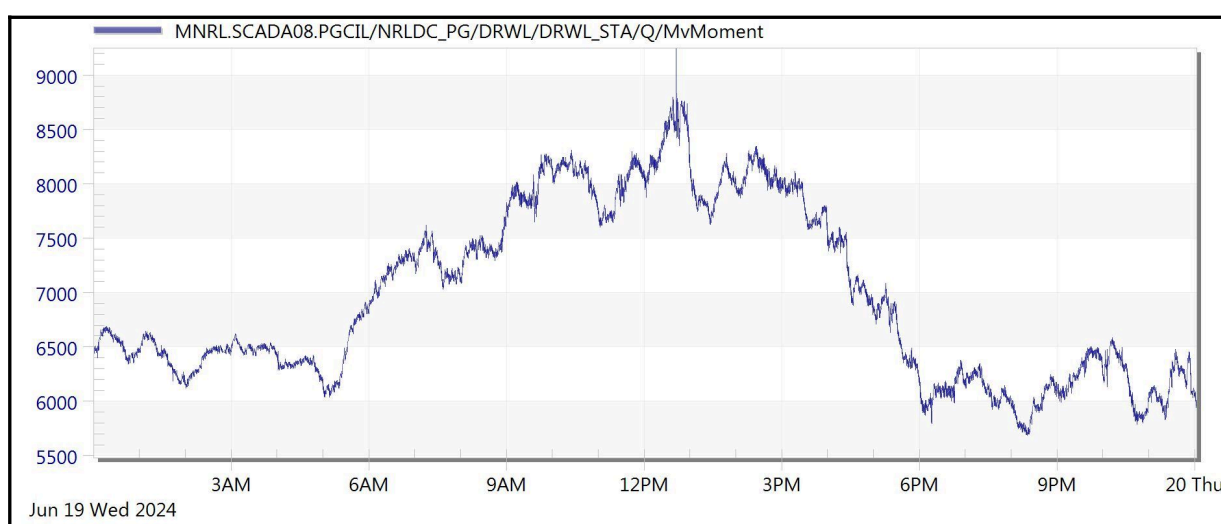
57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM**A.14 SPS for Champa-Kurukshetra HVDC (Agenda by NRLDC)**

A.14.1 There has been unplanned load loss that has taken place in two events related to simultaneous all poles outage of HVDC Champa-Kurukshetra namely,

1. 16.5GW load loss event on 17.06.2024 due to tripping of Champa-Kurukshetra all poles carrying 4000MW with NR total load as 89.4GW
2. 0.9GW load loss event on 09.06.2025 due to tripping of Champa-Kurukshetra all poles carrying 4300MW with NR total load as 82.6GW

A.14.2 The recommendations of Committee formed under Member (GO&D), CEA] to analyse 17th June 2024 are attached as Annexure-A.VII of agenda. NRLDC has been continuously pursuing with NR states to take measures for reactive power support at local level so that reactive power exchange from ISTS is minimal. However, as per discussions held in OCC meetings, no major relief is expected during summer of 2026. There is huge MVAR drawl by NR states during May-Sep months.

A.14.3 On 19th June 2024, the day NR demand reached maximum of 91.2 GW it can be seen that there was huge MVAR drawl by NR states from ISTS and seems to be following pattern of solar generation (maximum MVAR drawl at around 1pm) as shown below:



A.14.4 Accordingly, in 233 OCC meeting it was agreed to implement a SPS scheme which can shed loads in case of simultaneous outage of all poles of HVDC Champa-Kurukshetra. Since, identification and wiring of new load groups may be difficult for

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

implementation in short time frame and further utilities have also expressed concerns in identifying further new feeders for UFR or other load shedding schemes, it was suggested to utilise the wired loads of existing Agra-Gwalior SPS scheme. Signal of multiple HVDC pole outage can be extended from Kurukshetra station to Agra SPS scheme and some load relief can be obtained. The automatic disconnection of wired loads post outage of multiple HVDC Poles at Kurukshetra may provide some relief and may help in containing the voltages till suitable static and dynamic compensation devices are commissioned.

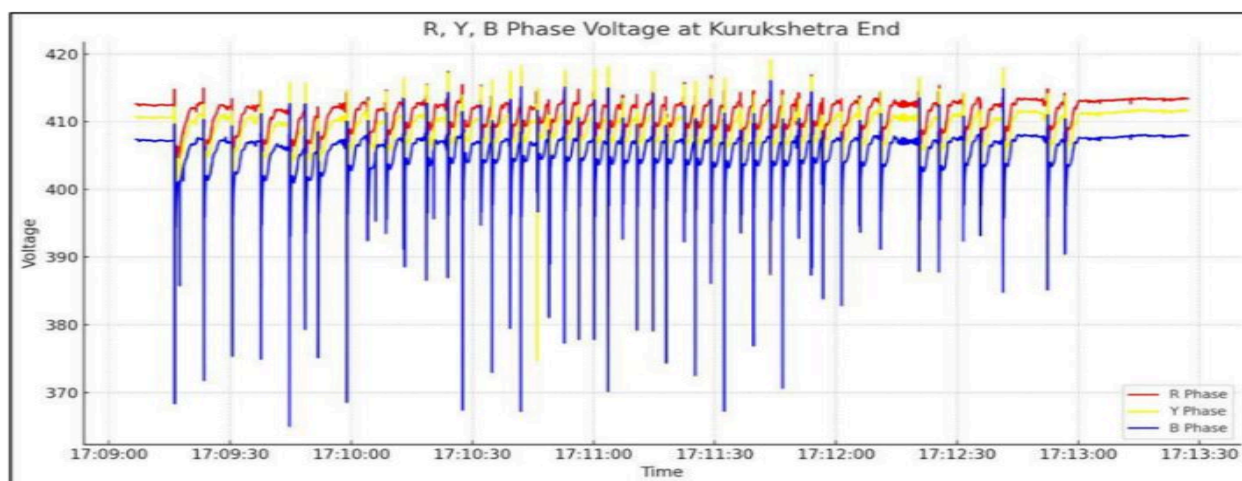
A.14.5 Following tentative logics for SPS were proposed in 241 OCC meeting:

- Voltage in all 3-phases at Kurukshetra fall below 380kV and more than 50kV for 250ms: Shed load in Groups C and D
- Voltage in all 3-phases at Kurukshetra fall below 360kV and more than 50kV for 250ms: Shed load in all Groups

(Time delay increased considering LBB protection timing)

Voltage > 50kV is being proposed so that SPS does not operate in case of any CVT data error.

A.14.6 Moreover, it was observed that bus voltages at Kurukshetra were reaching below 380kV during frequent commutation failures observed on 21.05.2025.



A.14.7 Accordingly, it is important that SPS logic resets immediately, so that in case of multiple voltage dip and recovery events, any maloperation of SPS may be avoided.

A.14.8 Further, as May-Sep is the main high demand period of NR and availability of all poles of HVDC Champa-Kurukshetra is desirable, accordingly POWERGRID is

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

requested to plan to take any shutdown related activities of Champa-Kurukshetra HVDC by April 2026.

TCC Deliberation

A.14.9 NRLDC enquired about the status of Champa-Kurukshetra SPS commissioning.

A.14.10 PGCIL representative informed that SPS would be commissioned by end of Apr 2026.

A.14.11 MS, NRPC emphasized about the importance of healthiness of HVDC Champa-Kurukshetra link and suggested PGCIL to take immediate action to avoid any delay in SPS implementation.

A.14.12 TCC forum suggested POWERGRID to expedite the commissioning of HVDC Champa-Kurukshetra SPS and ensure the healthiness of HVDC Champa-Kurukshetra link in upcoming summer months.

NRPC Deliberation

A.14.13 NRPC forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

A.14.14 Member (GO&D), CEA also emphasized that Dynamic reactive support in the system is urgently required, as its availability could have mitigated the impacts of the Champa-Kurukshetra tripping event.

Decision of the Forum:

- I. The Forum requested all the constituents to go through the Tripping Analysis Report of tripping pertaining to HVDC Champa-Kurukshetra on 17.06.2024 finalised in NPC and also take necessary measures as recommended in the report for safe and reliable grid operation.*
- II. The Forum also emphasized the importance of HVDC Champa-Kurukshetra link for the upcoming summer months and asked POWERGRID to commission the SPS at the earliest and ensure healthiness of the HVDC Champa-Kurukshetra link for the summer season.*

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***A.15 Expediting transmission system related to evacuation of RE power in Western Rajasthan (Agenda by NRLDC)**

- A.15.1 In line with Govt. of India targets for renewable energy integration, majority of the RE power at ISTS level is being commissioned in Western Rajasthan area. A total of around 26 GW of ISTS connected RE generation (solar, hybrid and BESS) in Rajasthan has been commissioned and being scheduled by NRLDC as on 31.03.2026. The agenda related to need for matching commissioning of transmission system in line with the rapid pace of integration of RE generation has also been deliberated previously in TCC/NRPC meeting. However, there continues to be delay in commissioning of planned RE evacuation transmission system and restriction has to be imposed on the RE generation that can be safely evacuated due to non-availability of associated transmission system (ATS). Details of major TBCB awarded Phase-III transmission system is attached as Annexure-A.VIII. of agenda. It may be noted that this transmission system was previously approved by TCC/NRPC forum during the 47th TCC & 49th NRPC Meetings held on 23,24 and 27 September, 2021.
- A.15.2 Due to this significant delay in commissioning of the planned transmission system, considerable quantum of RE power in Rajasthan REZ is getting bottlenecked. In the current scenario, the following constraints are being observed during peak solar generation hours:
- Low SCR at various RE pooling stations
 - Voltage oscillations in case of High RE penetration in the Rajasthan RE complex
 - Risk of angular instability under N-1 contingency of 765kV Bhadla-II-Ajmer D/C line
 - High loading and risk of angular instability under N-1 contingency of 765 kV Bikaner-Khetri D/C
 - Low voltages and possibility of voltage oscillations in case of high wind generation, due to drawl of reactive power by intrastate wind generators.
- A.15.3 Further, shutdowns of major 400kV & 765kV lines (such as the 400kV Bikaner-Bikaner-II D/C shutdown recently for construction and system strengthening related works) are to be facilitated in the RE complex, which can lead to curtailment of huge quantum of RE power. To facilitate these shutdowns and integrate maximum possible RE power in upcoming months, it is requested that the remaining transmission infrastructure mentioned above is expeditiously commissioned.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.15.4 While facilitating the planned outage of 400 kV Bikaner (PG) – Bikaner-II D/C on 22nd Feb 2026 for LILO of this line at upcoming 400 kV Bikaner-III PS, the SCR at Bikaner-II reduced significantly from approximately 4.42 to ~1.77. Severe oscillations in the range of 16–20 Hz were observed in voltage and frequency. From 22nd Feb to 25th Feb 2026, multiple operational combinations including STATCOM mode changes, disconnection of certain RE plants, STATCOM switching and HVDC Balia–Bhiwadi switching were attempted to identify the root cause. However, oscillations persisted until at least one circuit was restored indicating unstable behaviour of plants under low system strength conditions.
- A.15.5 Notably, even when generation at Bikaner-II was very low, oscillations continued after opening of the above line, indicating stability challenges for inverter-based resources to even remain connected in extremely weak grid conditions and need to review the present short circuit assessment methodology used during planning stage.
- A.15.6 This case establishes that low SCR/system strength significantly increases the susceptibility to oscillatory instability in RE complexes. Currently, while assessing permissible limits for scheduling of injection from VRE, only thermal or angular stability limits are considered. The permissible limits for evacuation would be lower than current assessments if controller-driven stability is also factored in.
- A.15.7 Following measures are suggested to address the prevailing and anticipated low SCR conditions and enhance the reliability of RE complexes:
- SCR of '5' as per CEA Connectivity Standards may be ensured in the planning studies. 'N-1' reliability criteria (credible operating scenario) may also be considered for computation of SCR.
 - As per experience gained during shutdown of 400kV Bikaner (PG) – Bikaner-II D/C, while assessment of SCR at RE pooling substations consideration of inverters and BESS quantity which shall remain connected need to be included in calculations, instead of actual generation as is the methodology presently being used in planning studies.
 - Measures for ensuring adequate system strength in VRE complexes such as planning of additional synchronous condensers, transmission lines or any other suitable technical device.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

d) Timely commissioning of planned transmission system for RE evacuation.

e) Deployment of grid-forming inverters especially at locations where stability issues are being observed.

TCC Deliberation

A.15.8 Timelines for the transmission updated as per details provided in the forum are tabulated below:

Crucial Transmission Element	Implementing Agency	SCOD	Revised Anticipated COD	Latest Status update at 57th TCC meeting
Fatehgarh 3 - Bhadla-3 400kV D/c line(Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 3-Bhadla-3 400kV D/c line	M/s Fatehgarh III Transmission Ltd. (a subsidiary of Apraava Energy Pvt. Ltd.),	01.02.2025	30.06.2026	No representation
±2x300MVar STATCOM along with MSC+MSR at Ramgarh-II	M/s Ramgarh II Transmission Ltd. (a subsidiary of POWERGRID),	26.10.2025	30.04.2026	30.05.2026
2x1500 MVA, 765/400kV & 3x500 MVA, 400/220kV pooling station at Bhadla-3	Bhadla III Transmission Ltd. (a subsidiary of POWERGRID)	27.03.2025	30.04.2026	Commissioned
Sikar-II – Khetri 765 kV D/c line And Sikar-II – Narela 765 kV D/c line 240MVar Reactor -4Nos.	Sikar Khetri Transmission Ltd. (a subsidiary of POWERGRID)	09.08.2025	30.07.2026	30.09.2026
Bhadla-III – Bikaner-III 765 kV D/C line along with 240 MVar switchable line reactor for each circuit at Bhadla-III end	Bhadla-III & Bikaner-III Transmission Ltd. (Subsidiary of POWERGRID)	30.08.2026	31.12.2026	31.03.2027
Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVar Switchable line	Beawar Dausa Transmission Ltd. (a subsidiary of	30.04.2025	30.06.2026	30.06.2026

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

reactor for each circuit at each end	POWERGRID)			
LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar	Beawar Transmission Ltd. (a subsidiary of Sterlite Grid Ltd.) Fatehgarh III	19.03.2025	30.04.2026	30.04.2026
Fatehgarh III - Beawar 765kV D/c line		01.02.2025	30.04.2026	30.06.2026
±2x300MVA STATCOM along with MSC+MSR at Fatehgarh-III		30.09.2025	30.04.2026	30.04.2026
765kV Kankani-Phagi D/C	Rajasthan State	Taken in planning studies for Phase-2 (expected commissioning by 2024)	2029	2029
Upgradation of Kankani (Raj) to 765kV along with 1500*3 MVA 765/400kV ICT				
400kV Jaisalmer (Bainsra) - Kankani (Quad) D/C				
765/400 kV, 4x1500 MVA Neemrana-II S/s along with 2x330 MVA (765 kV) Bus Reactor & 2x125 MVA (420kV) Bus Reactor at a suitable location nr. Neemrana	Neemrana II Kotputli Transmission Limited (a subsidiary of Resonia)	December 2025	30.12.2026	Land finalisation for Neemrana-2 substation may be done by Apr 2026. It may take further 12-18 months for sub-station commissioning.
Neemrana-II -Kotputli 400 kV D/c line (Quad)				
LILO of both ckts of 400 kV Gurgaon (PG) - Sohna Road (GPTL) D/c line (Quad) at Neemrana-II S/s				

A.15.9 NRLDC representative raised serious concern about delay in commissioning of transmission network and inform the forum about the operational constraints and RE curtailment around 4.5GW during solar hours due to very less margin in T-GNA.

NRPC Deliberation

A.15.10 NRPC forum noted the deliberation held in TCC meeting.

Decision of the Forum:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Forum has asked all the transmission utilities to make their best efforts to commission the transmission network in least possible time period. Since, these elements are creating a bottleneck for evacuating solar power from Western Rajasthan area and causing huge national energy loss and unreliable operation of the grid.

A.16 Rajasthan-related issues (Agenda by NRLDC)

a. Huge deviation by Rajasthan state control area

A.16.1 As per IEGC clause 44.3(c), State Load Despatch Centre in discharge of its functions under the Act and for stable, smooth and secure operation of the integrated grid, shall be responsible for balancing demand and supply to minimize Area Control Error (ACE) for the State. NRLDC has also been asking constituents to maintain load generation balance and messages are also regularly issued from Real time operators to the under-drawing/ over-drawing constituents. Further, NRLDC has been pro-actively carrying out hydro moderation of ISGS plants in addition to TRAS down support from NLDC to arrest high frequency.

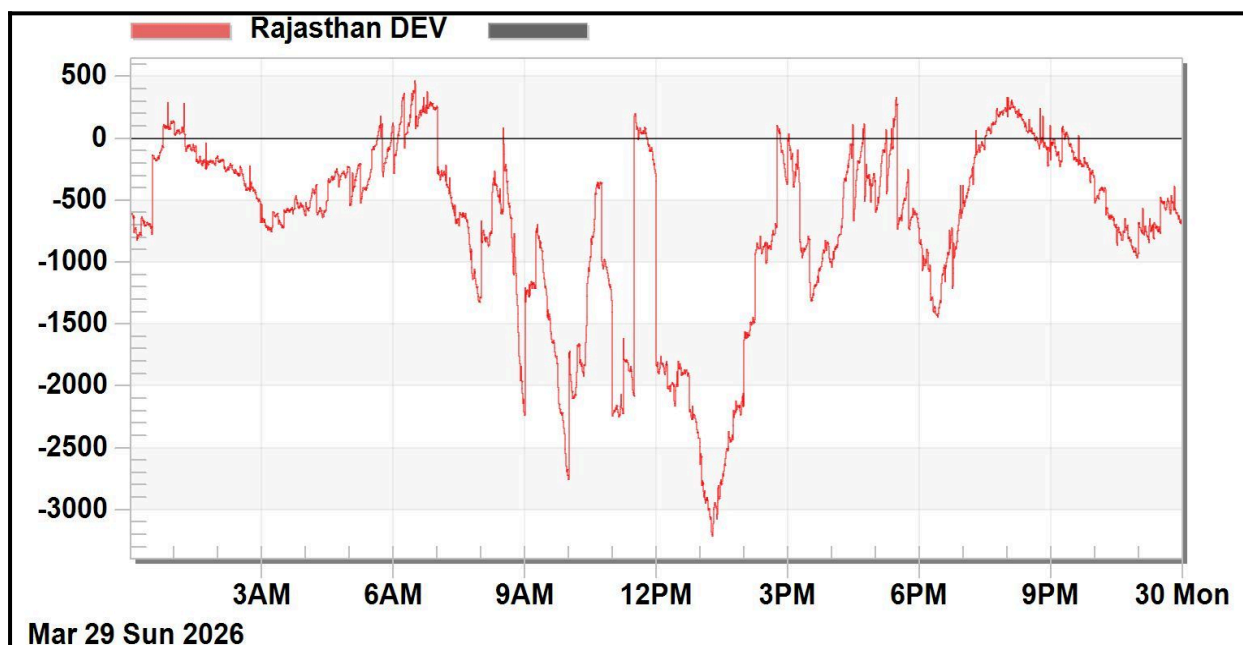
A.16.2 However, it is being observed that Rajasthan state due to less state demand in March 2026 is heavily under drawing during the day-time when solar generation is high. The details of daily under-drawl (MU) and max. under-drawl based on 5 minutes average telemetered data i.r.o. Rajasthan state control area for few days of March 2026 is given below:

Rajasthan Deviation and grid frequency for March 2026

Date	Deviation/UI [Overdrawl (+) Under drawl (-)] MUs	Max Under-drawl (in MW) during 09-15 hrs of day
29-03-2026	-16.64	3192
04-03-2026	-12.08	1876
22-03-2026	-11.75	2867
20-03-2026	-11.54	2226
15-03-2026	-11.35	1720
19-03-2026	-10.49	2506

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.16.3 Plots for deviation by Rajasthan state control area for 29-03-2026 (most recent event) are shown below wherein it can be clearly seen that Rajasthan state was heavily under drawing from the grid during the day time.



A.16.4 Such large deviations from schedule and high-frequency operation are a threat to the system security.

A.16.5 To avoid continuous high frequency operation in the grid, following actions may be ensured during real-time grid operation and maintaining drawal close to schedule:

- Generation backing down in coal fired thermal stations to 55% of Maximum Continuous Rating (MCR) loading of the units on bar at the generating station after deducting the normative Auxiliary Energy Consumption plus Auxiliary Energy Consumption compensation as per the provisions of the Grid Code as per merit order based on variable charges.
- SLDC may take up with SERC for providing suitable compensation for oil support for thermal plants backing down to 55% of their MCR. This was also discussed in 55th TCC & 80th NRPC Meetings held on 17-18 July 2025.
- Portfolio management through sale of power in T-GNA.
- Lifting of planned load shedding, curtailments, if any.
- Downward revision of requisitions from ISGS as per merit order on request of beneficiaries.
- Generation reduction at hydro stations having storage capability.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.16.6 There is need for further improvement in load generation balancing and maintaining drawl close to schedule by Rajasthan SLDC.

b. PMU installation in Intra-state RE plants

A.16.7 Multiples events of oscillations in voltage & frequency as well as Renewable Energy (RE) generation trippings have been observed in the Western Rajasthan RE complex. These oscillation/ tripping related events were analyzed using available PMU data and deliberated in various NRPC forums. Recently, RE Sub-committee of NRPC was held on 06.02.2026 wherein the inter-area oscillations occurred on 04.02.2026 were also discussed in details and it was emphasized that there is need to install PMUs at every RE plant for proper visualization and analysis of the trippings and oscillation events being observed. The limited visibility due to non-availability of PMU data is a threat to grid security.

A.16.8 As per Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019, clause 9

*“(3) The user may be disconnected from the Grid by the licensee for non-compliance of any provision of these regulations and any non-compliance of the provisions of these regulations shall be reported by the licensee or the **State Load Dispatch Centre** or the **Regional Load Dispatch Centre**, as the case may be, to the appropriate Commission”.*

A.16.9 PMU data of RE plants connected to ISTS pooling stations is already available and analyzed at NRLDC end. The same is being shared with RE plants/developers with a request to carry out Root Cause Analysis (RCA) at their end in case of RE generation tripping and oscillation events.

A.16.10 Rajasthan state is also witnessing a large growth in intra-state with installed renewable energy capacity already reaching around 12,000 MW. Further, capacity addition and RE penetration at a rapid pace is envisaged in the future in the state control area. The availability of high-resolution data is thus of utmost importance. Similar to ISTS connected RE plants, PMUs should be installed at all the RE plants connected to intra-state network of Rajasthan for reliable and secure grid operation

A.16.11 Also, as discussed in the meeting taken by CEA Chairperson dated 11.03.2026 regarding the review of Rajasthan's tie-up capacity along with status of Power projects till 2029-30, it was advised that NRLDC may write to RRVPNL suggesting

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

the installation of PMUs in intrastate RE plants level for monitoring of performance during faults as well as oscillation events.

A.16.12 NRLDC has already sent letters dated 11.02.2026 & 19.03.2026 in this regard which also include identified locations (approx. 80 PMUs required) for PMU installation.

A.16.13 This would facilitate in identifying the intrastate RE plants non-complying with the CEA standards and the extant regulations. Also, the RE plants with high fluctuations in their MW, MVAR etc. during fault and oscillations can then be asked to submit Root Cause Analysis (RCA) and take corrective actions in view of grid security similar to ISTS.

TCC Deliberation

A.16.14 NRLDC representative informed the forum about the lack of PMU availability at intra-state RE plants.

A.16.15 Rajasthan replied 17 number of RE plants constituting installed capacity of approx. 55% of intra-state RE generation have PMU installed with data reporting at SLDC. Apart from it, Rajasthan has mandated PMU installation for all new RE plants.

A.16.16 MS, NRPC advised Rajasthan to explore the possibilities of installing PMU in old RE plants.

A.16.17 NRLDC suggested SLDC Rajasthan to enhance their capability to analyse the PMU data from RE plants and share root cause analysis of tripping occurring in Western Rajasthan area.

A.16.18 TCC forum suggested Rajasthan to expedite the PMU installation, regularly analyse the PMU data and share the root cause analysis for the events with NRLDC and NRPC.

NRPC Deliberations:

A.16.19 NRPC forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Decision of the Forum:

- I. Forum emphasized on the need of PMUs at Intra-state level and asked SLDC-Rajasthan to take all necessary actions in order to get PMUs installed in older plants and further, develop capabilities at SLDC level to analyze the PMU data and share the results with various Committees at NRPC level.*

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- II. Forum has asked SLDC Rajasthan to share the expected timeline for installation of PMUs within 15 days for all Rajasthan Intra-state RE plants.*

A.17 Mock testing of islanding scheme and simulation studies (Agenda by NRLDC)

A.17.1 Following four islanding schemes are operational in the Northern Region: NAPP Islanding Scheme (Uttar Pradesh), RAPP Islanding Scheme (Rajasthan), Bawana Islanding Scheme (Delhi), and Unchahar Islanding Scheme (Uttar Pradesh).

- NAPP Islanding scheme (UP)
- RAPP Islanding scheme (Raj)
- Bawana Islanding scheme (Delhi)
- Unchahar Islanding scheme(UP)

A.17.2 As per Clause 29.10 and 29.11 of the IEGC:

“(10) RPCs shall prepare the islanding schemes in accordance with the CEA Grid Standards for identified generating stations, cities and locations and ensure their implementation. The islanding schemes shall be reviewed and augmented depending on the assessment of critical loads at least once a year or earlier, if required.

*(11) Mock drill of the islanding schemes shall be **carried out annually** by the respective RLDCs in coordination with the concerned SLDCs and other users involved in the islanding scheme. In case mock drill with field testing is not possible to be carried out for a particular scheme, **simulation testing** shall be carried out by the respective RLDC.”*

A.17.3 There have been recent directions from NPC and MoP for islanding testing. Even after follow-ups in OCC meeting, following is pending regarding mock testing of islanding schemes:

A.17.4 The required mock testing data is still awaited for the following islanding scheme:

- RAPP Islanding Scheme (basecase last received on 21.03.2025)

A.17.5 Mock testing data has been received for:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- NAPP Islanding Scheme (UFR testing report received, base case awaited) (basecase last received on 30.01.2025)
- Lucknow–Unchahar Islanding Scheme (UFR testing report received, updated base case awaited)

A.17.6 Further, the status of other schemes is as follows:

- Delhi Islanding Scheme – under review/modification
- RSD Pathankot Islanding Scheme – not presently in service.

A.17.7 The SOP for mock testing of islanding schemes in the Northern Region was approved during the 223rd OCC meeting held in September 2024.

A.17.8 In compliance with the above provisions of the IEGC, NRLDC requested forum to advise the concerned to submit the requisite data and report, as stipulated in the approved SOP, to facilitate successful conduct of mock testing of islanding schemes for FY 2025–26 at the earliest.

A.17.9 Communication have already been sent from NRLDC side vide email dated 16.02.2026 & 03.03.2026. Further agenda has been discussed in recent 240th and 241st OCC meeting held in Feb 2026 & Mar 2026 respectively.

A.17.10 NRLDC intimated that For Delhi, the islanding scheme is now being modified and two islanding schemes are under proposal one including Dadri Stage-II generation and another using Bawana generation.

A.17.11 NRLDC stated that PSTCL may also expedite the revival of presently non-functional Ranjit Sagar Dam-Pathankot islanding scheme.

TCC Deliberation:

A.17.12 SLDC UP informed that NAPP & Unchahar islanding scheme mock testing was already completed.

A.17.13 Delhi representative informed the forum that revised Delhi islanding scheme with Dadri stage-2 generation has been implemented at POWERGRID and DTL end however, it is still pending at NTPC Dadri end.

A.17.14 Rajasthan representative stated that modification in RAPP islanding scheme was done in Nov-2025 and mock testing was also completed.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.17.15 Punjab asked the forum some time to submit revised RSD-Pathankot and Rajpura-Patiala Islanding scheme details. Currently both the schemes are not implemented.

A.17.16 TCC forum suggested that islanding scheme is a last-minute defence mechanism and to be reviewed on regular basis for load generation balance in the island so that it could be useful at the time of real time contingency.

NRPC Deliberation:

A.17.17 NRPC forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Decision of the Forum:

Forum suggested to all members to keep their islanding schemes updated and complete all the pending works in order to keep islanding scheme (last defence mechanism) in healthy state.

A.18 Non-Payment of NR Pool Account (Agenda by NRLDC)

A. Non-Payment of Pool Deficit Recovery Charges:

A.18.1 Hon'ble CERC has approved "Detailed Procedure for recovery of charges in case of deficit in the Deviation and Ancillary Service Pool Account" (effective from 15.10.2024) for recovering the deficit in the pool for the period prior to 16.09.24 (Legacy dues) and from 16.09.24 onwards till 31.03.2026.

A.18.2 In line with the approved procedure, NLDC had published statement namely "Net Deviation & Ancillary Services Pool Account Deficit Recovery Statement for period prior 16.09.2024 (Legacy Dues)" dated 11.11.2024, specifying the All-India deficit of Deviation and Ancillary Services Pool Accounts and per instalment amount to be paid by the drawee DICs.

A.18.3 NLDC vide letter dated 03.03.2025, revised pool deficit recovery statement due to revised assessment of the respective regional deviation and ancillary pool account.

A.18.4 Further in line with the approved procedure, NLDC had published 06 nos statement (Bill-01-06) namely "Net Deviation & Ancillary Services Pool Account, Pool Deficit Recovery Statement".

B. Non-Payment of DSM Charges:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.18.5 NRLDC is operating and maintaining the “Northern Region Pool Account” for deviation charges, Reactive Energy Charges and Congestion Charges in accordance with provisions under various CERC Regulations. As per Regulations the payment to the statutory pool account have high priority and the concerned utilities are required to pay the indicated amounts within 10 days of issue of weekly energy account by NRPC secretariat.

A.18.6 In this regard, it is submitted that J&K has not been making regular payments of Deviation Charges and Reactive Energy Charges in accordance with the DSM Regulations.

The total outstanding dues of J&K are as follows:

Pool Deficit Recovery Charge Statement	Outstanding Amount (in Cr)
Pool Deficit Recovery Charges (Legacy Dues prior to 16.09.2024)	-
NLDC statement dated 13/01/2025	-
NLDC statement dated 17/09/2025	-
NLDC statement dated 31/10/2025	10,86,52,371
NLDC statement dated 14/11/2025	5,52,01,227
NLDC statement dated 28/11/2025	6,61,27,051
NLDC statement dated 09/01/2026	3,98,25,070
DSM Charges	28,27,42,232
Total	55,25,47,951

NRLDC has filed a petition before the Hon'ble CERC with details as follows:

Petition Filed	Present Status
Petition 547/MP/2025 filed by NRLDC against J&K towards Non-Payment of DSM, RE & Legacy Dues.	- JKPCL in its reply said that it has already made requisite submissions and requests to the appropriate authorities for the release of funds to enable JKPCL to clear the total outstanding dues to the Petitioner. Further, J&K made payment of ₹ 30 Crore on 15-09-2025 & 56.23 Crore on 15-12-2025 towards DSM Outstandings & Pool deficit

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

	charges. 3. During Hearing dated 03.12.2025 J&K seek six months times to clear all outstanding dues. Commission reserved its order after hearing the parties.
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A.18.7 During the hearing of the petition, J&K had committed to clear all outstanding dues within six months, out of which three months have already elapsed.

TCC Deliberation

A.18.8 NRLDC informed the forum about long outstanding of 55Cr dues of JKPCL against DSM and Ancillary pool accounts. He also informed that Hon'ble CERC in its order in Petition 547/MP/2025 has also directed JKPCL to clear all the outstanding dues along with applicable interest and surcharge and to maintain the requisite LC as per regulation.

A.18.9 MS, NRPC asked J&K representative to take up the matter with senior officials of JKPCL for clearing of the dues at the earliest.

A.18.10 TCC forum suggested J&K representative to clear the outstanding dues of 55Cr at the earliest and to make regular payment as per timeline mentioned in the DSM regulation.

NRPC Deliberation

A.18.11 NRPC forum noted the deliberation held in TCC meeting

Decision of the Forum:

Forum asked J&K representatives to apprise their higher officials of the overdue charges and delay in opening Line of Credit and clear the outstanding dues at the earliest and make regular payment as per timeline mentioned in the DSM regulation.

A.19 Additional Agenda 1: Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region (Agenda by CTUIL)

TCC Deliberation

A.19.1 CTU representative apprised that as per the CEA letter dtd. 22.05.2024, all lines 110 kV and above shall have Optical Ground Wire along with necessary terminal equipment for speech transmission, line protection, and data channels. Further as

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 primary path for tele-protection shall be on point-to-point Optical Ground Wire and alternative path shall be either on Power Line Carrier Communication or predefined physically diversified Optical Ground Wire paths.

- A.19.2 During planning of new Transmission Schemes many existing lines get LILOed at upcoming S/s (ISTS/STU). In view of non-availability of OPGW on the existing lines data and voice requirement for new S/s become critical. Further installation of OPGW in live line condition takes lot of time on exiting lines compared to new transmission lines. The installation of OPGW will also enable seamless data transmission from IEMs to the upcoming 5-minute Automatic Meter Reading (AMR) system.
- A.19.3 Subsequently CEA vide their letter dtd. 22.11.2024 communicated that all the upcoming lines shall be provided with 48 Fiber OPGW to cater to broadband and internet requirements in the rural areas and hinterlands to provide reliable Telecom connectivity.
- A.19.4 In the 16th NPC meeting held on 04.07.2025, proposal for installation of OPGW on the existing ISTS & STU lines were deliberated wherein it was decided that a comprehensive scheme for installation of OPGW on existing ISTS lines may be put up in the upcoming TCC/RPC meeting by CTU.
- A.19.5 Thereafter, this scheme was put up by CTU in the 55th TCC/ 80th NRPC meeting held on 17.07.2025/ 18.07.2025. The scheme was agreed in principle by the NRPC forum, and CTU was requested to formulate a comprehensive scheme for implementation of OPGW on existing ISTS lines where OPGW is not available.
- A.19.6 Summary of scheme agreed in 55th TCC/ 80th NRPC is given below:

Sr. No.	Projects	Total Transmission Length (Kms)
1.	RTM	4084
2.	JV	742
Grand Total		4826

The tentative cost estimate of above requirement is **Rs. 265 Crs.**

- A.19.7 Accordingly, CTU has again collected inputs from the ISTS TSPs and STUs. Based on these inputs, requirement of OPGW and FOTE was estimated by CTU and

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

scheme was formulated and was discussed in the 9th and 10th CPM (Communication Planning Meeting) of NR held on 19.08.2025 and 31.12.2025 respectively.

- A.19.8 In the above CPM meetings, it was noted that some of the lines in the scheme have multiple ownership e.g., States, POWERLINK and POWERGRID. Further some lines also fall under TBCB as well as RTM projects under ISTS. During the CPM meetings it was deliberated that respective asset owners like transmission line owner or substation bay owner shall install OPGW and FOTE for their respective ownership portions to avoid ambiguity in maintenance, ownership and monetization issues later. Further, in line with CERC order on Petition No. 94/MP/2021 dated 25.06.2021 OPGW shall be installed by replacing earth wire by owner of the transmission line and FOTE to be installed by respective Substation / Bay Owner following the required procedure with the approval of the competent authority.
- A.19.9 In the MoM of 10th CPM, scheme was bifurcated into ISTS Portion (RTM & TBCB) and STU (RRVPL, UPPTCL & PTCUL) portion for their respective transmission asset ownership, similar methodology is adopted for BBMB lines.
- A.19.10 The finalized detailed scheme for Installation of OPGW & associated communication systems on the existing lines of ISTS is attached at **Appendix-I**. Scheme consists of List of lines with kms, No of FOTE and their locations, Tentative Cost Estimate, mode of implementation and implementation schedule.
- A.19.11 STUs scope is also identified, however same to be implemented by respective STUs in matching timeframe ISTS scheme, the details of same are attached at **Appendix-II**.
- A.19.12 Summary of the schemes under ISTS is given below:

A. ISTS

S. No	TSP	OPGW (Km)	FOTE (Nos.)	Estimated Cost (Cr.)
1	POWERGRID	5392.33	68	342.265
2	POWERLINK	856.3	0	47.09
3	NRSS XXXI (B) Transmission Ltd	149	0	8.195
4	PKTCL	66.381	0	3.65

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Grand Total		6464	68	401.2 (approx.)

B. BBMB/STU

S. No	Utility	OPGW (Km)	FOTE (Nos.)	Cost (Cr.)
1	BBMB	576.2	3	Through BBMB/STU Schemes
2	RRVPL	124.61	6	
3	UPPTCL	221.736	9	
4	PTCUL	113.54	1	
Grand Total		1036	19	

A.19.13 Implementation timeframe of the scheme is considered as 36 Months from the date of allocation.

A.19.14 Implementation schedule of scheme 1.2, 1.3 & 1.4 mentioned in Appendix-1 is considered as 36 months i.e. matching with scheme 1.1, because FOTE at the end stations are considered in scheme 1.1 in line with CERC order on Petition no. 94/MP/2021(end stations ownership is of POWERGRID).

A.19.15 Subsequently, POWERGRID vide mail dated 27.03.2026 has submitted additional list of links. It has been observed that some of the links having mixed ownership with STUs and POWERGRID. In this regard an online meeting was convened by CTU on 06.04.2026 among POWERGRID, CTU and STUs to deliberate and finalize the list of links for Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region. Based on the inputs received during the meeting, scheme was updated and discussed in 30th TeST Sub Committee Meeting held on 10.04.2026, wherein members approved the scheme and recommended for TCC and NRPC Meetings. However, since implementation of BBMB portion was not concluded in the 30th TeST meeting, it was decided to be taken up in upcoming TCC and NRPC Meetings.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.19.16 Further in line with MoM of 38th NCT meeting, mode of implementation for the schemes to be considered under RTM mode owner wise.

A.19.17 After deliberation of the scheme “Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region” (for **Appendix-I**) in TCC/ NRPC, this scheme to be put up by CTU in the upcoming NCT for approval along with RPC views.

A.19.18 Representative from BBMB stated that BBMB should be categorized as ISTS in the scheme since it is deemed ISTS. He enquired whether OPGW installation for its portion can be taken up by POWERGRID or any other TSP.

A.19.19 Representative from CTU clarified that since BBMB is the owner of the lines specified in the scheme, it is responsible for implementation of its portion. However, BBMB may take up the execution with POWERGRID or any other TSP on a bilateral/repository basis. CTU further suggested that a separate category of deemed ISTS may be made for BBMB portion and taken up to NCT for information.

NRPC Deliberation

Forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Decision of the Forum:

For ISTS portion, Comprehensive Scheme for OPGW installation on the existing lines of ISTS in NR was approved by NRPC forum;

- I. For ISTS portion, Scheme will be taken up by CTU in the upcoming NCT for approval;*
- II. A separate category of deemed ISTS may be made for BBMB portion and taken up to NCT for information by CTU*
- III. For STU and BBMB portion, respective utilities were advised to implement in matching timeframe ISTS scheme.*

A.20 Additional Agenda 2: Replacement/Upgradation of FOTE at ISTS Locations due to Bandwidth congestion in Northern Region (Agenda by CTUIL)

TCC Deliberation

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.20.1 CTU representative apprised that in 27th TeST Meeting held on 21.04.2025 and 28th TeST meeting held on 23.07.2025, NMT brought out bandwidth congestion in some of the FOTE of NR which requires upgradation/replacement. System generated report from UNMS system is attached where Bandwidth Utilization is over 75%. CTU has studied these nodes for bandwidth congestion and summary of these nodes showing bandwidth utilization as reviewed from UNMS. Considering critical grid operations, these FOTEs experiencing high bandwidth congestion and may be upgraded/replaced as per the date of commissioning /useful life of the asset in line with CERC tariff regulation.
- A.20.2 This agenda was further deliberated in the 10th NR CPM (Communication Planning Meeting) held on 31.12.2025 regarding upgradation of FOTE where there existing bandwidth congestion in critical links of NR. At Allahabad & Varanasi node, requirement of STM-64 FOTE (with minimum 5 MSP) was deliberated in view of inter-regional data transfer towards Main & Backup NLDC and Main and Backup RLDCs. POWERGRID and NMT suggested that upgrading to STM-64 for Allahabad-Varanasi link also requires nearby nodes to be upgraded to STM-64 for utilization of STM-64 bandwidth. It is proposed that to provide congestion free corridor between NLDC/NRLDC – ERLDC/Backup NLDC, STM-64 based path can be created, which cater critical interregional data between ER- NR such as ICCP, AGC etc.
- A.20.3 The proposed path for NR-ER corridor is given below:
- NRLDC/NLDC (16/64) □ (Via Mehrauli □ Okhla) □ NTPC_Badarpur (64) □ Ballabgarh (16/64) □ Mainpuri □ Fatehpur □ Allahabad □ Sasaram □ Biharsharif □ Banka □ Kahalgaon □ Farakka □ Baharampur □ Jeerat New □ Kasba □ ERLDC (backup NLDC)
- A.20.4 In coordinated approach the above path shall also be deliberated in the ERPC TeST meetings and therefore agenda maybe discuss in upcoming NRPC TeST meeting.
- A.20.5 Further the requirement of STM-64 FOTE upgradation at Tughlakabad, Bhiwadi, & Kotputli S/s has been agreed in 10th CPM. STM-64 FOTE at Tughlakabad, Kotputli S/s are considered in this scheme and STM-64 FOTE at Bhiwadi S/s is considered in Comprehensive OPGW scheme.
- A.20.6 The FOTE locations which are already covered in the Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region has been removed from the FOTE upgradation scheme to optimize the cost & quantity.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.20.7 This scheme was further discussed in 30th TeST Meeting held on 10th April wherein, one FOTE at Neemrana S/s (STM-64) was agreed to be added in the scheme. Detailed list of nodes where upgradation/replacement of FOTE is considered is mentioned in Appendix-III. Implementation timeframe for this scheme is considered as 24 months from date of allocation.
- A.20.8 After deliberation of the scheme “Upgradation of FOTE at ISTS Locations due to Bandwidth congestion in Northern Region” (for **Appendix-III**) in 57th TCC/ 82nd NRPC, this scheme shall be put up by CTU in the upcoming NCT for approval.
- A.20.9 CTU apprised that, as per discussions held in the 30th TeST Meeting, the updated scope includes a total of 14 FOTEs, with an updated cost estimate of ₹9.04 crore.
- A.20.10 Implementation time shall be 24 months from date of allocation.

NRPC Deliberation

- A.20.11 Forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Decision of the Forum:

Upgradation of FOTE at 14 nos. of ISTS Locations due to Bandwidth congestion in Northern Region was technically approved by NRPC forum.

- A.21 Additional Agenda 3: Proposal for installation of Battery Energy Storage Systems (BESS) as Integrated Energy Storage Systems (IESS) for safe and reliable operation of the grid, at existing ISTS substations of POWERGRID and its subsidiaries in Northern Region (Agenda by POWERGRID)**

A) Background:

- A.21.1 CERC vide its notification dated 20.03.2026 has issued the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2026. The major change brought out in the latest amendment is the introduction of Integrated Energy Storage System (IESS) as a separate asset, in existing generating stations and ISTS.

Quote

Regulation 3A(8): *“Integrated energy storage system’ means the energy storage system co-located with the generating station or the transmission system,*

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

as the case may be, connected to a common bus-bar through the electrical system of existing generating station or the transmission system, as the case may be, and **for the purpose, including safe and reliable operation of the grid or for deferring the transmission investment and for enhancing the flexible operation of the generating station**, as the case may be, as per the requirement of the National Load Despatch Centre or beneficiaries or the designated ISTS customers, as the case may be.”

Unquote

A.21.2 Battery Energy Storage System (BESS) as an IESS, can provide the following **Ancillary Services for safe and reliable operation of the grid**, thereby strengthening reliability of grid operation and increasing efficiency of operation:

- a) **Frequency response:** BESS with fast ramping & bi-directional capability can provide:
 - i. **Primary Reserve Ancillary Service (PRAS)**
 - ii. **Secondary Reserve Ancillary Service (SRAS)**
 - iii. **Tertiary Reserve Ancillary Service (TRAS)**
- b) **Dynamic voltage & reactive power** support, and
- c) **Grid-forming functions**, including **synthetic inertia** emulation, **black start** support and for damping the magnitude of **voltage oscillations**.

A.21.3 POWERGRID submitted that GRID-INDIA also evaluated 20 MW/40 MWh BESS under SRAS as a pilot project, as per the consultation paper dated 31/12/2025. It has concluded that BESS is technically well suited for Automatic Generation Control (AGC), owing to its very high ramping capability, near-instantaneous response, and ability to provide both SRAS-Up (discharging) and SRAS-Down (charging).

A.21.4 For implementation of BESS by transmission licensee under RTM, the following procedure has to be complied with under the Regulation:-

Quote

Regulation 29B. “Additional Capitalization on account of integrated energy storage system with the transmission system : (1) A transmission licensee required to incur additional capital expenditure in the existing transmission system for an integrated energy storage system shall share its proposal with all long-term transmission customers or the Designated ISTS Customers of the region, concerned Regional Power Committee, Central Transmission Utility, and the concerned Regional Load Despatch Centre, for their consideration and seek response within 30 days.”

Unquote

A.21.5 The methodology of claiming tariff against installation of IESS is given in the latest amendment as follows: -

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM**Quote**

Regulation 9(3a) *"In case an integrated energy storage system is installed with the generating station or unit thereof, transmission system or its sub-station, an application shall be made for the determination of supplementary tariff (fixed storage charges with or without variable energy charges) based on the actual capital expenditure duly certified by the Auditor".*

Unquote

- A.21.6 The procedure for charging, scheduling, and dispatch of electricity and energy account for the IESS is given below:

Quote**Regulation 74:**

"(2) The procedure for charging, scheduling, and dispatch of electricity and energy account for the integrated energy storage system shall be prepared by:

.....

(b) the National Load Despatch Centre in consultation with the designated ISTS customers, respective Regional Power Committee and Regional Load Dispatch Centre, consistent with the Grid Code for integrated energy storage system with the transmission system.

(3) In case of an integrated energy storage system with the generating station, the surplus stored energy can be made available to the National Load Dispatch Centre to use under ancillary services. In case of stored energy of an integrated energy storage system with the transmission system, the priority of usage will be decided by the National Load Despatch Centre."

Unquote**B) Proposal:**

- A.21.7 Rajasthan has been witnessing very rapid renewable energy (RE) integration, with installed RE capacity having crossed 44GW (25GW for ISTS). Further, RE potential in Rajasthan has been declared for about 230 GW. Increasing RE penetration has created significant challenges for grid operation and stability. Low SCR is observed at various pooling stations in Rajasthan. Several instances of voltage oscillations have been observed due to inadequate voltage control response from IBRs and unstable operation under weak grid conditions, etc. thereby leading to a clamour to add new transmission lines.
- A.21.8 In this context, Installation of Battery Energy Storage Systems at strategic locations in NR, would support safe, stable and reliable operation of grid, by providing

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

frequency support, dynamic voltage and reactive power support, damping the oscillations by synthetic inertia emulation and black start capability in the Grid Forming Mode(GFM).

- A.21.9 Accordingly, POWERGRID proposes to install **BESS** as **IESS** for safe and reliable operation of the grid and to support India's RE integration targets. The details of proposed installations at existing substations of POWERGRID and its subsidiaries in the Northern Region, under RTM mode are as follows: -

Sl.No.	Station Name	Owner	Proposed BESS capacity (in MW/MWh)
1	Kanpur	POWERGRID	250/1000
2	Bhadla-III	PBIITL	250/1000
3	Bikaner-III	PBNTL	250/1000
	Total		750/3000

- A.21.10 Justification: Following reasons have been considered for selection of substations for BESS:

- A.21.11 **Bhadla-III & Bikaner-III S/s**: These are among the major pooling stations facilitating integration of large amount of Renewable Energy (predominantly Solar) in Northern Region. The NR grid (especially Rajasthan) is observing several operational issues such as voltage oscillations, low frequency oscillations, steady-state voltage variations, angular stability issues etc. BESS with grid forming capabilities provides frequency support, dynamic voltage & reactive power support, damping the magnitude of voltage oscillations, synthetic inertia and black start capabilities. Installing BESS at these important RE pooling stations of Bhadla-III & Bikaner-III shall support secure and reliable operation of the Northern grid. Sufficient land for the proposed capacity is available at these substations.

- A.21.12 **Kanpur S/s**: Kanpur is a very important substation at the midst of the Northern Grid, supplying power to a major industrial hub in the vicinity. At Kanpur, earlier a ± 140 MVar SVC has supported the voltage and maintained the dynamic stability in the Northern Grid. After retirement of the SVC, it is proposed to install a BESS as an active grid balancing asset, that can provide fast voltage support along with other ancillary functions, for safe and reliable operation of the Northern Grid. It can provide the desired frequency regulation, voltage support and short-term reserve services within the emergency response times. It shall also help smoothen intermittency of

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

renewable energy, facilitating grid operation. In addition to all above, adequate land is available for establishing the BESS at the substation.

A.21.13 4-hour storage capacity is proposed in the BESS, due to following reasons:

- i. Flexibility: 4-hour/1-cycle can be split into multiple partial discharges as per grid requirement to maintain the grid safety & reliability.
- ii. Facilitating ramp rate during shoulder periods of solar up to evening peak load period.
- iii. Prioritizing battery health and lower augmentation risk over useful life of 15 years assuming ~6500 cycles over contract life (~1 cycle/day)
- iv. Long-duration evening peak support and RE firming.

A.21.14 POWERGRID stated that considering the recent pricing trends of Li-Ion based BESS installation, the tentative cost of BESS is about Rs. 1.2-1.8Cr./MWh (excluding cost of land and O&M), and accordingly, the total cost for the project is estimated at **Rs. 3600-5400 crore**. The implementation period for proposed IESS will be **18 months**. After implementation of the proposed IESS, POWERGRID and its subsidiaries shall approach CERC for determination of tariff under RTM mechanism as per the actual project cost incurred.

A.21.15 Regarding recovery of these charges, Clause (3) of Regulation 78 of CERC Tariff Regulations stipulates that the transmission charges determined for IESS shall be shared by the beneficiaries or long-term customers or the designated ISTS customers, as the case may be, in accordance with CERC Sharing Regulations.

TCC Deliberation

A.21.16 Powergrid explained that 250MW/ 1000MWh BESS each at 3 no. existing substations in NR are proposed to be installed as IESS for safe and reliable operation of the Grid under provisions of 2nd Amendment to CERC Tariff Regulations, 2024. Accordingly, these IESS are proposed for utilization by Grid-India as ancillary services.

A.21.17 Powergrid stated that as per provisions of 2nd Amendment, a petition will be filed by it before Hon'ble Commission for in-principle approval for installation of BESS as transmission assets.

A.21.18 Powergrid apprised that Amendment to Sharing Regulations is expected in due course.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- A.21.19 UP mentioned that while the implementation of any new regulation may pose certain initial challenges, in the long run such measures would ultimately strengthen and support the grid. Further, these initiatives of the Central agencies provide valuable learning opportunities for the States (SLDCs/ STUs).
- A.21.20 Rajasthan stated that such projects are expected to decongest the system and appreciated the prompt action taken by POWERGRID in bringing forward such a proposal within a short duration. It was further mentioned that the implementation challenges now need to be effectively handled by the concerned stakeholders.
- A.21.21 NRLDC representative stated that proposal given by POWERGRID for BESS installation is required for system strengthening but needs further review since two of the station for BESS installation are at Bhadla-III and Bikaner-III which will help in reducing the curtailment of Solar RE power however proposal of 3rd BESS at Kanpur needs to be reviewed and it may be better to explore installation of 3rd BESS at Rajasthan itself so that charging of BESS at solar hours may be done and issue of RE Curtailment may be minimized
- A.21.22 Accordingly, forum advised Powergrid to work out the location, replacing Kanpur S/s as proposed IESS location.
- A.21.23 NRLDC was requested to take up the matter with NLDC for expediting preparation of the procedure for charging, scheduling, and dispatch of electricity and energy account for the integrated energy storage system.
- A.21.24 TCC noted that a petition will be filed by Powergrid before Hon'ble Commission for in-principle approval for installation of these proposed BESS as transmission, along with underlying assumptions, estimates and justification for such expenditure.
- A.21.25 Further, Forum asked Powergrid to submit copies of petition filed before Hon'ble Commission to NRPC, CTU, NLDC, and DICs of NR.

NRPC Deliberation

- A.21.26 NRPC forum noted the deliberation held in TCC meeting and the Forum was in agreement of the same.
- A.21.27 Forum opined that it has long been recognized that Energy Storage Systems including PSP and BESS are essential for enhanced RE integration. Considering the current RE installed capacity and the ambitious targets for 2032, the initiative by

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

PowerGrid for installation of BESS was appreciated by the forum. The forum further recommended that the present proposal may be permitted as a model project, with a view to building confidence across the ecosystem and facilitating the deployment of the required scale of ESS for improved RE integration and overall grid reliability.

Decision of the Forum:

- I. Forum accorded in-principle approval to the proposal for installation of 250MW/ 1000MWh Grid-forming (GFM) BESS each at 3 no. existing substations in NR at Bhadla-III, Bikaner-III, and third location (to be confirmed by Powergrid in Rajasthan RE complex), subject to concurrence from CTU, NLDC, and NRLDC under provisions of Regulation 29(B)(3) of Tariff Regulations, 2024 and amendment thereof.*
- II. Powergrid is requested to submit copy of petition filed before Hon'ble Commission to NRPC, CTU, NLDC, and DICs of NR.*
- III. NLDC to expedite preparation of the procedure for charging, scheduling, and dispatch of electricity and energy account for the integrated energy storage system.*

A.22 Additional Agenda 4: Proposal of Replacement of SAS at 765/400kV Ajmer Substation under ADDCAP (Agenda by POWERGRID)

TCC Deliberation

- A.22.1 EE (C), NRPC apprised that 765/400kV Ajmer substation (Commissioned: Dec-2017) is Substation of POWERGRID in Rajasthan handling critical R.E power import through 765kV Lines of Bhadla-2 & 765kV Chittorgarh. Existing SCADA / SAS system of 765/400kV Ajmer Substation has completed more than 08 years of life.
- A.22.2 At 765/400kV Ajmer Substation, SCADA / SAS system are over seven years old and have reached the end of their useful life. The operating systems in these SCADA setups are outdated and not cyber security compliant. Additionally, these systems are facing numerous issues and require upgrades to ensure smooth operation and monitoring of the substation. The existing SCADA systems (including old computers) are Windows 7-based and are no longer supported from OEM.
- A.22.3 Hence, replacement of SCADA / SAS system is proposed for 765/400kV Ajmer substation.

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***Tentative Equipment Details/Financial Implication:**

- A.22.4 As per the above-mentioned requirement, tentative estimated cost including supply and installation for implementation of replacement of SCADA / SAS system for 765/400kV Ajmer Substation to approximately ₹60 Lakhs for Supply, Services, F&I (excluding taxes and duties).

Proposal:

- A.22.5 The proposal for replacement of SCADA / SAS system for 765/400kV Ajmer Substation with a tentative cost estimate of ₹60 Lakhs (excluding Tax) under ADD-CAP (2024-29) is submitted to the forum for approval.
- A.22.6 Proposal was deliberated and approved in 30th TeST Meeting held on 10th April, 2026, and it was decided to be taken up in upcoming TCC and NRPC Meetings.
- A.22.7 TCC Forum agreed with proposal of POWERGRID.

NRPC Deliberation

- A.22.8 Forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Decision of the Forum:

Forum approved replacement of SCADA / SAS system for 765/400kV Ajmer Substation.

A.23 Additional Agenda 5: Proposal of Replacement of SAS at 400/220kV Kankroli Substation under ADDCAP (Agenda by POWERGRID)

TCC Deliberation

- A.23.1 EE (C), NRPC apprised that 400/220kV Kankroli substation (Commissioned : April-2008) is Substation of POWERGRID in Rajasthan handling critical power flow through 400kV Lines of RAPP-C & Jodhpur. Existing SCADA / SAS system of 400/220kV Kankroli Substation has completed more than 08 years of life.
- A.23.2 At 400/220kV Kankroli Substation, SCADA / SAS system are over seven years old and have reached the end of their useful life. The operating systems in these SCADA setups are outdated and not cyber security compliant. Additionally, these systems are facing numerous issues and require upgrades to ensure smooth

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

operation and monitoring of the substation. The existing SCADA systems (including old computers) are Windows 7-based and are no longer supported from OEM.

- A.23.3 Hence, replacement of SCADA / SAS system is proposed for 400/220kV Kankroli substation.

Tentative Equipment Details / Financial Implication :

- A.23.4 As per the above mentioned requirement, tentative estimated cost including supply and installation for implementation of replacement of SCADA / SAS system for 400/220kV Kankroli Substation to approximately ₹ 70 Lakhs for Supply, Services, F&I (excluding taxes and duties).

Proposal:

- A.23.5 The proposal for replacement of SCADA / SAS system for 400/220kV Kankroli Substation with a tentative cost estimate of ₹ 70 Lakhs (without Tax) under ADD-CAP (2024-29) is submitted to the forum for approval.
- A.23.6 Proposal was deliberated and approved in 30th TeST Meeting held on 10th April, 2026, and it was decided to be taken up in upcoming TCC and NRPC Meetings.
- A.23.7 TCC Forum agreed with proposal of POWERGRID.

NRPC Deliberation

- A.23.8 Forum noted the deliberation held in TCC meeting and Forum was in agreement of the same.

Decision of the Forum:

Forum approved proposal for replacement of SCADA / SAS system for 400/220kV Kankroli Substation.

A.24 Table Agenda 1: Registration and Monthly Data Submission of Captive Power Plants on CEA Portal for Pan-India Monitoring (Agenda by CEA)

TCC Deliberation

- A.24.1 Chief Engineer (GM), CEA apprised that the present electricity generation statistics primarily capture generation from utilities and do not adequately reflect the gross generation from Captive Power Plants (CPPs). Accounting for generation from CPPs

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

sources is essential to arrive at a comprehensive assessment of total electricity generation and actual power consumption beyond utility-based generation.

A.24.2 He mentioned that in order to improve visibility of captive generation and ensure accurate assessment of total electricity generation and consumption, CEA has developed an online portal for monthly collection of CPP data.

A.24.3 In this regard, States/UTs are requested to ensure registration of all CPPs (≥ 0.5 MW) on the CEA portal (<https://intranet.cea.gov.in/captiveNew/>) and facilitate monthly submission

Proposal:

- i. Review the data collected in each OCC meeting of NR. RPSOs to be part of OCC meeting.
- ii. State CEIs to ensure undertaking from captive plants before issuing charging permission.
- iii. State nodal agency for Captive certification to ensure undertaking from captive plants before issuing captive certification.

A.24.4 Further, Chief Engineer (GM), CEA informed that in the meeting taken by the Secretary (Power) on 17.12.2025, it was decided that the State Chief Electrical Inspectors (CEIs) / State Load Despatch Centres (SLDCs) shall act as the nodal agencies for the collection of Captive Generation for their respective States.

A.24.5 In the said meeting, it was decided that Regional Power Committees (RPCs) shall act as the nodal coordinating agencies for consolidation and compilation of the data at the regional level and shall forward the same to the GM Division, CEA, for All-India level compilation on a monthly basis.

A.24.6 MS, NRPC mentioned that NRPC Secretariat has been regularly communicating with all NR entities since December 2025 requesting submission of captive generation data. The matter has also been deliberated in various OCC meetings, and a separate meeting with the GM Division, CEA was convened to clarify issues related to the data submission.

A.24.7 However, despite these efforts, the required data from some of the States in the Northern Region is not being received regularly. Further, in certain cases, the data received is not in the format prescribed by the Ministry of Power.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

A.24.8 CE(GM), CEA highlighted that, with respect to Northern Region (NR) states, no information has been received for the month of March 2026 from Haryana, Rajasthan, and Uttar Pradesh. Furthermore, there is a significant discrepancy in the information received from Himachal Pradesh and Punjab when compared with the details of Captive Power Plants for these states as reported in the General Review Report of CEA. With respect to the information received from Uttarakhand, details of the installed capacity have not been provided. He also requested forum to deliberate whether DG Sets may be considered as captive as they mainly function as standby units.

A.24.9 To review the registration and monthly data submission of captive power plants on CEA Portal for Pan-India Monitoring, a meeting was taken by Chairperson CEA wherein it was decided that an agenda to be taken in the monthly OCC meetings, for improving registrations and up-dation of monthly consumption report on the Captive Power Portal developed by CEA.

NRPC Deliberation

A.24.10 Chief Engineer (GM), CEA intimated that at present, the Central Electricity Authority (CEA) collects details of Captive Power Plants having an installed capacity of 0.5 MW and above from the respective State DISCOMs. Based on these details, CEA obtains annual generation data from CPPs in accordance with Format-21 prescribed under the Central Electricity Authority (Furnishing of Statistics, Returns and Information) Regulations, 2007. The data so collected is compiled at the All-India level and published annually as part of the General Review Report of CEA. An online portal for data collection has been developed to facilitate monthly submission of CPP generation data.

A.24.11 Member (GO&D), CEA highlighted that the objective of the this data was to obtain a realistic picture of power consumption, improve understanding of industrial growth and economic development, and accurately assess the grid capacity requirements to meet future demand.

A.24.12 In this regard, Member (GO&D), CEA informed that a portal has been developed by CEA to enable timely and regular monthly submission of generation data from captive power plants for effective monitoring and analysis. He further requested the SLDCs and DISCOMs of the respective States/UTs to coordinate with captive

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

generators in their jurisdictions to ensure registration on the CEA portal and the monthly submission of the requisite information.

A.24.13 Member (GO&D), CEA requested the States/UTs, as highlighted by CE(GM), CEA, to submit the information for March 2026 within the next ten days.

A.24.14 Further, he requested the SLDCs to sensitize the captive power plants in their jurisdictions regarding the requirement to submit this information through the CEA portal.

Decision of the Forum:

Forum directed SLDCs and DISCOMs of the respective States/UTs to coordinate with captive generators in their jurisdictions to ensure registration on the CEA portal and the monthly submission of the requisite information.

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***Agenda for NRPC Meeting****B.1 Audit Report (Consolidated Receipt and Payment Account for 2024-25) based on audit conducted by external Agency hired through GeM Portal) (Agenda by NRPC Secretariat)**

B.1.1 EE, NRPC informed that as per rule 32 of Conduct of Business Rules, 2024 of NRPC, the “NRPC – Fund” account for each financial year shall be audited as per SOP issued by CEA.

B.1.2 Accordingly, the Bid for Review of Financial Statements, Financial Reporting Framework, and Audit report was floated on GeM Portal. Bid (GEM/2025/B/6496056) was awarded through Gem Contract GEMC-511687789444105 to L1 Bidder M/s AGARWAL U R S & CO at a cost of Rs 20,700/- (inclusive of taxes).

B.1.3 M/s AGARWAL U R S & CO conducted an audit of the NRPC fund account for 2024-25 in September 2025 and submitted an audit report. The detailed Audit Report is attached with Agenda. Salient points as observed by the auditor are as under:

a) The consolidated receipt and payment account of Northern Regional Power Committee for the year ended 31st March 2025 is prepared, in all material respects, in accordance with the applicable financial reporting framework and reflects a true and fair view of the receipts and payments of the organization during the year.

b) Cash System of accounting is followed by the management.

c) The accounting transactions are maintained through accounting software; however, the edit log or audit trail of changes made in the system is not maintained.

B.1.4 With reference to the observation reported at Point No. B.1.3 (c) above, tally software accounting has been upgraded to enable an edit log or audit trail of changes made in the system.

Decision of the Forum:

Forum noted the external audit report of NRPC Fund for FY 2024-25.

B.2 Internal Audit of NRPC Fund for FY 2024-25 (Agenda by NRPC Secretariat)

B.2.1 EE, NRPC apprised that Internal Audit of NRPC Fund for FY 2024-25 was conducted. The audit report is attached with Agenda.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- B.2.2 MS, NRPC informed that one of the observations pertains to the financial powers delegated to the Member Secretary, RPC, for approving recurring expenditure. As the monthly electricity bills for the NRPC complex exceed the prescribed limit, the audit team recommended taking up the matter with CEA to enhance the limit for recurring expenditure beyond ₹10 lakh per case, particularly for utility payments.
- B.2.3 MS, NRPC stated that, as the electricity bill is a utility bill, it must be paid on time to avoid incurring a Late Payment Surcharge (LPSC). She mentioned that the matter was discussed with BRPL, and it was confirmed by BRPL that part payments can be made under a single CA number. Starting from the billing cycle in April 2026, NRLDC and NRPC have agreed to separately pay their respective shares of the electricity charges to BRPL within the due date. These payments will cover both the NRPC-NRLDC Office Complex and the NRPC Colony Lights. Any LPSC resulting from delayed payments will be borne by the defaulter.
- B.2.4 MS, NRPC mentioned that NRPC Secretariat would take compliance measures of audit observations.

Decision of the Forum:

Forum took a note of internal audit report of NRPC Fund for FY 2024-25.

B.3 Annual Membership of NRPC for FY 2026-27 (Agenda by NRPC Secretariat)

- B.3.1 EE, NRPC apprised that as per MoP gazette resolution F. No. 23/21/2021-R&R dtd. 03.12.2021, membership of NRPC is decided.
- B.3.2 As per MoP gazette notification dated 03.12.2021, from each of the States in the region, the State Generating Company, State Transmission Utility (STU), State Load Despatch Centre (SLDC), one of the State-owned distribution companies as nominated by the State Government and one distribution company by alphabetical rotation out of the private distribution companies functioning in the region, shall be member.
- B.3.3 Representative from UT, IPPS having more than 1000 MW installed capacity, IPPs having less than 1000MW on a rotational basis, SNA, Private transmission licensee (nominated by central govt.) and Electricity Trader (nominated by central govt.) and RE Generating Company having more than 1000 MW installed capacity are also members of NRPC Forum.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

B.3.4 Accordingly, list of members of the organization of NRPC for FY 2026-27 is enclosed as **Annexure-B.I.**

B.3.5 EE, NRPC apprised about the list of incoming and outgoing members of NRPC as tabulated below:

Incoming and Outgoing Members of NRPC/TCC Forum are as follows:

Sl. No.	Particulars	Outgoing Member	Incoming Member
1	NRPC, Chairperson	Sh. Ashwani Kumar, IAS, Additional Chief Secretary, to Government of J&K, Power Development Department, UT of J&K	Sh. Basant Garg, IAS, Administrative Secretary, Power, Government of Punjab and in-addition CMD, PSTCL and in-addition CMD, PSPCL
2	TCC, Chairperson	Sh. G.P. Singh Arora, IAS, Managing Director, JPDCL	Er. Sanjeev Kumar Sood, Director(Technical), PSTCL
3	Haryana Discom	Dakshin Haryana Bijli Vitran Nigam Limited	Uttar Haryana Bijli Vitran Nigam Limited
4	Rajasthan Discom	Ajmer Vidyut Vitran Nigam Limited	Jaipur Vidyut Vitran Nigam Ltd.
5	Uttar Pradesh Discom	Purvanchal Vidyut Vitaran Nigam Limited	Dakshinanchal Vidyut Vitaran Nigam Ltd.
6	IPP having less than 1000 MW installed capacity (alphabetical rotational basis)	Transition Cleantech Services Private Limited	XL Xergi Power Pvt. Ltd.
7	Private Distribution Company in region (alphabetical rotational basis)	Tata Power Delhi Distribution Limited	BSES Rajdhani Power Limited
8	Private transmission licensee (nominated by central govt.)	Gurgaon Palwal Transmission Limited	NRSS-XXIX Transmission Ltd
9	Electricity Trader (nominated by central govt.)	Power Trading Corporation of India Limited	Shree Cement Limited
10	IPP having more than 1000 MW installed capacity	-	Neyveli Uttar Pradesh Power Limited (NUPPL) Ghatampur

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

11	RE Generating Company having more than 1000 MW installed capacity	-	SJVN Green Energy
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B.3.6 NRPC Forum extended heartfelt gratitude to the outgoing members for their dedicated service and invaluable contributions over the past year. At the same time, he warmly welcomed the incoming members, expressing full confidence in their abilities and looking forward to their meaningful contributions in the year ahead

B.3.7 All members are requested to submit nominations for the NRPC and TCC Forum from their respective organizations for FY 2026-27 in the following format at seo-nrpc@nic.in:

Name of officer	Designation	Organization	Mobile No.	Email ID

Decision of the Forum:

- i) Forum noted the members of NRPC for FY 2026-27.
- ii) All members to submit nominations for the NRPC and TCC Forum from their respective organizations for FY 2026-27 as per above format at seo-nrpc@nic.in:

B.4 Status of Expenditure incurred during Quarter-3 and Quarter-4 of FY 2025- 26 from NRPC Fund and Annual expenditure during FY 2025-26 (Agenda by NRPC Secretariat)

B.4.1 EE, NRPC apprised that as per the Standard Operating Procedure (SOP) for budgeting and expenditure of RPCs, NRPC finalized its annual Internal Budget for FY 2025-26 and got it approved by Forum in 78th NRPC meeting held on 17.03.2025. In line with the budget finalized, status of actual expenditure incurred (INR 4,74,15,315) during Quarter-1 of FY 2025-26 was apprised in 80th NRPC meeting held on 18.07.2025 and status of actual expenditure incurred (INR 1,40,93,577) during Quarter-2 of FY 2025-26 was apprised in 81st NRPC meeting held on 31.10.2025.

B.4.2 Further, Status of actual expenditure incurred during Quarter-3 and Quarter-4 of FY 2025-26 (All figures in Rs.) is as follows:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Object Head	Booking of Expenditure during FY 2025-26	Budget for FY 2025-26	Total Expenditure during Q3/ FY 2025-26	Total Expenditure during Q4/ FY 2025-26	Total Expenditure FY 2025-26
Salaries*	Salary bills	1,85,00,000	43,53,291	29,54,955	1,67,12,043
Rewards*	Bonus for Group-C Employees	1,10,000	55,264	0	55,264
Allowances*	HRA, DA etc	1,42,50,000	37,69,775	24,74,938	1,40,49,112
Leave Travel Concession *	LTC	5,30,000	0	1,25,323	1,34,318
Others*	TA recovery	0	0	0	-33,048
Training Expenses	Training Expenses of NRPC Sectt. Officials	5,00,000	0	87,400	87,400
	Protection Expert Group Training	63,72,000	56,60,800	0	56,60,800
Domestic Travel Expenses	Domestic tour expense	15,00,000	2,81,128	4,34,046	9,81,452
Medical Treatment	Cost of Medical Treatments	10,00,000	67,240	2,62,768	4,42,472
Office Expenses	Office expenditure-Recurring expenses of salary of contractual staff, AMC and other bills.	2,00,00,000	4,15,5971	62,32,700	1,51,90,253
	NPC Meeting	30,00,000	0	26,19,134	26,19,134
Repair and Maintenance	Civil & Electrical works in NRPC Complex	1,50,00,000	0	36,714	88,72,341

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Object Head	Booking of Expenditure during FY 2025-26	Budget for FY 2025-26	Total Expenditure during Q3/ FY 2025-26	Total Expenditure during Q4/ FY 2025-26	Total Expenditure FY 2025-26
	done through CPWD				
Rent, Rates and Taxes	Rent rate and Taxes- One time expense of property tax.	2,00,000	0	0	1,90,552
Digital Equipment	Digital equipment (cartridges, Hard Disks, pen drive etc.)	5,00,000	69,197	5,310	3,74,032
Other Revenue Expenditure	Hospitality and other similar bills (Mobile, Newspaper Bills etc)	5,00,000	1,02,065	1,55,376	4,60,433
Information, Computer, Telecommunications (ICT) equipment	Cyber Security and Hybrid VC projects and other related works.	38,00,000	4,89,025	3,24,404	12,81,428
Furniture & Fixtures		5,00,000	0	0	2,48,398
Total		8,62,62,000	1,90,03,756	1,57,13,068	6,73,26,384

*As per Budget allocated by CEA/MoP for the FY 2025-26

B.4.3 MS, NRPC apprised that NRPC successfully hosted 17th NPC meeting on 27.02.2026 in Vishakhapatnam, Andhra Pradesh. A budget provision of Rs. 30 Lakhs for organizing 17th NPC Meeting in FY 2025-26 was approved in 78th NRPC Meeting held on 17.03.2025. An internal committee under SE (Services) was formed to oversee and coordinate the arrangements for NPC meeting. The responsibility of logistics and arrangements was given to Balmer Lawrie Co. Ltd. An advance of Rs.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

8,42,500/- as per GFR Rule 172(1) was paid to Balmer Lawrie & Co. Ltd. after making statutory deductions. After Successful completion of the meeting, Balmer Lawrie & Co. Ltd. has submitted invoice of Rs. 27,26,636.34/-. Remaining payment of Rs. 18,84,136/- after deducting statutory deductions has been made to Balmer Lawrie & Co. Ltd.

Decision of the Forum:

Forum noted the information & approved the Expenditure incurred for hosting 17th NPC meeting on 27.02.2026 in Vishakhapatnam, Andhra Pradesh.

B.5 Capacity Building /Study Programmes on International Best Practices in Energy Transition for Constituents of Northern Regional Power Committee (Agenda by NRPC Secretariat)

- B.5.1 MS, NRPC apprised that the NRPC Forum approved the capacity building program in 77th NRPC meeting held on 27-28 Dec, 2024.
- B.5.2 Accordingly, NRPC Secretariat had sent DPR vide letter dated 28.01.2025. Further, queries of PSDF Secretariat were replied vide letter 28.05.2025.
- B.5.3 NLDC vide letter no NLDC-PSDF/95th TESSG/2025-26 dated 13.02.2026 has informed that TESSG has recommended the proposal of NRPC on “Capacity Building /Study Programmes on International Best Practices in Energy Transition for Constituents of Northern Regional Power Committee (Proposal No: 480)” at total estimated cost of **₹6.02 crores with GST**, and with eligible 70% grant (as decided by the 26th Monitoring Committee) under the clause 5.1(f) of PSDF guidelines i.e. 4.214 crores (including GST) to Appraisal Committee of PSDF, ₹ subject to submission of the consent letter for acceptance of 70% funding from PSDF.
- B.5.4 Accordingly, consent of the NRPC forum is required for rest of the amount, i.e. 30% of 6.02 crores with GST. As this amount is to be paid in the next financial year, ₹ therefore it may be taken into consideration in the budget estimate of FY 2026-27.
- B.5.5 The above was discussed in the Special NRPC Meeting (held on 23rd February, 2026) for seeking approval of the Forum to incur expenditure of **₹1.806 Cr (with GST)** from NRPC Fund in FY 2026-27 for Capacity Building /Study Programmes on International Best Practices in Energy Transition for Constituents of Northern Regional Power Committee.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

B.5.6 MS, NRPC asked the constituent members for their comments and apprised that the same was also discussed in the Special NRPC Meeting wherein NRPC constituents were requested to submit their observations and views regarding the sharing of the 30% of 6.02 crores (including GST) for the above capacity- building proposal.

B.5.7 Accordingly, MS, NRPC requested forum to allow expenditure of **₹1.806 Cr. (including GST)** for capacity building program from NRPC fund.

Decision of the Forum:

*Forum approved for expenditure of **₹1.806 Cr. (including GST)** for capacity building program from NRPC fund.*

B.6 Annual Budget of NRPC Secretariat for FY 2026-27 (Agenda by NRPC Secretariat)

B.6.1 EE, NRPC apprised that Central Electricity Authority, Ministry of Power had issued the Standard Operating Procedure (SOP) for budgeting and expenditure of RPCs in pursuance to the MoP letter dated 23.02.2006 in which it was directed that activities of RPCs will be fully financed by constituent members. SOP was deliberated and adopted in the 66th NRPC meeting held on 30.05.2023.

B.6.2 As per the SOP, RPCs shall finalize their annual Internal Budget and get its approval in committee meeting. Accordingly, the budget for the Financial Year 2026-27 for the NRPC secretariat has been prepared and details of which are as follows:

Object Head	Budget Estimate for FY 2026-27	Booking of Expenditure during FY 2026-27
Salary*	1,89,00,000	Salary bills
Rewards*	1,10,000	Bonus for Group-C Employees
Allowances*	1,55,50,000	HRA, DA etc
LTC*	7,30,000	LTC
Medical Treatment	10,00,000	Cost of Medical Treatments
Training	5,00,000	Training Expenses of NRPC Sectt. Officials

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

	1,80,60,000	Capacity Building /Study Programmes on International Best Practices in Energy Transition for Constituents of NRPC
Domestic Travel Expenses	15,00,000	Domestic tour expense
Professional Services	100,000	Audit Fees
Office Expenses	1,43,00,000	Office expenditure- Recurring expenses of salary of contractual staff and other bills.
Repair and maintenance	25,00,000	AMC of contracts
Rent, Rate and Taxes	2,00,000	Rent rate and Taxes- Onetime expense of property tax.
Digital Equipment	2,00,000	Digital equipment (cartridges, Hard Disks, pen drive etc.)
Minor civil and electric Works	1,13,36,000	Civil & Electrical works in NRPC Complex through CPWD.
Other Revenue Exp.	5,00,000	Hospitality and other similar bills (Mobile, Newspaper Bills etc)
Information, Computer, Telecommunication s (ICT) equipment	37,20,000	Website, IT Equipments (Desktop, Laptop, Printers, Softwares, etc)
Furniture and fixtures	3,00,000	Furniture
Machinery and Equipment	88,00,000	SITC of Video wall and various LED TVs in NRPC
Rent for others	10,00,000	CESL-EV Wet lease
Total	9,93,06,000	

*As per Budget allocated by CEA/MoP for the FY 2026-27.

B.6.3 The budgetary estimate will be divided equally among the paying members of NRPC.

Decision of the Forum:

Forum approved the budget provision for FY 2026-27.

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***B.7 Bank Interest earned in the “NRPC Fund” account (Agenda by NRPC Secretariat)**

- B.7.1 EE, NRPC mentioned that Central Electricity Authority, Ministry of Power had issued the Standard Operating Procedure (SOP) for budgeting and expenditure of RPCs in pursuance to the MoP letter dated 23.02.2006 in which it was directed that activities of RPCs will be fully financed by constituent members. SOP was deliberated and adopted in the 66th NRPC meeting held on 30.05.2023.
- B.7.2 As per the above SOP, there is a separate bank account in the name of “NRPC Fund” in a nationalized bank.
- B.7.3 An appreciable amount always remains in the “NRPC Fund”. As per the observations of Audit Team, the Auto Sweep facility was enabled so that the optimum interest would be earned. As on 31.03.2026, a total of **₹37,30,146** has been earned as interest in FY 2025-26.
- B.7.4 The interest earned in NRPC Fund is taxable and TDS is being deducted by the bank. The annual return for interest income in the NRPC Fund shall be filed as per the Income Tax rules.
- B.7.5 In the 54th TCC & 79th NRPC Meeting held on 30th May, 2025, forum approved the proposal that the interest earned in “NRPC Fund” may be retained in the same fund & an appropriate adjustment may be made in the annual budget prepared for the subsequent year at present and also in future.
- B.7.6 Accordingly, the interest earned in “NRPC Fund” has been retained in the same fund & an appropriate adjustment has been made in the annual budget proposed for the financial year 2025-26.

Decision of the Forum:

Forum noted the information.

B.8 Contribution towards NRPC Fund for the year 2026-27 by the Constituents (Agenda by NRPC Secretariat)

- B.8.1 EE, NRPC mentioned that RPCs are fully financed by the constituent members as per Ministry of Power, Govt. of India letter dated 23.02.2006 and SOP issued by CEA dated 01.05.2023. Therefore, constituent members are required to pay annual contributions as decided in NRPC meetings from time to time. Annual contribution is

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

decided on the basis of the estimated expenditure of the next financial year and the balance amount in the NRPC fund (if any).

- B.8.2 As per SOP issued by CEA vide letter dated 01.05.2023, all expenditures other than salary shall be met from RPC fund. Expenditure of the salary head shall be met from the budget provided by CEA and will get reimbursed from RPC fund to CEA on an annually basis. Therefore, all the expenditure of RPCs, including salary is met from RPC Fund.
- B.8.3 Annual Budget of NRPC Secretariat for FY 2026-27 has been estimated as **₹9.9306 crores** as elaborated in Agenda Item B.6, in accordance with expenditure planned for FY 2026-27.
- B.8.4 Considering the un-utilized budget for FY 2025-26 amounting to ₹1.9 crores and Interest earned during FY 2025-26 amounting to ₹37 lakhs in the “NRPC Fund” account, the net amount required to be contributed by NRPC members for FY 2026–27 is ₹7.66 crores (9.93- 1.9- 0.37) crores for FY 2026-27.
- B.8.5 Taking into account the exempted members, the contribution is to be shared among 52 contributing members out of a total of 64 NRPC members. Accordingly, the contribution per member works out to approximately 14.73 lakh.
- B.8.6 It is proposed that an amount of ₹15 lakhs may be contributed by each payee member of NRPC for FY 2026-27.
- B.8.7 The above contribution amount of ₹15 lakhs may be deposited in NRPC account by (30.06.2026).
- B.8.8 In view of above, following proposal was put up for the approval:
- i) Membership contribution for the year 2026-27 is proposed to be **₹15 lakhs** per member.
 - ii) It is also proposed that members may complete above reimbursement in NRPC fund by 30.06.2026.
 - iii) NRPC Secretariat shall issue demand letters by 01.05.2026 with last date of payment as 30.06.2026.
 - iv) Member may decide suitable penal interest per month on late payment from 1st July, 2026 onwards.

Decision of the Forum:

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM**After deliberation,*

- i) Forum approved that Membership contribution for the year 2026-27 to be **₹15 lakhs** per member.*
- ii) Forum approved that members may complete above reimbursement in NRPC fund by **30.06.2026**.*
- iii) NRPC Secretariat shall issue demand letters by 01.05.2026 with last date of payment as 30.06.2026.*
- iv) Forum decided **1% interest rate per month on late payment** from 1st July, 2026 onwards.*

B.9 Late Payment Charges for the FY 2024-25 and FY 2025-26 by Constituent Members (Agenda by NRPC Secretariat)

B.9.1 EE, NRPC apprised that demand Letter for contribution towards the NRPC fund for the FY 2025-26 was issued to all the constituent members on 10.04.2025. The letter stated that a simple interest of 1% per month would be levied on payments received after 30th June 2025. Accordingly, the NRPC Secretariat has received contributions from all constituents.

B.9.2 Further, he mentioned that payment has been received from all constituent members. It is also mentioned that Talwandi Sabo Power Ltd. and UT of Chandigarh paid the contribution amount, but not paid the interest amount due to late payment after deadline.

B.9.3 Therefore, total outstanding contributions is as mentioned below:

S. No.	Name of Constituent	Late Payment Charges (FY 2025-26)	Late Payment Charges (FY 2024-25)	Total Outstanding amount
1	UT of Chandigarh	28,000	12,000	40,000
2	Talwandi Sabo Power Ltd.	0	24,000	24,000
	Total			64,000

Decision of the Forum:

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Forum directed Talwandi Saboo Power Ltd. and UT of Chandigarh with pending contributions to release the outstanding amounts at the earliest.

B.10 Amendment in Conduct of Business Rules (COBR) of NRPC to include QCA as members in RE Sub-Committee (Agenda by NRPC Secretariat)

B.10.1 EE, NRPC apprised that Conduct of Business Rules (COBR) of NRPC was amended as discussed in 76th NRPC Meeting (held on 25 October 2024) to include State RE Generators of capacity 250 MW & above as members in the RE-Sub-Committee of NRPC.

B.10.2 As per existing CoBR of NRPC, composition of RE Sub-Committee is as below:

“RE Sub-Committee shall be represented by all ISTS connected RE generators, state RE generators having capacity 250 MW & above, MNRE, SECI, Association of RE Generators, NLDC, NRLDC, CTU, Powergrid, STU and SLDC of RE rich states where REMC is operated.”

B.10.3 EE, NRPC intimated that as per the decision of 4th RE Sub Committee meeting held on 05.12.2025, it was proposed that QCAs may also be included as members of RE Sub Committee, as they are responsible for scheduling, operational coordination and deviation settlement with multiple RE plants.

B.10.4 Accordingly, CoBR has been modified to include QCAs as members of RE Sub Committee. Draft of amended CoBR is attached as **Annexure B.II**.

B.10.5 It is further noted that Bye-laws for the NRPC Fund were framed in 2010. Since the amended CoBR already encompasses provisions related to the operation of the NRPC Fund and is also in accordance with the SOP issued by the Central Electricity Authority (CEA), it is proposed to repeal the existing Bye-laws for the NRPC Fund under CoBR 2024.

Decision of the Forum:

- i) Forum gave consent to amend COBR to include QCA as member of RE- Sub Committee. Accordingly, amended COBR is attached as Annexure-B.II.*
- ii) Forum repealed the NRPC Bye-laws,2010 and replaced them with the Conduct of Business Rules of NRPC,2026.*

*57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM***B.11 Hiring of Manpower under Manpower Outsourcing Services (Minimum Wages Contract) through GeM Portal for the period 11-08-2026 to 10-08-2028 (Agenda by NRPC Secretariat)**

B.11.1. EE, NRPC apprised that at present, 16 nos. of manpower under various categories are employed in NRPC secretariat which are hired through GeM contract GEMC-511687734167904 dated 30.06.2025 for Manpower Outsourcing Services - Minimum wages for one year (11-08-2025 to 10-08-2026).

B.11.2. Current GeM contract GEMC-511687734167904 for Manpower outsourcing services- Minimum wages shall expire on 10.08.2026. To ensure uninterrupted upkeep of the NRPC Office and Colony Complex, it is necessary to initiate a fresh bidding process on the GeM portal for the subsequent two-year term. (11-08-2026 to 10-08-2028)

B.11.3. The categorized requirement for 16 personnel is as follows:

S. No.	Category	No. of Manpower	Skill Level
1	Sweeper	6	Unskilled
2	Mali/Gardener	1	Semi-skilled
3	Watch & Ward	4	Skilled
4	Electrician	1	Skilled
5	Cook	1	Skilled
6	Canteen Helper	1	Unskilled
7	Plumber	1	Skilled
8	Carpenter	1	Skilled
Total		16	

B.11.4. Following was proposed by NRPC Secretariat;

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

- i) It was proposed that fresh bid may be floated through Gem portal considering total manpower requirement of 16 nos. as given in Table above for two year to ensure continuity of above services in the NRPC Secretariat.
- ii) While preparing the fresh bid latest minimum wage as notified by Chief Labour Commissioner, M/o Labour & Employment, GOI shall be considered.
- iii) Tentative, financial implication shall be about ₹1.30 Crore (approx.).

Decision of the Forum:

Form approved the above proposals so that manpower is placed before expiring of present Contract to maintain continuity of the above services requirement in NRPC Office/Colony Complex.

B.12 Procedure for Utilization of NRPC Guest House Charges Fund (Agenda by NRPC Secretariat)

B.12.1. In the 76th NRPC Meeting held on 25th October 2024, the NRPC Board approved the creation of a new bank account titled "NRPC Guest House Charges" to facilitate UPI payments and streamline the management of guest house receipts.

B.12.2. As per the decisions taken in the said meeting:

- i) 50% of the collected charges are to be deposited to the Government Exchequer monthly.
- ii) The remaining 50% is to be retained in the "NRPC Guest House Charges" bank account.
- iii) Retained funds are to be utilized for the upkeep of the guest house.
- iv) In the event of fund non-availability in this specific account, expenses may be met from the NRPC Fund.
- v) These provisions became effective from 01.11.2024.

B.12.3. For the systematic management of these funds, the following Procedure for Utilization of NRPC Guest House Charges Fund (attached at **Annexure B.III**) is prepared.

Decision of the Forum:

*Form approved the Procedure for Utilization of NRPC Guest House Charges Fund attached at **Annexure-B.III**.*

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM**B.13 Hosting of next Physical Meeting of TCC/NRPC Forum (agenda by NRPC Secretariat)**

B.13.1. MS, NRPC apprised that a meeting plan/ roster has been prepared for conducting physical meetings of TCC and NRPC by utilities as below:

Year	List 1	List 2	List 3	List 4
2026-27	NPCIL	Punjab	Adani Green Energy Limited	MEJA Urja Nigam Ltd. AND Neyveli Uttar Pradesh Power Limited (NUPPL)
2027-28	NHPC	Rajasthan	Avaada Energy Private Limited	Private TSP member of the year
2028-29	NTPC	Uttar Pradesh	Azure Power India Pvt. Limited	Nabha Power Limited AND Talwandi Sabo Power Ltd.
2029-30	PGCIL	Uttarakhand	NTPC Green Energy Limited	Private TSP member of the year
2030-31	SJVN	Delhi	ReNew Power Private Limited	Adani Power Rajasthan Limited AND JSW Hydro Energy Limited
2031-32	BBMB	Haryana	SJVN Green Energy	Private TSP member of the year
2032-33	THDC	Himachal Pradesh	Adani Green Energy Limited*	Apraava Energy Private Limited AND Aravali Power Company Pvt. Ltd
2033-34	SNA	UT of J&K	Avaada Energy Private Limited*	Private TSP member of the year
2034-35	NPCIL*	Punjab*	Azure Power India Pvt. Limited*	Lalitpur Power Generation Company Ltd AND Rosa Power Supply Company Ltd
2035-36	NHPC*	Rajasthan*	NTPC Green Energy Limited*	Private TSP member of the year
2036-37	NTPC*	Uttar Pradesh*	ReNew Power Private Limited*	MEIL Anpara Energy Ltd AND Prayagraj Power Generation Co. Ltd.

(*) The entity mentioned in the list or as per adjusted sequence based on any other new entity.

B.13.2. The next physical TCC & NRPC meeting to be hosted by NPCIL in August 2026.

Decision of the Forum:

- i) Forum approved the above meeting plan/roster.
- ii) Forum asked NPCIL to finalize venue to host the next Physical TCC and NRPC meeting in August 2026 and intimate NRPC accordingly.

57th TCC & 82nd NRPC Meeting (17-18 April 2026)-MoM

Meeting ended with a vote of thanks to the chair and special thanks to THDCIL for hosting the meeting in splendid way.

NRPC Members for FY 2026-27				
S. No.	Member Organisation	Category	Nominated/ Notified/Delegated Member	E-mail
1	Chairperson, NRPC	Chairperson, NRPC		
2	CEA	Central Electricity Authority (CEA)	Member (GO&D), CEA	member.god@cea.nic.in
3	NLDC	National Load Despatch Centre	Director (System Operation)	rk.porwal@grid-india.in
4	NRLDC	Northern Regional Load Despatch Centre	Executive Director	sajan@grid-india.in
5	CTUIL	Central Transmission Utility	Chief Operating Officer	coo-ctu@ctuil.in
6	PGCIL	Central Government owned Transmission Company	Director (Operations)	naveensrivastava@powergrid.in
7	NTPC	Central Generating Company	Director (Finance)	jaikumar@ntpc.co.in
8	BBMB		Chairman	cman@bbmb.nic.in
9	THDC		CGM (EM-Design)	rsemwal@thdc.co.in
10	SJVN		CMD	sectt.cmd@sjvn.nic.in
11	NHPC		Director (Technical)	sadhikari@nhpc.nic.in
12	NPCIL	State Load Despatch Centre	Director (Finance)	df@npcil.co.in
13	Delhi SLDC		General Manager	gmsldc@delhisldc.org
14	Haryana SLDC		Chief Engineer (SO&C)	cesocomm1@hvpn.org.in
15	Rajasthan SLDC		Chief Engineer (LD)	ce.ld@rvpn.co.in
16	Uttar Pradesh SLDC		Director(SLDC)	directorsldc@upsldc.org
17	Uttarakhand SLDC	State Transmission Utility	Chief Engineer	ce_sldc@ptcul.org
18	Punjab SLDC		Chief Engineer	ce-sldc@punjabslsd.org
19	Himachal Pradesh SLDC		Managing Director	mdhpsldc@gmail.com
20	DTL		CMD	cmd@dtl.gov.in
21	HVPNL		Managing Director	md@hvpn.org.in
22	RRVNL	State Generating Company	Chief Engineer(LD)	ce.ld@rvpn.co.in
23	UPPTCL		Managing Director	md@upptcl.org
24	PTCUL		Managing Director	md.ptcul@rediffmail.org
25	PSTCL		CMD	cmd@pstcl.org
26	HPPTCL		Managing Director	md.tcl@hpmail.in
27	IPGCL	State owned Distribution Company (alphabetical rotational basis/nominated by state govt.)	Managing Director	md.ipgpp@nic.in
28	HPGCL		Managing Director	md@hpgcl.org.in
29	RRVUNL		Director (Technical)	director.tech@rrvn.com
30	UPRVUNL		Director (Technical)	director.technical@uprvunl.org
31	UJVNL		General Manager	kkjaiswal99@gmail.com
32	HPPCL	State Generating Company & State owned Distribution Company	Managing Director	md@hppcl.in
			Director(Electrical)	dir_elect@hppcl.in
33	PSPCL		CMD	cmd-pspcl@pspcl.in
34	UHBVN		Managing Director	nomination awaited
35	Jaipur Vidyut Vitran Nigam Ltd.		Managing Director	nomination awaited
36	Dakshinanchal Vidyut Vitaran Nigam Ltd.	IPP having more than 1000 MW installed capacity	Managing Director	nomination awaited
37	UPCL		Managing Director	md@upcl.org
38	HPSEB		Managing Director	md@hpseb.in
39	Adani Power Rajasthan Limited		Chief Operating Officer (O&M)	sudip.nag@adani.com
40	Apraava Energy Private Limited		CEO	niraj.gupta@apraava.com
41	Aravali Power Company Pvt. Ltd.	IPP having less than 1000 MW installed capacity (alphabetical rotational basis)	CEO	brahmajig@ntpc.co.in
42	JSW Hydro Energy Limited		Head Regulatory & Power Sales	vyotiprakash.panda@jsw.in
43	Lalitpur Power Generation Company Ltd		Managing Director	vksbankoti@bajajenergy.com
44	MEIL Anpara Energy Ltd		COO & WTD, Executive Director	anandkumar.singh@meilanparapower.com
45	MEJA Urja Nigam Ltd.		CEO	hopmeja@ntpc.co.in
46	Nabha Power Limited	Private Distribution Company in region (alphabetical rotational basis)	CEO	sk.narang@larsentoubro.com
47	Neyveli Uttar Pradesh Power Limited (NUPPL) Ghatampur		Executive Director/CEO	ceo.nuppl@nlicindia.in
48	Prayagraj Power Generation Co. Ltd.		Head (Commercial & Regulatory)	anurag.shukla@tatapower.com
49	Rosa Power Supply Company Ltd		Station Director	Hirday.tomar@relianceada.com
50	Talwandi Sabo Power Ltd.		Head Regulatory & Policy Advocacy	Pankaj.Sharma@vedanta.co.in
51	XL Xergi Power Pvt. Ltd.	From each of the Union Territories in the region, a representative nominated by the administration of the Union Territory concerned		nomination awaited
52	UT of J&K		Chief Engineer, JKSPDCL/JKPDD	cejkpcl2@gmail.com/sojppdd@gmail.com
53	UT of Ladakh		Chief Engineer, LPDD	cepladakh@gmail.com
54	UT of Chandigarh		Superintending Engineer, EWEDC	seelo-chd@nic.in
55	NVVN		Nodal Agency appointed by the Government of India for coordinating cross-border power transactions	renunarang@ntpc.co.in ceonvvn@ntpc.co.in
56	BRPL	Electricity Trader (nominated by central govt.)		nomination awaited
57	NRSS-XXIX Transmission Ltd			nomination awaited
58	Shree Cement Limited		Vice President	amarjit.singh@shreecement.com
59	Adani Green Energy Limited	RE Generating Company having more than 1000 MW installed capacity	COO	chaitanya.sahoo@adani.com
60	Avaada Energy Private Limited		CEO	kishor.nair@avaada.com
61	Azure Power India Pvt. Limited		CEO	sunil.gupta@azurepower.com
62	NTPC Green Energy Limited		CEO	saritmaheshwari@ntpc.co.in
63	ReNew Power Private Limited		CEO	sumant@renew.com
64	SJVN Green Energy		CEO	nomination awaited

TCC Members for FY 2026-27				
S. No.	Member Organisation	Category	Nominated/ Notified/Delegated Member	E-mail
1	Chairperson, TCC	Chairperson, TCC		
2	CEA	Central Electricity Authority		cegm-cea@gov.in
3	NLDC	National Load Despatch Centre		mkagarwal@grid-india.in
4	NRLDC	Northern Regional Load Despatch Centre	Executive Director	sajan@grid-india.in
5	CTUIL	Central Transmission Utility	Chief Operating Officer	ybagadia@powergrid.in
6	PGCIL	Central Government owned Transmission Company	ED, NR-I	aloksharma99@powergrid.in
7	NTPC	Central Generating Company	Regional ED, NR	rednr@ntpc.co.in
8	BBMB		Member (Power)	mp@bbmb.nic.in
9	THDC		GM (EMD)	neeralverma@thdc.co.in
10	SJVN		Director (Projects)	de.sectt@sjvn.nic.in
11	NHPC		ED (O&M)	hod-om-co@nhpc.nic.in
12	NPCIL		Outstanding Scientist & ED (commercial)	nrchoudhary@npcil.co.in
13	Delhi SLDC	State Load Despatch Centre		nomination awaited
14	Haryana SLDC		Chief Engineer/SO & Comml.	cesocomml@hvpn.org.in
15	Rajasthan SLDC		Superintending Engineer (SOLD) RVPN	SE.SOLD@RVPN.CO.IN
16	Uttar Pradesh SLDC		Chief Engineer (PSO)	cepso@upslcd.org
17	Uttarakhand SLDC		Superintending Engineer	se_slcdc@ptcul.org
18	Punjab SLDC		Chief Engineer	ce-slcdc@pstcl.org
19	Himachal Pradesh SLDC	State Transmission Utility		nomination awaited
20	DTL		Director (Operation)	dir_opr@dtl.gov.in
21	HVPNL		Director (Projects)	directorprojects@hvpn.org.in
22	RRVNL		Superintending Engineer(SOLD)	se.sold@rvpn.co.in
23	UPPTCL		Director (Planning & Commercial)	director_comm@upptcl.org
24	PTCUL		Chief Engineer	ce_oandmk@ptcul.org
25	PSTCL	State Generating Company	Director / Technical	dir-tech@pstcl.org
26	HPPTCL		GM (C&D)	gmcd.tcl@hpmail.in
27	IPGCL		Director(Tech.)	corporate.ppcl@gmail.com
28	HPGCL		Director/Technical	dirtech@hpgcl.org.in
29	HPGCL		Director (Technical)	director.tech@rvvn.com
30	UPRVUNL		Director (Technical)	director.technical@uprvnl.org
31	UVJNL	State Generating Company & State owned Distribution Company	General Manager	kkjaiswal99@gmail.com
32	HPPCL		Director(Electrical)	dir_elect@hppcl.in
33	PSPCL	State Generating Company & State owned Distribution Company	Director (Electrical) General	gm_elect@hppcl.in
34	UHBVN			nomination awaited
35	Jaipur Vidyut Vitran Nigam Ltd.	State owned Distribution Company (alphabetical rotational basis/nominated by state govt.)	Managing Director	nomination awaited
36	Dakshinanchal Vidyut Vitaran Nigam Ltd.		Managing Director	nomination awaited
37	UPCL		Managing Director	nomination awaited
38	HPSEB		Director (P)	dpupcl29@gmail.com
39	Adani Power Rajasthan Limited	IPP having more than 1000 MW installed capacity	AVP	Manoj.taunk@adani.com
40	Aprava Energy Private Limited			nomination awaited
41	Aravali Power Company Pvt. Ltd		CEO	brahmajig@ntpc.co.in
42	JSW Hydro Energy Limited		Head of Plant	kaushik.maulik@jsw.in
43	Lalitpur Power Generation Company Ltd		GM Electrical	aupadhyay.ltp@lpgcl.com
44	MEIL Anpara Energy Ltd		COO & WTD, Executive Director	arun.tholia@meilanparapower.com
45	MEJA Urja Nigam Ltd.		GM (O&M)	pivushkumar@ntpc.co.in
46	Nabha Power Limited			nomination awaited
47	Neyveli Uttar Pradesh Power Limited (NUPPL) Ghatampur		Executive Director/CEO	ceo.nuppl@nclindia.in
48	Prayagraj Power Generation Co. Ltd.		Head – Commercial & Regulatory	Sanjay.bhargava@tatapower.com
49	Rosa Power Supply Company Ltd	IPP having less than 1000 MW installed capacity (alphabetical rotational basis)	VP-Technical Services	Niranjan.Jena@relianceada.com
50	Talwandi Sabo Power Ltd.		Chief Operating Officer	ravinder.thakur@vedanta.co.in
51	XL Xergi Power Pvt. Ltd.	From each of the Union Territories in the region, a representative nominated by the administration of the Union Territory concerned out of the entities engaged in generation/ transmission/ distribution of electricity in the Union Territory.		nomination awaited
52	UT of J&K			nomination awaited
53	UT of Ladakh	Nodal Agency appointed by the Government of India for coordinating cross-border power transactions		cepdladakh@gmail.com
54	UT of Chandigarh			seelo-chd@nic.in
55	NVVN	Private Distribution Company in region (alphabetical rotational basis)	CGM (Power Trading)	pkjena@ntpc.co.in
56	BRPL			nomination awaited
57	NRSS-XXIX Transmission Ltd	Private transmission licensee (nominated by central govt.)		nomination awaited
58	Shree Cement Limited	Electricity Trader (nominated by central govt.)	Vice President	amarjit.singh@shreecement.com
59	Adani Green Energy Limited	RE Generating Company having more than 1000 MW installed capacity		nomination awaited
60	Avaada Energy Private Limited			nomination awaited
61	Azure Power India Pvt. Limited			nomination awaited
62	NTPC Green Energy Limited		Head of Engineering (General Manager)	ajaydhamania@ntpc.co.in
63	ReNew Power Private Limited			nomination awaited
64	SJVN Green Energy			nomination awaited

Special Invitees:

1. Smt. Rishika Saran, Member Secretary, NPC, Sewa Bhawan, R. K. Puram, New Delhi-66 [Email-rishika@nic.in]
2. Shri Deepak Kumar, Member Secretary, WRPC, Plot No- F-3, MIDC Area, Marol, Opp. SEEPZ, Central Road, Andheri (East), Mumbai-40093. [Email: ms-wrpc@nic.in]
3. Shri Asit Singh, Member Secretary, SRPC, No.29, Race Course Cross Road, Bengaluru-560009. [Email: mssrpc-ka@nic.in]
4. Shri K B Jagtap, Member Secretary, ERPC, 14, Golf Club Road, ERPC Building, Tollygunje, Kolkata-700033.[Email: mserpc-power@nic.in]
5. Shri Brieflee Lyngkhai, Member Secretary, NERPC, NERPC Complex, Dong Parmaw, Lapalang, Shillong-793006. [Email: ms-nerpc@gov.in]

Attendance 57th TCC Meeting of NRPC on 17.04.2026

S. No.	Organization	Name	Designation	Email
1	PSTCL	Er. Sanjeev Kumar Sood	Chairperson TCC and Director/Technical PSTCL	dir-tech@pstcl.org
2	NRPC	Rishika Sharan	Member Secretary	rishika@nic.in
3	NRLDC	Sajan George	Executive Director	sajan@grid-india.in
4	THDCIL	L.P. Joshi	CTO	lpjoshi@thdc.co.in
5	CEA	Subhro Paul	Chief Engineer	subhro.cea@gov.in
6		Himalaya Shubham	Deputy Director	shubhamhimalaya@nic.in
7		Sajan George	Executive Director	sajan@grid-india.in
8		Sunil Kumar Aharwal	General Manager (SO)	skaharwal@grid-india.in
9		Nitin Yadav	DGM	nitinyadav@grid-india.in
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11		Aakash Tomar	Deputy Manager (SO)	akashtomar@grid-india.in
12		Anzum Parwej	SE (C & S)	anjum.parwej@nic.in
13		D.K. Meena	SE (O & P)	dharmendra.cea@gov.in
14		Reetraj Pandey	EE	pandeyr.cea@gov.in
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16		Omkishor	EE	omkishor.sahu@gov.in
17		Vipul Kumar	EE	vipul.cea@gov.in
18		Omprakash Rajput	AEE	omprakashrajput.cea@gov.in
19		Aakash Jain	AE	akashjain.cea@gov.in
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23		Manju Gupta	ED-CC	manju@powergrid.in
24		Sh Neeraj Kumar	Sr DGM, AM	neerajk@powergrid.in
25		Vikas Anand	Chief Engineer	cejkcpl2@gmail.com
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30	POWERGRID, NR1	G S R RAO	CGM, NR-1	gsrrao@powergrid.in
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32		Rakesh Kumar Gupta	DGM	rakeshgupta@powergrid.in
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37		Anil Raghuwanshi	AGM, EM Design	anilraghuwanshi@thdc.co.in
38	NTPC Green Energy Limited	Sh Sunit Kumar	Head (Commercial)	sunitkumar@ntpc.co.in
39	NTPC	Sh. A S Pandey	GM Commercial	aspandey@ntpc.co.in
40	NHPC	I P Ranjan	ED (O&M)	ipranjan@nhpc.nic.in
41		S K Mishra	GM (O&M)	surendramishra@nhpc.nic.in
42	JSW Energy Ltd.	Anurag Agarwal		agarwal.anurag@jsw.in
43		Jyoti prakash Panda	Head- Power Sales & Regulatory	jyotiprakash.panda@jsw.in
44	APCPL-IGSTPS Hajar	Sh. Dilip Kaibortta	CEO	dilipkaiborta@ntpc.co.in
45	CTUIL	Tej Prakash Verma	DGM	tejprakash@powergrid.in
46	HPPTCL	Er. Rohit Sharda	GM (Projects)	gmprojects.tcl@hpmail.in
47	HPSLDC	Sh. BL Thakur	Managing Director	mdhpsldc@gmail.com
48		Sh. Rohit Kumar	Assistant Engineer	choudhary.rohit2012@gmail.com
49	UPPTCL	Satyendra Kumar	SE(TP&PSS)	setppss@upptcl.org
50		Sanjay Singh	SE (Operation)	sanjay.singh1@upptcl.org
51		Kamal Joshi	Executive Engineer	kamal.joshi@upsldc.org
52	UPSLDC	Bhanu Pratap Sharma	Executive Engineer	bhanu.pratap.sharma@upsldc.org
53		Sanjay Jaiswal	Executive Engineer	sanjay.jaiswal@upsldc.org
54	Rajasthan SLDC	Dinesh Khandelwal	Superintending Engineer (SO&LD)	se.sold@rvpn.co.in
55	SJVN	Aman Katoch	GM (Commercial & System Operation)	aman.katoch@sjvn.nic.in
56	HPGCL	Amit Dilbagi	Director Technical	dirtech2@hpgcl.org.in
57		Atul Kumar Khanna	SE/Technical (HQ)	setechhq@hpgcl.org.in
58	Delhi SLDC	Ashok Kumar	AGM(T) System Operation	dgmsoodelhisldc@gmail.com
59		Niraj Sharma	GM(T) SLDC	gm.dsldc@gmail.com
60	Punjab SLDC	Er. Vivek kumar Khanna	Dy.Chief Engineer/SO	se-sldcop@pstcl.org
61	DTL	Sh. Birendra Prasad	Director(Operation)	dir.opr@dtl.gov.in
62	PSTCL	Er. Harmohan Kaur	Chief Engineer/SLDC	ce-sldc@pstcl.org
63		Er. Vivek kumar Khanna	Dy.Chief Engineer/SO	se-sldcop@pstcl.org
64		Paranpal Singh Johal	Dy.Chief Engineer	se-pr@pspcl.in
65	PSPCL	Er. Inderpal Singh	Director/Distribution & Generation	director-distribution@pspcl.in
66		Kulvir Singh	Addl. Superintendent Engineer	pcpscl1@gmail.com
67	PTCUL	H.S.Hyanki	Chief Engineer	hitendra0107@gmail.com
68		Lalit Kumar	Superintending Engineer	se_engg@ptcul.org
69	Uttarakhand SLDC	Illa Chandra	Chief Engineer SLDC	ce_slcd@ptcul.org
70		Amit Kumar Singh	SE(SLDC)	se_slcd@ptcul.org
71	NPCIL	Jyoti Thakur	SO/G & AGM(Transmission)	jyotiaryan14@gmail.com
72		Ajay K Sharma	Special Secretary	spsecy@bbmb.nic.in
73	BBMB	Ruchi Sharma	Director Power Regulation	dirpr@bbmb.nic.in
74		Ishita Jain	AD Power	adpower@bbmb.nic.in
75	ADANI POWER LTD	Raguvendra Singh Dewra	Dy GM - Metering & Grid Coordination	Raguvendral.dewra@adani.com
76		Mayur Sinh Gohil	Dy GM - Power Sales & Trading	mayursinhgohil@adani.com
77	AD Hydro	Tanuj Kapoor	Sr. Manager	tanuj.kapoor@inbhlwara.com
78		Pankaj Rana	Manager	pankaj.rana@inbhlwara.com
79	Adani Green Energy Ltd	Diwakar Kumar	Sr Manager	diwakar.kumar@adani.com
80	ROSA POWER SUPPLY CO. LTD	Hirday Singh Tomar	Station Director	hirday.tomar@reliancegroupindia.com
81	MEIL ANPARA ENERGY	Arun Tholia	ED Commercial & Fuel	arun.tholia@meilanparapower.com
82		Chatterjee Bipalab	Head operations	bipalab.chatterjee@tatapower.com
83	PPGCL	Anurag Shukla	Head -Commercial & Regulatory	anurag.shukla@tatapower.com
84		G.S. Budyial	Managing Director	md@upcl.org
85	UPCL	Navin Mishra	SE Commercial	cgmupcl@yahoo.com
86		Rajesh Goel	Chief Engineer/SO&Comml.	cesocomm@hvpn.org.in
87	HVPNL	Rajesh Kumar	SE/SLDC/operation	sesldcop@hvpn.org.in
88		Hem Joshi	Asst. Executive Engineer (SLDC)	hjoshi12418@gmail.com
89	JKPTCL(J)	Davindre Singh Bijral	SE CIRCLE I,JKPTCL JAMMU	secr1jkptcljmu@gmail.com
90	JKPTCL(K)	Aejaz Ahmad Mir	SE Circle I,JKPTCL Kashmir	sejktcl@gmail.com
91	NRSS-36	Parmaod Sharma	GM	pramodsharma@tatapower.com
92		Anuj Kumar	Sr. Manager	anujk@tatapower.com
93	BRPL	Murthi Thandavarn	Addl. Vice President	murthi.thandavarn@reliancegroupindia.com
94		Sanjay Srivastav	Head of Department	sanjay.srivastav@reliancegroupindia.com
95	LPGCL, Lalitpur	Abhimanyu Upadhyay	Asst. Vice President	aupadhyay.ltp@lpgcl.com
96	BYPL	Rahul Bhattacharya	DGM	rahul.bhattacharya@reliancegroupindia.com
97	Indigrid	Piyush Pandya	Head- Engineering	piyush.pandya@indigrid.com
98		Amitanshu Srivastava	Head-Transmission BU	amitanshu.srivastava@indigrid.com
99		Amit Ahuja	Director(Tech.)	amitahuja9@yahoo.com
100	IPGCL, Delhi	R. K. Yadav	GM(Commercial)	rajendra805@gmail.com
101	(CM Regulatory) Resonia Ltd.	Sangeet Attri	CM Regulatory	sangeet.attri@resonia.com

Attendance 82nd NRPC Meeting of NRPC on 18.04.2026

S. No.	Organization	Name	Designation	Email
1	PSTCL	SH.Basant Garg IAS	Chairperson NRPC and CMD, PSTCL	cmd@pstcl.org
2	CEA	Hemant Jain	Member (GO&D)	member.god@cea.nic.in
3	THDCIL	S.K. Garg	CMD	skgarg@thdc.co.in
4	POWERGRID	SH.Naveen Srivastava	Director(Operations)	naveensrivastava@powergrid.in
5	NRPC	Rishika Sharan	Member Secretary	rishika@nic.in
6	NRLDC	Sajan George	Executive Director	sajan@grid-india.in
7	CEA	Subhro Paul	Chief Engineer	subhro.cea@gov.in
8		Himalaya Shubham	Deputy Director	shubhamhimalaya@nic.in
9		Sunil Kumar Aharwal	General Manager (SO)	skaharwal@grid-india.in
10		Nitin Yadav	DGM	nitinyadav@grid-india.in
11		Prashant Garg	Manager (MO)	prashant.garg@grid-india.in
12		Akash Tomar	Deputy Manager (SO)	akashtomar@grid-india.in
13		Anzum Parwej	SE (C & S)	anjum.parwej@nic.in
14		D.K. Meena	SE (O & P)	dharmendra.cea@gov.in
15		Reeturaj Pandey	EE	pandeyr.cea@gov.in
16		Praveen Jangra	EE	praveen.cea@gov.in
17		Omkishor	EE	omkishor.sahu@gov.in
18		Vipul Kumar	EE	vipul.cea@gov.in
19		Omprakash Rajput	AEE	omprakashrajput.cea@gov.in
20		Akash Jain	AE	akashjain.cea@gov.in
21		Priyanka Patel	Chief Manager, Powergrid	priyanka.nrpc@gov.in
22		Sh Kailash Kr Gupta	COO	ceo-ctu@ctu.in
23		Sh Anil Kr Meena	GM	anilsehra@powergrid.in
24		Sandeep Kumawat	DGM	sandeepk@powergrid.in
25		Manju Gupta	ED-CC	manju@powergrid.in
26		SH.Naveen Srivastava	Director(Operations)	naveensrivastava@powergrid.in
27		Sh Neeraj Kumar	Sr DGM, AM	neerajk@powergrid.in
28		M.Srinivas Rao	Chief General Manager (TD)	msrao@powergrid.in
29		Rajeev Ranjan	DGM (AM)	rajiv_ranjan@powergrid.in
30		Abhijit Daimari	DGM (Regulatory Cell)	a.daimari@powergrid.in
31		G S R RAO	CGM, NR-1	gsrrao@powergrid.in
32		Alok Kumar Sharma	ED, NR-1	aloksharma99@powergrid.in
33		Shafat Ahmed Wani	CGM	ahmed.shafat@powergrid.in
34		Rakesh Kumar Gupta	DGM	rakeshgupta@powergrid.in
35		Sh Sunit Kumar	Head (Commercial)	sunitkumar@ntpc.co.in
36		Sh. Jitender Malhotra	AGM Commercial	jitendramalhotra@ntpc.co.in
37		Sh. A S Pandey	GM Commercial	aspandey@ntpc.co.in
38		I P Ranjan	ED (O&M)	ipranjan@nhpc.nic.in
39		S K Mishra	GM (O&M)	surendramishra@nhpc.nic.in
40		Anurag Agarwal		agarwal.anurag@jsw.in
41		Jyoti prakash Panda	Head- Power Sales & Regulatory	jyotiprakash.panda@jsw.in
42		Sh. Dilip Kaibortta	CEO	dilipkaibortta@ntpc.co.in
43		TEJ PRAKASH VERMA	DGM	tejprakash@powergrid.in
44		Er. Rohit Sharda	GM (Projects)	gmprojects.tcl@hpmail.in
45		Sh. BL Thakur	Managing Director	mdhpsldc@gmail.com
46		Sh. Rohit Kumar	Assistant Engineer	choudhary.rohit2012@gmail.com
47		Satyendra Kumar	SE(TP&PSS)	setpss@upptcl.org
48		Sanjay Singh	SE (Operation)	sanjay.singh1@upptcl.org
49		Kamal Joshi	Executive Engineer	kamal.joshi@upsldc.org
50		Bhanu Pratap Sharma	Executive Engineer	bhanu.pratap.sharma@upsldc.org
51		Sanjay Jaiswal	Executive Engineer	sanjay.jaiswal@upsldc.org
52		Dinesh Khandelwal	Superintending Engineer (SO&LD)	se.sold@rvpn.co.in
53		Devendra Shringi	Chairman & MD	cmd@rvvn.com
54		Aman Katoch	GM (Commercial & System Operation)	aman.katoch@sjvn.nic.in
55		Amit Dilbagi	DIRECTOR TECHNICAL	dirtech2@hpgcl.org.in
56		Atul Kumar Khanna	SE/TECHNICAL (HQ)	setechhq@hpgcl.org.in
57		Ashok Kumar	AGM(T) System Operation	dgmsoodelhslidc@gmail.com
58		Niraj Sharma	GM(T) SLDC	gm.dslidc@gmail.com
59		Sh. Birendra Prasad	Director(Operation)	dir.opr@dtl.gov.in
60		Er. Sanjeev Kumar Sood	Director/Technical PSTCL cum Chairperson TCC	dir-tech@pstcl.org
61		Er. Harmohan Kaur	Chief Engineer/SLDC	ce-sldc@pstcl.org
62		Er. Vivek kumar Khanna	Dy.Chief Engineer/SO	se-sldcop@pstcl.org
63		CA Vinod Bansal	Director/F&C	dir-fc@pstcl.org
64		Paranpal Singh Johal	Dy.Chief Engineer	se-pr@pspcl.in
65		Kulvir Singh	Addl. Superintendent Engineer	pcpspcl1@gmail.com
66		H.S.Hyanki	Chief Engineer	hitendra0107@gmail.com
67		Lalit Kumar	Superintending Engineer	se_engg@ptcul.org
68		Illa Chandra	Chief Engineer SLDC	ce_slidc@ptcul.org
69		Amit Kumar Singh	SE(SLDC)	se_slidc@ptcul.org
70		Jyoti Thakur	SO/G & AGM(Transmission)	jyotiaryan14@gmail.com
71		Ajay K Sharma	Special Secretary	spsecy@bbmb.nic.in
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77		Pankaj Rana	Manager	pankaj.rana@lnbhlwara.com
78		Diwakar Kumar	Sr Manager	diwakar.kumar@adani.com
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86		G.S. Budiya	Managing Director	md@upcl.org
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89		Rajesh Kumar	SE/SLDC/operation	sesldcop@hvpn.org.in
90		Hem Joshi	Asst. Executive Engineer (SLDC)	hjoshi12418@gmail.com
91		Davindere Singh Bijral	SE CIRCLE I,JKPTCL JAMMU	secl1jkptcljmu@gmail.com
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उत्तरक्षेत्रीय विद्युत समिति
NORTHERN REGIONAL POWER COMMITTEE

**Procedure for Approval of Protection
Settings in Northern Region**

(In reference to regulation 14 of IEGC 2023)

*(Approved in 57th TCC/ 82nd NRPC meeting held on 17-
18 April 2026)*

April, 2026

A. Scope:

This procedure shall be applicable for elements of voltage level 220 kV and above. ISTS elements shall be covered irrespective of voltage level. For state-owned elements below 220 kV level, SLDCs may approve protection settings at their level. This procedure is applicable till implementation of Protection Setting Database Management Project. Thereafter, approval may be done on portal.

B. Procedure in case of new element charging

1. ISTS users shall submit the protection settings to NRPC and NRLDC for every new element to be commissioned one month in advance through mail.

In case of intrastate elements, users shall submit the protection settings to NRPC and concerned SLDC for every new element to be commissioned one month in advance through mail.

2. NRLDC based on the above information and the First Time Charging (FTC) request by user through Outage Management System (OMS) portal of NRLDC, shall allow integration of new element in the system as per NRLDC FTC procedure with the prevailing practice to avoid any delay in charging of the new element. The settings shall be treated as provisional arrangement till approval in PSC (Protection Sub-Committee).

In case of intrastate elements, SLDC shall allow integration of new element in the system. This shall be treated as provisional arrangement till approval in PSC.

3. NRLDC/SLDCs may ask any other relevant data/information from concerned utilities during scrutiny of settings.
4. Users will be responsible for any revision in settings of the existing element required due to charging of new element. The settings shall be treated as provisional arrangement.
5. NRLDC and SLDCs shall provide list of protection settings approved provisionally during FTCs allowed in the previous month by 7th date of month to NRPC Secretariat in prescribed format. NRLDC and SLDCs shall provide access of FTC portal to NRPC Secretariat for download of settings for final approval of settings in upcoming PSC. In case, FTC portal is not in use by states, SLDC shall provide compiled settings of all FTCs by 7th date of month to NRPC Secretariat via e-mail.
6. In case, conditional approval of protection settings has been issued by

NRLDC/SLDCs, the same shall be mentioned in list to be provided monthly by NRLDC/SLDCs.

7. PSC will review and approve protection settings approved provisionally by NRLDC/SLDCs during FTCs. In case of any change required in final protection settings of the new element than the provisional one, as decided by the committee, the same shall be implemented within 7 days by the concerned utility.
8. Utility shall intimate to NRPC Secretariat and NRLDC/SLDC (as applicable) within fortnight after implementation of settings for record in regional protection settings database.

C. Procedure in case of revision of settings of any existing element (without any changes in network configuration):

1. Any change in the existing protection settings shall be carried out only after prior approval from PSC Forum of NRPC.
2. The concerned utility (both ISTS and intrastate) shall put up an agenda regarding any changes required in existing protection settings due to integration of new element in the existing system or otherwise, in PSC.
3. Utility shall intimate to NRLDC/SLDC (as applicable) and NRPC about the changes implemented in protection system or protection settings within 15 days of such changes.

NRPC Member Organization for FY 2026-27		
S. No.	Member Organisation	Category
1	Chairperson, NRPC	Chairperson, NRPC
2	CEA	Central Electricity Authority (CEA)
3	NLDC	National Load Despatch Centre
4	NRLDC	Regional Load Despatch Centre
5	CTUIL	Central Transmission Utility
6	PGCIL	Central Government owned Transmission Company
7	NTPC	Central Generating Company
8	BBMB	
9	THDC	
10	SJVN	
11	NHPC	
12	NPCIL	
13	Delhi SLDC	State Load Despatch Centre
14	Haryana SLDC	
15	Rajasthan SLDC	
16	Uttar Pradesh SLDC	
17	Uttarakhand SLDC	
18	Punjab SLDC	
19	Himachal Pradesh SLDC	
20	DTL	State Transmission Utility
21	HVPNL	
22	RRVPNL	
23	UPPTCL	
24	PTCUL	
25	PSTCL	
26	HPPTCL	
27	IPGCL	State Generating Company
28	HPGCL	
29	RRVUNL	
30	UPRVUNL	
31	UJVNL	
32	HPPCL	
33	PSPCL	State Generating Company & State owned Distribution Company
34	UHBVN	State owned Distribution Company (alphabetical rotational basis/nominated by state govt.)
35	Jaipur Vidyut Vitran Nigam Ltd.	
36	Dakshinanchal Vidyut Vitaran Nigam Ltd.	
37	UPCL	
38	HPSEB	

NRPC Member Organization for FY 2026-27		
S. No.	Member Organisation	Category
39	Adani Power Rajasthan Limited	IPP having more than 1000 MW installed capacity
40	Apraava Energy Private Limited	
41	Aravali Power Company Pvt. Ltd	
42	JSW Hydro Energy Limited	
43	Lalitpur Power Generation Company Ltd	
44	MEIL Anpara Energy Ltd	
45	MEJA Urja Nigam Ltd.	
46	Nabha Power Limited	
47	Neyveli Uttar Pradesh Power Limited (NUPPL) Ghatampur	
48	Prayagraj Power Generation Co. Ltd.	
49	Rosa Power Supply Company Ltd	
50	Talwandi Sabo Power Ltd.	
51	XL Xergi Power Pvt. Ltd.	IPP having less than 1000 MW installed capacity (alphabetical rotational basis)
52	UT of J&K	From each of the Union Territories in the region, a representative nominated by the administration of the Union Territory concerned out of the entities engaged in generation/ transmission/ distribution of electricity in the Union Territory.
53	UT of Ladakh	
54	UT of Chandigarh	
55	NVVN	Nodal Agency appointed by the Government of India for coordinating cross-border power transactions
56	BRPL	Private Distribution Company in region (alphabetical rotational basis)
57	NRSS-XXIX Transmission Ltd	Private transmission licensee (nominated by central govt.)
58	Shree Cement Limited	Electricity Trader (nominated by central govt.)
59	Adani Green Energy Limited	RE Generating Company having more than 1000 MW installed capacity
60	Avaada Energy Private Limited	
61	Azure Power India Pvt. Limited	
62	NTPC Green Energy Limited	
63	ReNew Power Private Limited	
64	SJVN Green Energy	



NORTHERN REGIONAL POWER COMMITTEE
KATWARIA SARAI, NEW DELHI

CONDUCT OF BUSINESS
Rules, 2026

April 2026

Contents

CHAPTER-I: GENERAL.....	1
1. Short title and commencement	1
2. Definitions	1
3. Functions of NRPC	2
4. Secretariat of NRPC	3
5. Furnishing of data / information to Secretariat of RPC.....	5
6. Chairperson of NRPC	6
7. Website of NRPC.....	6
CHAPTER-II: PROCEDURE FOR CONDUCTING NRPC MEETINGS.....	7
8. Place and date of NRPC Meeting.....	7
9. Periodicity of meetings.....	7
10. Notice for the Committee meetings and Agenda	7
11. Effect of Non-receipt of Notice of Meeting by a Member	7
12. Cancellation / re-scheduling of Meeting	8
13. Quorum of NRPC Meeting.....	8
14. Presiding Authority	8
15. Recording of the minutes	8
16. Confirmation of the Minutes.....	9
CHAPTER-III: SUB-COMMITTEES OF NRPC.....	10
17. Constitution of Sub-Committees of NRPC.....	10
18. Technical Co-Ordination Sub-Committee (TCC)	10
19. Operation Co-Ordination Sub-Committee (OCC)	11
20. Commercial Sub-Committee (CSC):.....	12
21. Protection Sub-Committee (PSC)	12
22. System Study Sub-Committee (SSC):	13
23. LGBR Sub-Committee	14
24. Telecommunication, Scada & Telemetry (TeST) Sub-Committee	14
25. Renewable Energy Sub-Committee (REC)	15
CHAPTER-IV: PROCEDURE FOR CONDUCTING SUB-COMMITTEE MEETINGS OF NRPC	16
26. Conducting of Sub-Committee Meetings, issue of Notice, Agenda & its Minutes.....	16
CHAPTER-V: Operation of “NRPC-Fund”	17
27. NAME:.....	17

28.	PURPOSE:.....	17
29.	CONTRIBUTION:.....	17
30.	OPERATION:.....	17
31.	MAINTENANCE OF ACCOUNTS:.....	18
32.	VERIFICATION OF ACCOUNTS:.....	18
CHAPTER-VI: REPORTS.....		19
33.	REPORTS BY NRPC	19
CHAPTER-VII: MISCELLANEOUS.....		20
34.	Saving of inherent Power of the NRPC.....	20

CHAPTER-I: GENERAL

1. Short title and commencement

- 1.1 Government of India, under the provision of Section 2, Subsection 55 of the Electricity Act 2003 vide resolution F.No. 23/21/2021-R&R dated 3rd December 2021 (copy enclosed) published in the Gazette of India has established the Northern Regional Power Committee herein after referred to as NRPC comprising of states of Delhi, Haryana, Himachal Pradesh, Punjab, Rajasthan, Uttaranchal and Uttar Pradesh and the Union Territories of Chandigarh, Jammu & Kashmir and Ladakh.
- 1.2 As per the clause-9 of the aforesaid resolution dated 3rd December 2021, the NRPC hereby makes the following rules which may be called “The Northern Regional Power Committee (Conduct of Business) Rules, 2026”.
- 1.3 These rules shall come into force from the date of its approval by the NRPC and shall remain in force unless otherwise modified.

2. Definitions

- 2.1. In these Rules unless the context otherwise requires:
 - (a) ‘Act’ means the Electricity Act, 2003.
 - (b) ‘Agenda’ means the list of business proposed to be transacted at a meeting of the Committee or Sub-Committee.
 - (c) ‘Authority’ means Central Electricity Authority.
 - (d) ‘Commercial Sub-Committee (CSC)’ means a sub-committee constituted by the Committee to consider commercial related issues.
 - (e) ‘Commission’ means Central Electricity Regulatory Commission.
 - (f) ‘Committee’ means the Northern Regional Power Committee constituted by the Central Government under Sub-Section (55) of Section 2 of the Electricity Act, 2003.
 - (g) ‘Government Resolution’ means resolution No. 23/21/2021-R&R dated 3rd December 2021, notified by Government of India and amendment(s) thereon.
 - (h) ‘IEGC’ means the Indian Electricity Grid Code, specified by Central Electricity Regulatory Commission.
 - (i) LGBR Sub-Committee means a sub-committee constituted by the committee to -
 - i. finalise annual outage plan of generating stations
 - ii. prepare anticipated power supply position for next fiscal and
 - iii. for periodic review of (i) & (ii).

- (j) 'Meeting' means a meeting of the committee / sub-committee convened by the Member Secretary, NRPC Secretariat or any member authorized to convene a meeting in the absence of the head of Secretariat.
 - (k) 'Member' means the member of the as per Resolution of the Government of India on establishment of NRPC dated 3rd December 2021 and as amended from time to time.
 - (l) 'NLDC' means National Load Despatch Centre.
 - (m) 'NRLDC' means Northern Regional Load Despatch Centre
 - (n) 'Operational Coordination Sub-Committee (OCC)' means a sub-committee constituted by the NRPC to consider all issues related to operation of the regional grid.
 - (o) 'Protection Sub-Committee (PSC)' means a sub-committee constituted by the Committee to consider all power system protection related issues.
 - (p) 'Renewable Energy Sub-Committee (REC)' means a sub-committee constituted by the Committee to consider all Renewable Energy related issues.
 - (q) 'Rule' means Northern Regional Power Committee (Conduct of Business) Rules as amended.
 - (r) 'SLDC' means State Load Despatch Centre.
 - (s) 'Sub-Committee' means the Sub-Committees constituted by NRPC to guide and assist it in conducting the functions assigned to it.
 - (t) 'System study Sub-Committee' means a sub-committee constituted by NRPC to carry out the Power System studies.
 - (u) 'Technical Coordination Sub-Committee (TCC)' means a sub-committee constituted by the NRPC to assist the NRPC on all technical, commercial and other matters.
 - (v) 'TeST Sub-Committee' means a sub-committee constituted by the NRPC to assist the NRPC on all Telecommunication, SCADA & Telemetry related issues.
 - (w) 'Year' means Financial Year.
- 2.2. The words and expressions used and not defined in these Rules shall be construed as having the same meaning as defined in the Act.
- 2.3. Reference to any Acts, Rules and Regulations shall include amendments or consolidation or re-enactment thereof.

3. Functions of NRPC

- 3.1. As per Clause-6 of the MoP Resolution dated 3rd December 2021 NRPC shall carry out following functions:
 - 3.1.1 To undertake Regional Level operation analysis for improving grid performance.

- 3.1.2 To facilitate inter-state/inter-regional transfer of power.
- 3.1.3 To facilitate all functions of planning relating to inter-state/ intra-state transmission system with CTU/STU.
- 3.1.4 To provide views on the inter-state transmission system planned by CTU within 45 days of receipt of the proposal by the concerned NRPC. The views of NRPC will be considered by National Committee on Transmission for sending their recommendation to Ministry of Power for approval of new inter-state transmission system.
- 3.1.5 To coordinate planning & maintenance of generating machines of various generating companies of the region including those of inter-state generating companies supplying electricity to the Region on an annual basis and also to undertake review of maintenance programme on a monthly basis.
- 3.1.6 To undertake planning of outage of transmission system on a monthly basis.
- 3.1.7 To undertake operational planning studies including protection studies for stable operation of the grid.
- 3.1.8 To undertake planning for maintaining proper voltages through review of reactive compensation requirement through system study committee and monitoring of installed capacitors.
- 3.1.9 To evolve consensus on all issues relating to economy and efficiency in the operation of power system in the region.

4. Secretariat of NRPC

- 4.1. Clause-8 of MoP Resolution dated 3rd December 2021 specifies that “The Committee shall have a Secretariat of its own which will be headed by the Member Secretary of the Committee. The Member Secretary as well as other staff for the Secretariat shall be provided by the Central Electricity Authority in the manner as was being provided to the erstwhile Northern Regional Electricity Board.”
- 4.2. Secretariat, NRPC shall perform the following duties namely;
 - 4.2.1. Keep custody of records of proceedings of the Committee, sub-committees, task force and working groups of the NRPC.
 - 4.2.2. Prepare agenda for the Committee and Sub-Committee meetings.
 - 4.2.3. Prepare minutes of Committee and Sub-Committee meetings.
 - 4.2.4. Take follow-up action on the decision taken in the Committee & Sub-Committee meetings.
 - 4.2.5. Maintain archive of data and information pertaining to commercial accounts, operating parameters, protection system and communication system of the regional power system.

- 4.2.6. Collect from constituent members or other offices, companies, firms or any other party as may be considered useful for the efficient discharge of functions of NRPC under the Resolution and place the information before the Committee and its sub-committees.
- 4.2.7. Certification of open cycle generation carried out by central sector gas-based stations.
- 4.3. The duties and responsibility envisaged under Indian Electricity Grid Code (IEGC) Regulations made by CERC, NRPC Resolution and NRPC from time to time shall be carried out by the NRPC Secretariat.
- 4.4. In line with the provisions of IEGC the details of functions are given below:
 - 4.4.1. The Member Secretary, NRPC shall investigate and endeavour to resolve the grievance regarding unfair practices, delays, discrimination, lack of information, supply of wrong information or any other matter related to open access in inter-state transmission system.
 - 4.4.2. The Member Secretary, NRPC shall, for the purpose of payment of transmission charges/ capacity charges and incentives, certify:
 - (i) Availability of Regional AC system and outage hours of HVDC transmission system.
 - (ii) Availability and Plant Load Factor for ISGS.
 - 4.4.3. Member Secretary, NRPC, shall verify and take up the matter regarding persistent non-compliance of IEGC with the defaulting agency for expeditious termination of the non-compliance. NRPC Secretariat shall maintain appropriate records of such violation.
 - 4.4.4. NRPC Secretariat is to carry out periodic inspection of Under Frequency Relays installed by the constituents and investigate cases of non-operation of such relays at set frequency in actual system operation.
 - 4.4.5. The NRPC Secretariat shall review on monthly basis the Annual outage plan prepared by CEA in consultation with all parties concerned.
 - 4.4.6. The NRPC Secretariat shall be responsible for analyzing the outage schedule given by all Regional Constituents, preparing a draft annual outage schedule and finalization of the annual outage plan for the following financial year by 31st December of each year.
 - 4.4.7. Any other responsibilities assigned by CERC/ CEA Regulations/ NRPC Resolution shall also be carried out by secretariat.

4.5. Human Resources

- 4.5.1. As per MoP Resolution 3rd December 2021, CEA shall provide the officers and staff to man the Secretariat as was being provided to the erstwhile Northern Regional Electricity Board. However, as and when CEA is unable to depute the requisite number of Group "A" or Group "B" Officers, the vacant posts other than Member Secretary, shall be got filled up by drawing

officers from constituents (only from Central/State utilities) on loan/diversion basis until CEA provides the Officers.

- 4.5.2. As and when CEA is unable to provide requisite number of Group “C” or “D” officials, the vacant posts shall be got outsourced through competitive bidding route for a period up to two (2) years or until CEA provides the manpower. Their remuneration shall be within the ambit of “Minimum Wages Act, 1948”.
- 4.5.3. Member Secretary is also empowered to appoint personnel in case of shortage of staff at other levels on secondment basis.
- 4.5.4. For discharging the functions other than those assigned by the Resolution, NRPC may hire adequate number of persons, experts or consultants.
- 4.5.5. For the purpose of handling NRPC fund, Member Secretary shall appoint one nodal officer from the constituents of NRPC on secondment basis. In the absence of nodal officer from NRPC constituent, MS, NRPC can temporarily appoint one officer of NRPC Secretariat to handle NRPC fund.

4.6. Contribution towards NRPC Fund

- 4.6.1. NRPC fund shall be maintained from contributions from members of NRPC for a particular year. A nodal officer shall be appointed as per clause 4.5.5. for the purpose of handling this fund.
- 4.6.2. The constituents shall deposit their contributions towards NRPC fund, based on the figures approved in the first NRPC meeting held in that financial year. The fund shall be utilized for reimbursement of budgetary allocation from Government of India, expenditure for conducting various meetings/training programs, expenditure for maintenance of NRPC Secretariat, hiring of additional staff/consultants, or any other expenditure as approved by the NRPC forum. Any surplus/ deficits of a particular year shall be adjusted in the subsequent financial year.
- 4.6.3. All the member constituents of NRPC except CEA, NLDC, NRLDC and CTUIL shall equally share the expenditure of NRPC Secretariat.
- 4.6.4. Audit shall be done as per SOP issued by Central Electricity Authority and reports for the same shall be placed before NRPC forum.

5. Furnishing of data / information to Secretariat of RPC

- 5.1. NRLDC and the constituents of the region shall make available all data / information required by the Secretariat to discharge its functions or to carry out any other responsibility / function assigned to it by the Authority / Commission / Committee. It shall also be responsibility of the constituents to ensure that any data though not specifically asked for by the Secretariat, but which may be required for the specific responsibility / function assigned to the Secretariat is also made available to the secretariat.
- 5.2. NRLDC shall provide to Member Secretary, NRPC a computer terminal to have a view of all the parameters in real time frame of Northern Regional grid system.

6. Chairperson of NRPC

The Chairperson of NRPC would be appointed as per 'Government Resolution' F.No: 23/21/2021-R&R dated 3rd December 2021, as amended from time to time.

7. Website of NRPC

The NRPC shall have its own website which shall be maintained by NRPC Secretariat.

CHAPTER-II: PROCEDURE FOR CONDUCTING NRPC MEETINGS

8. Place and date of NRPC Meeting

- 8.1. The place and date of the meeting will be decided by Member Secretary, NRPC in consultation with Chairperson, NRPC.
- 8.2. Meeting will be hosted by the member organizations as per the roster prepared by Member Secretary, NRPC in consultation with the members of the NRPC.
- 8.3. In case the situations are not conducive for physical meetings, the meetings will be conducted through Video Conferencing.

9. Periodicity of meetings

- 9.1. The Committee members shall meet at least once in a month, as per para-11 of "Resolution". However, the Committee may meet to discuss any issue as and when required in consultation with Chairperson, RPC.

10. Notice for the Committee meetings and Agenda

- 10.1. Notice for the Committee meetings shall be issued by Member Secretary, NRPC at least 3 weeks in advance in consultation with Chairperson, NRPC. In case of exigency or meeting through video conferencing, meetings required to be conducted to carry out urgent business, notice of one week is to be given.
- 10.2. The agenda points for the meeting shall be sent to the Member Secretary by the members at least 2 weeks in advance of the meeting. The member Secretary, NRPC shall finalize the agenda and circulate the same to all its members at least 1 week in advance and also be posted on the website.
- 10.3. Normally, NRPC shall meet to discuss the agenda related to transmission planning submitted by CTU on monthly basis. Discussions other than those related to transmission planning shall generally be put up after discussions in Technical Co-ordination Sub-Committee (TCC) which will be held as and when required.
- 10.4. Member Secretary, NRPC may also put any agenda involving urgent matters / policy issue directly before NRPC in consultation with Chairperson, NRPC.
- 10.5. Member Secretary, NRPC may convene a meeting on short notice on any urgent matter in consultation with Chairperson of the committee.
- 10.6. On receipt of specific request from a member too, Member Secretary, NRPC may convene a meeting in accordance with clause 10.5 above.

11. Effect of Non-receipt of Notice of Meeting by a Member

- 11.1. The non-receipt of notice by any member of NRPC or sub-committee shall not invalidate the proceeding of the meeting or any decision taken in the meeting.

12. Cancellation / re-scheduling of Meeting

- 12.1. If a meeting is required to be cancelled or rescheduled the same shall be intimated to the members at the earliest by e-mail and also posted in NRPC website immediately.

13. Quorum of NRPC Meeting

- 13.1. The Quorum of the meeting shall be at least 50% of its members. The Member Organization may nominate their representatives to represent NRPC meetings through official communication and the representative would be considered as quorum.
- 13.2. All decision in the NRPC shall be taken by consensus.
- 13.3. The decisions / ratifications made by the Committee during the meeting with the above quorum shall be treated as final.
- 13.4. The decision of the NRPC arrived at for Operation of the Regional Grid and Scheduling and dispatch of electricity shall be followed by Northern Regional Load Despatch Centre (NRLDC) subject to the directions or regulations of the Commission.
- 13.5. Only members of NRPC and not more than two representatives of his organization shall participate in the Committee meeting. Other persons may attend the meeting by invitation / permission only. However, voting rights will be available only to the Members of NRPC.

14. Presiding Authority

- 14.1. The Chairperson, NRPC shall preside over the meeting of NRPC and conduct business. The Member Secretary, NRPC shall assist the Chairperson of NRPC in conducting the meeting. If the Chairperson is unable to be present at the meeting for any reason, the senior member of NRPC from the State utilities present in the meeting shall be requested by Member Secretary to preside over the meeting.
- 14.2. In the absence of Member Secretary, NRPC the next senior most officer of the NRPC Secretariat shall convene the meeting.

15. Recording of the minutes

- 15.1 The minutes of the meeting shall be finalized and circulated to all its members by the Member Secretary, NRPC within 15 working days from the date of the Committee Meeting. The minutes shall also be posted on the website of NRPC.
- 15.2 The discussions during the meeting shall be Audio recorded and the record shall be kept at the secretariat of NRPC till the confirmation of the minutes. The member organization hosting the meeting shall extend all facilities for audio recording of the proceedings of the meeting.

16. Confirmation of the Minutes

- 16.1 Minutes of the NRPC meeting shall be placed in the next meeting for confirmation. However, in case of urgency the minutes may be confirmed by circulation.

CHAPTER-III: SUB-COMMITTEES OF NRPC

17. Constitution of Sub-Committees of NRPC

17.1. Following Sub-Committees will be constituted by NRPC to guide and assist it in conducting the functions assigned to it:

- (a) Technical Co-Ordination Sub-Committee (TCC)
- (b) Operation Co-Ordination Sub-Committee (OCC)
- (c) Commercial Sub-Committee (CSC)
- (d) Protection Sub-Committee (PSC)
- (e) System Study Sub-Committee (SSC)
- (f) LGBR Sub-Committee
- (g) Telecommunication, SCADA & Telemetry (TeST) Sub-Committee
- (h) Renewable Energy Sub-Committee (REC)

17.2. NRPC or Member Secretary, NRPC or any Sub-Committee may constitute task force, core group for specific purpose from among the members and external experts to advice on any specific issue.

18. Technical Co-Ordination Sub-Committee (TCC)

18.1. Functions:

18.1.1. Technical Co-ordination Sub-Committee, shall consider all issues referred by the Operation Co-Ordination Sub-Committee, Commercial Sub-Committee, Protection Sub-Committee, System Study Sub-Committee, TeST Sub-Committee and Renewable Energy Sub-Committee concerning operation of regional grid, commercial aspects, inter-state/ inter-regional transfer of power, grid stability etc. leading to economy and efficiency in the operation of power system in the region.

18.1.2. TCC shall implement the decisions of the NRPC and also provide guidance and assist NRPC in discharge of its functions and formulation of policy matters on regional grid operation, grid security, and commercial matters.

18.2. Composition of Technical Co-ordination Sub-Committee:

18.2.1. TCC shall be represented by the Technical Members of the NRPC constituents dealing with the Generation / transmission / Distribution and representative from Central Electricity Authority. The representation shall be at the level of Technical Heads in State Utilities, Executive Directors / Chief General Managers or equivalent in PSUs / Technical Heads of Distribution company / Traders / IPPs and Chief Engineer in CEA.

- 18.2.2. Chairperson, NRPC from their concerned State shall appoint the Chairperson of TCC. Chairperson, TCC shall be rotated every year from among the States in the same order as Chairperson of NRPC.

18.3. Meetings:

- 18.3.1. TCC shall meet before the NRPC meeting and put up its recommendations to the NRPC.
- 18.3.2. TCC shall meet separately also as and when needed to address urgent issues or specific issues, if any, concerning the operation of regional grid, security of the grid, commercial matters and other issues.
- 18.3.3. The Chairperson of the TCC shall preside over the meeting. In case Chairperson is unable to be present, Member Secretary, NRPC shall request a person among TCC members to preside over the meeting.
- 18.3.4. Member Secretary, NRPC shall assist Chairperson, TCC in conducting TCC Meeting.

19. Operation Co-Ordination Sub-Committee (OCC)

19.1. Functions:

Operation Co-ordination Committee(OCC) shall discuss all issues related to operation of the regional grid viz. estimating availability of power and energy from each power station and demand of each State for the current and next month; drawing up coordinated maintenance schedule for generating units and major transmission lines; reviewing operational discipline and its norms to be observed by constituents; reviewing the operation of Automatic Under-Frequency Relays; discussing system occurrences, if any, during the previous month and reviewing the status of implementation of the recommendations of the Inquiry Committees; monitoring / reviewing violation of provisions of IEGC related to grid operation; discussing / reviewing measures for ensuring economic grid operation including optimisation of energy transfer with other regions; examining possibility of optimising intra-regional energy exchanges; discussing optimisation of energy transfer with other regions; and any other matter referred by the TCC/NRPC.

19.2. Composition of Operation Co-Ordination Committee:

- 19.2.1. OCC shall be represented by the representatives of the constituent members of NRPC. The nominated representative shall be at the level of Chief Engineers in State Utilities/ General Manager in CPSEs or equivalent level conversant with operational issues.
- 19.2.2. Member Secretary, NRPC shall be Chairperson of the OCC and preside over the meetings. Superintending Engineer of NRPC Secretariat shall be convener of the OCC.

19.3. Meetings:

The meeting will be held every month generally before 20th day of that month.

20. Commercial Sub-Committee (CSC):

20.1. Functions:

Commercial Sub-Committee(CSC) shall discuss all commercial related issues viz. energy accounting, schemes required for inclusion in the Bulk Power Supply Agreements, requirement of power from the new projects, installation of special energy meters and its cost sharing, etc., metering aspects, reviewing of the payments towards Regulatory accounts, issues related to transmission charges, commercial issues in inter-state and inter-regional exchange of power, issues concerning settlement of payments among constituents, if any, etc. and any other matter referred by the TCC/NRPC. Commercial Committee shall audit the Regional Energy Accounts and DSM, Reactive Energy and other Pool Accounts.

20.2. Composition of Commercial Sub-Committee (CSC):

- 20.2.1. Commercial sub-committee shall be represented by the representatives of the constituent members of RPC.
- 20.2.2. The nominated representative shall be at the level of Chief Engineers in State Utilities/ General Manager in CPSEs or equivalent level conversant with commercial issues.
- 20.2.3. Member Secretary, NRPC shall be Chairperson of the CSC and preside over the meetings. Superintending Engineer of NRPC Secretariat shall be convener of the CSC.

20.3. Meetings:

The meeting will be held quarterly or as and when required to address the issues of urgent nature.

21. Protection Sub-Committee (PSC)

21.1. Functions:

Protection Sub-Committee (PSC) shall discuss all power system protection related issues viz. analysis of system disturbances in the region, review of protective relaying schemes, relay co-ordination islanding schemes, automatic under frequency load shedding schemes, review of the implementation of recommendations made by the Inquiry Committee of the grid disturbance in the region concerning the above matters, etc. and any other matter referred by the TCC/NRPC.

21.2. Composition of Protection Sub-Committee:

- 21.2.1. Protection Sub-Committee shall be represented by constituent members of NRPC.

- 21.2.2. The nominated representative shall be at the level of Chief Engineers in State Utilities/ General Manager in CPSEs or equivalent level and concerns with power system protection / testing in the region.
- 21.2.3. Member Secretary, NRPC shall be Chairperson of the PC and preside over the meetings. Superintending Engineer of NRPC Secretariat shall be convener of the PC.

21.3. Meetings:

The meeting will be held monthly or as and when required to address the issues of urgent nature.

22. System Study Sub-Committee (SSC):

22.1. Functions:

System Study Sub-Committee shall carry out following system studies:

- i. Studies for assessment of the quantum of capacitors required in the region taking into account the expected additions in the generation and transmission systems and the low voltage conditions in the system.
- ii. Studies for review of reactive compensation requirement.
- iii. Operational load flow studies, as and when required, for peak conditions off peak conditions etc.
- iv. Short-circuit studies as and when required.
- v. Transient stability studies for major events like grid disturbances or other issues periodically or as and when requested by the constituent(s).
- vi. System studies related to transmission constraints.
- vii. Studies specific to high / low voltage conditions with specific reference to reactors or capacitors operation / requirement.
- viii. Identification of requirement of reactors as and when required
- ix. Co-relation of protection related issues from Studies as and when required.
- x. Any other technical study referred by the NRPC/TCC.

22.2. Composition Of System Study Sub-Committee:

- 22.2.1. System Study Sub-Committee shall be represented by constituent members of NRPC.
- 22.2.2. The nominated representative shall be at the level of Executive Engineers in State Utilities / Deputy General Manager in CPSEs or equivalent level and conversant with issues related to system studies in the region.
- 22.2.3. Member Secretary, NRPC shall be Chairperson of the SSC and preside over the meetings Superintending Engineer of NRPC Secretariat shall be convener of this Sub-Committee.

22.3. Meetings:

As and when required, as decided by the Member Secretary, NRPC.

23. LGBR Sub-Committee

23.1. Functions:

LGBR Sub-Committee shall carry out the following functions in accordance with the provisions of Indian Electricity Grid Code:

- i. Finalise annual outage plan of generating stations.
- ii. Prepare anticipated power supply position for the next fiscal year.
- iii. Periodic review of annual outage plan of generating stations and anticipated power supply position.

23.2. Composition of LGBR sub-committee:

- 23.2.1. LGBR Sub-Committee shall be represented by constituent members of NRPC.
- 23.2.2. The nominated representative shall be at the level of Chief Engineers in State Utilities/ General Manager in CPSEs or equivalent level and conversant with issues related to system studies in the region.
- 23.2.3. Member Secretary, NRPC shall be the Chairperson of the LGBR Sub-Committee and preside over the meetings. Superintending Engineer of NRPC Secretariat shall be convener of the LGBR Sub-Committee.

23.3. Meetings:

Meetings will be held as and when required to be decided by the Member Secretary, NRPC.

24. Telecommunication, Scada & Telemetry (TeST) Sub-Committee

24.1. Functions:

TeST Sub-Committee shall meet to deliberate upon Telecommunication, SCADA and Telemetry schemes of NR and issues thereon in accordance with the provisions of Indian Electricity Grid Code.

24.2. Composition of TeST Sub-Committee:

- 24.2.1. TeST Sub-Committee shall be represented by constituent members of NRPC.
- 24.2.2. The nominated representative shall be at the level of Chief Engineers of State Utilities/General Manager of CPSEs or equivalent level and conversant with Telecommunication, SCADA & Telemetry in the region.
- 24.2.3. Member Secretary, NRPC shall be Chairperson of the TeST Sub-Committee and preside over the meetings. Superintending Engineer of NRPC Secretariat shall be convener of the TeST Sub-Committee.

24.3. Meetings:

The meeting will be held quarterly or as and when required to address the issues of urgent nature.

25. Renewable Energy Sub-Committee (REC)

25.1 Functions:

RE Sub-Committee shall meet to deliberate upon issues related to Renewable Energy resources, its integration in grid, evacuation and other related issues.

25.2 Composition of RE Sub-Committee:

25.2.1 RE Sub-Committee shall be represented by all ISTS connected RE generators, state RE generators having capacity 250 MW & above, MNRE, SECI, Association of RE Generators, NLDC, NRLDC, CTUIL, Qualified Coordinating Agency (QCA), Powergrid, STU and SLDC of RE rich states where REMC is operated.

25.2.2 The nominated representative shall be at the level of Chief Engineers of State Utilities/General Manager of CPSEs or equivalent level and conversant with Renewable Energy domain in the region.

25.2.3 Member Secretary, NRPC shall be Chairperson of the RE Sub-Committee and preside over the meetings. Superintending Engineer of NRPC Secretariat shall be convener of the RE Sub-Committee.

25.3 Meetings:

25.3.1 The meeting will be held quarterly or as and when required to address the issues of urgent nature.

CHAPTER-IV: PROCEDURE FOR CONDUCTING SUB-COMMITTEE MEETINGS OF NRPC

- 26. Conducting of Sub-Committee Meetings, issue of Notice, Agenda & its Minutes**
- 26.1 The notice for the above sub-committee meeting shall be issued at least 15 days before the date of meeting and agenda points one week before the meeting by the NRPC Secretariat. However, when the meeting is to be held through video conferencing, this period may be reduced to 10 days and 3 days respectively. The minutes of the meeting shall be finalized by Member Secretary and issued by NRPC Secretariat within 15 working days of the meeting.
- 26.2 The decision of the Committee arrived at for Operation of the Regional Grid and other above functions shall be implemented by the Constituents. In case the Sub-committee recommends the matter to the TCC / NRPC, for further deliberation or decision, the same shall be referred by NRPC secretariat to TCC/ NRPC.
- 26.3 The meetings will be conducted at the place and venue preferably located in the Region to be decided by Member Secretary, NRPC. In case the situations are not conducive for physical meetings, the meetings will be conducted through Video Conferencing.
- 26.4 Meeting may be hosted by the member organizations as decided by Member Secretary, NRPC in consultation with the members of the sub-committee. All the arrangements required for conducting the meeting shall be made by the host member organisation.

CHAPTER-V: Operation of “NRPC-Fund”

27. NAME:

The name of the fund shall be “NRPC-Fund”. The fund is accumulated amount of contribution fee collected from constituent members of NRPC.

28. PURPOSE:

- i) The fund shall be utilized for meeting the reimbursement of the actual expenditure incurred (from budget provided by Central Electricity Authority) by the office of the NRPC Secretariat to the consolidated fund of Govt. of India/CEA through DDO, NRPC;
- ii) The fund shall be utilized for meeting the expenditure in the conduct of NRPC meetings, workshops, seminars etc.;
- iii) The fund shall be utilized to meet any other office expenditure considered necessary by Member Secretary, for efficient working of NRPC Sectt., with the approval of Chairman, NRPC;
- iv) The fund shall be used for meeting expenditure of NRPC Secretariat as per SOP issued by CEA.

29. CONTRIBUTION:

All the Members and rotational members except the following shall contribute equally on annual basis, which shall be decided every year in NRPC meeting based on review of actual expenditure of the previous year and estimated expenditure in current/next year:

- i) NLDC/NRLDC/SLDCs
- ii) Member (Go&D), CEA
- iii) MS, NRPC
- iv) Exempted by MoP

30. OPERATION:

The fund will be maintained with any Nationalized bank in the name of Northern Regional Power Committee (NRPC) and operate jointly by the nodal officer from the Constituent member along with two more signatory to be nominated with the approval of Member Secretary, NRPC on behalf of NRPC Members. The operation of account will be done under the administrative control / supervision of Member Secretary. All transaction from this account shall be through Cheque/NEFT/RTGS only.

31. MAINTENANCE OF ACCOUNTS:

The account of all the expenditure/receipts shall be maintained by the nodal officer (as per para 29 above) on behalf of NRPC Member. Such officer shall also maintain a cash book etc., where in details of all receipts and expenditure shall be recorded.

32. VERIFICATION OF ACCOUNTS:

The “NRPC – Fund” account for each financial year shall be audited as per SOP issued by CEA.

CHAPTER-VI: REPORTS

33. REPORTS BY NRPC

33.1 The following reports shall be prepared and furnished by NRPC secretariat:

S. No.	Name of the report	Periodicity
1	Monthly Progress Report Northern Regional Grid / Operational Data	Monthly
2	Annual Report of NRPC	Annual

CHAPTER-VII: MISCELLANEOUS

34. Saving of inherent Power of the NRPC

- 34.1 Nothing in these Rules shall bar the NRPC from adopting in conformity with the Act a procedure that is at variance with provisions of these Rules, if the NRPC in view of the special circumstances of a matter or class of matters deem it necessary or expedient to deal with such a matter or class of matters.
- 34.2 Nothing in these Rules shall expressly or by implication, bar the NRPC to deal with any matter or exercise any power under the Act for which no Rules have been framed and NRPC may deal with such matters, and functions in a manner it thinks fit.

Procedure for Utilization of NRPC Guest House Charges Fund

1. Objective

To provide a structured mechanism for the utilization of the Guest House Fund for the maintenance, operation, and upgradation of the NRPC Guest House.

2. Sources of the Fund

- **Recurring Income:** 50% of the Receipts from room rent/charges paid by occupants.
- **Interest:** Any interest accrued on the fund balance.

3. Authorized Areas of Expenditure

Funds shall be utilized for the following purposes:

- Maintenance & Upkeep,
- Consumables & Fixed Assets.
- For routine upkeep and day-to-day operational contingencies of the Guest House, *NRPC Guest House Imprest* shall be recouped up to Rs. 10000/- from NRPC Guest House Charges Fund.

However, in case of non-availability of fund in '*NRPC Guest House Charges*', expenses may be incurred from NRPC Fund also.

4. Guest House Committee

- A three member Guest House Committee under SE(Services) along with Guest House-In charge and AS, NRPC to be formed. The committee to review Guest House quarterly or as and when required and recommend Services Circle to take up any Maintenance, or procurement of any major items except consumables. Any maintenance of urgent nature may be carried out by services circle.

4. Financial Procedure & Approval Limits

- **Routine Expenditure:** The Member Secretary, NRPC, shall have powers to sanction expenditure for routine maintenance and procurement within the available fund balance.
- **Major Capital Expenditure:** Proposals for major refurbishment or significant asset purchases above 25 Lakhs shall be put up for approval in the NRPC.

6. Accounting

- Stock Register for Consumables and Fixed Asset to be maintained by Services Circle, NRPC for *NRPC Guest House Charges* Fund.
- Separate ledger account to be maintained by DDO, NRPC for the *NRPC Guest House Charges* Fund.

Appendix-I

ISTS Schemes

Scheme-1.1: ISTS scheme for RTM Projects (POWERGRID)

Sr. No.	Items	Details
1.	Name of Scheme	Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region- Scheme 1.1
2.	Scope of the scheme	(i) Supply & installation of OPGW (48F) on transmission lines mentioned in Table A Total OPGW (Km): 5392.33 (ii) Supply & installation of FOTE (STM-16 with minimum 5 MSP) (including associated system e.g. Repeaters and its shelter, FODP, NMS, Amplifiers, Approach cable, Power supply etc.) Total FOTE (No.): 68
3.	Objective / Justification	I. As per the CEA letter dtd. 22.05.2024, all lines 110 kV and above shall have Optical Ground Wire along with necessary terminal equipment for speech transmission, line protection, and data channels. Further as CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 primary path for tele-protection shall be on point-to-point Optical Ground Wire and alternative path shall be either on Power Line Carrier Communication or predefined physically diversified Optical Ground Wire paths. During planning of new Transmission Schemes many existing lines get LILOed at upcoming S/s (ISTS/STU). In view of non-availability of OPGW on the existing lines data and voice requirement for new S/s become critical. Further installation of OPGW in live line condition takes lot of time on exiting lines compared to new transmission lines. The installation of OPGW will also enable seamless data transmission from IEMs to the upcoming 5-minute Automatic Meter Reading (AMR) system.

		Subsequently CEA vide their letter dtd. 22.11.2024, communicated that all the upcoming lines shall be provided with 48 Fiber OPGW to cater to broadband and internet requirements in the rural areas and hinterlands to provide reliable Telecom connectivity. II. Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region was formulated in the 9th and 10th Communication Planning Meeting of Northern Region after getting inputs from all the TSPs and STUs. Some of the lines in the scheme have multiple ownership e.g., State, POWERLINK and POWERGRID. Further some lines are falls under TBCB as well as RTM projects under ISTS. III. As per ownership of transmission lines and substations The scheme is bifurcated owner wise e.g. TSPs (POWERGRID, POWERLINK, SEKURA & PKTCL) and other utility / STU wise (BBMB, RRVPNL, UPPTCL and PTCUL). IV. This scheme for STUs scope is also identified, however same to be implemented by respective STUs in matching timeframe ISTS scheme. ➤ Under the proposed scheme-1.1, Lines & Substations are in the ownership of POWERGRID. ➤ FOTE at STU locations for which complete Transmission Line is under ISTS is also considered under this scheme as agreed in 10th CPM meeting.
4.	Estimated Cost	342.2 crore (approx.)
5.	Implementation Schedule	36 months from date of allocation (considering hilly terrain)
6.	Implementing Agency	POWERGRID
7.	Implementation Mode	RTM
8.	Deliberations in different meetings	a. Deliberated in 16th NPC held on 04.07.2025. b. 55th TCC/ 80th NRPC meeting held on 17.07.2025/ 18.07.2025. c. 9th & 10th CPM of NR held on 19.08.2025 & 31.12.2025 respectively.

Table A: List of Transmission lines where OPGW installation is proposed along FOTE locations is given table below:

S. No	Region	Line Name	Total line length(km)	Powergrid Portion(km)	Shared/Multiple ownership with Utility	FOTE Requirement		Repeater
						End A	End B	
1	NR1	220KV BASSI-BAGRU	63.954	35.353	RRVPNL (28.601)	1	0	0
2	NR1	220KV BASSI-IG NAGAR	30.351	22.478	RRVPNL (7.873)	0	0	0
3	NR1	220KV HIRAPURA-IG NAGAR	27.345	24.875	RRVPNL (2.47)	0	0	0
4	NR1	220KV HIRAPURA-SANGANER	220kV Heerapura-Mansarovar, Length: 6.74 Km 220kV Mansarovar - Sanganer, Length: 14.137 Km	0.7 8.097	RRVPNL (6.74) (14.137)	0	0	0
5	NR1	220KV MEERUT-NARA	32.138	2.316	UP (29.822)	1	0	0
6	NR1	220KV MEERUT-SHTBDNGR	33.5	8.234	UP (25.266)	0	0	0
7	NR1	220KV MEERUT-SIMBHOLI	51.428	9.254	UP (42.174)	0	0	0
8	NR1	220KV RAPPB-UDAIPUR	230.297	230.297	-	1	1	1
9	NR1	220KV SIKAR-RATANGARH	76.43	2.83	RRVPNL (73.6)	0	0	0
10	NR1	220KV SIKAR-SIKAR(RJ)	3	3	-	0	1	0
11	NR1	400KV BAGPAT-DEHRADUN	165	165	-	1	1	0
12	NR1	400KV BAGPAT-SAHARANPUR	121	121	-	0	1	0
13	NR1	400KV BASSI-PHAGI (JAIPUR RRVPNL)	48.432	48.432	-	0	1	0
14	NR1	400KV BASSI-SIKAR	169.8	169.8	-	0	0	0

S. No	Region	Line Name	Total line length(km)	Powergrid Portion(km)	Shared/Multiple ownership with Utility	FOTE Requirement		Repeater
						End A	End B	
15	NR1	400KV HISAR-KAITHAL	113.12	113.12	-	1	1	0
16	NR1	400KV MEERUT-BAREILLY	249.518	0 (PG portion (66 Km) to be done by POWERLIN K)	POWERLIN K (183)	0	1	0
17	NR1	765KV AGRA-JHATIKALA	253.076	253.076	-	1	1	1
18.A	NR1	765KV BHIWANI-PHAGI(JPR) CKT-I	271.51	271.571	-	1	0	1
18.B	NR1	765KV BHIWANI-PHAGI(JPR) CKT-II (separate line)	277.3	277.3	-	0	0	0
19	NR1	765KV MOGA-BHIWANI	273	273	-	1	0	1
20	NR2	220KV Kishenpur-Sarna	103.64	103.64	-	1	1	0
22	NR2	220KV Salal-Kishanpur-III	2	2	-	1	1	0
23	NR2	220KV Sarna-Dasuya	53.07	53.07	-	0	1	0
24	NR2	400 KV Dehar (BBMB) - Rajpura (PSTCL) (LILO Portion)	131.21	14.4	BBMB	0	1	0
25	NR2	400KV Bhiwani (BBMB) - Rajpura (PSTCL) (LILO Portion)	212.51	14.4	BBMB	0	0	0
26	NR2	400 KV Dehar-Panchkula (LILO Portion)	125	9.06	BBMB	0	1	0
27	NR2	400 KV Panipat-Panchkula (LILO Portion)	155	9.06	BBMB	0	0	0

S. No	Region	Line Name	Total line length(km)	Powergrid Portion(km)	Shared/Multiple ownership with Utility	FOTE Requirement		Repeater
						End A	End B	
28	NR2	400kV Ludhiana - Patiala	76.215	76.215	-	1	1	0
29	NR2	400kV NALAGARH- Patiala	93.78	93.78	-	1	0	0
30	NR2	400kV Uri 1 - Uri 2	10.456	10.456	-	1	1	0
31	NR2	220KV Salal-Jammu-I	56.33	56.33	-	0	0	0
32	NR3	220KV AGRA(PG)-BHARATPUR(RRV PNL)	55.858	55.858	-	0	1	0
33	NR3	220kV AGRA(PG)-SIKANDARA(UP)	55.858	55.858	-	0	1	0
34	NR3	220KV ALLD-JHUSI(UP)	28.079	21.879	UP (6.2)	1	0	0
35	NR3	220KV AUR-SIKANDARA	182.176	182.176	-	1	0	0
36	NR3	220KV JHUSI(UP)-PHULPUR(UP)	220KV JHUSI(UP)-Machhlishahar (UP), Length: 72.56 220KV Machhlishahar (UP) - PHULPUR(UP), Length: 50.072	16.686 0.2	UP (56) (49.4)	0	0	0
37	NR3	220KV KANPUR(PG) - RANIYA(UP)-1	1.683	1.683	-	1	1	0
37	NR3	220KV KNP-MAINPURI	10.4	10.4	-	0	1	0
39	NR3	220KV KNP-NAUBASTA	14.86	14.86	-	0	1	0
40	NR3	220KV KNP-PANKI-II	14.86	14.86	-	0	1	0
41	NR3	220KV KNP-UNCHR-III	144.63	144.63	-	0	1	0
42	NR3	220KV RAIBRLY-	2	2	-	1	1	0

S. No	Region	Line Name	Total line length(km)	Powergrid Portion(km)	Shared/Multiple ownership with Utility	FOTE Requirement		Repeater
						End A	End B	
		CG CITY(UP)						
43	NR3	400KV AGRA-BHIWADI	208.98	208.98	-	0	*1	0
44	NR3	400KV BALIA-MAU 400kV	13	13	-	1	1	0
45	NR3	400KV LUCKNOW-UNNAO	73.286	73.826	-	1	1	0
46	NR3	400KV SINGRAULI-FATEHPUR	330.953	330.953	-	1	1	1
47	NR3	765KV ALIGARH-JHATIKARA	158	158	-	1	0	0
48	NR3	765KV KANPUR(GIS)-ALIGARH	327	327	-	1	0	1
49	NR2	400kV NALAGARH-BANALA-I	112.78	46.399	PKTCL (66.381)	0	1	0
50	NR1	400kV Muzaffarnagar – Roorkee (LILO portion)	71	3.73	67.27 (PTCUL)	0	1	0
51	NR1	400kV Roorkee - Rishikesh (LILO portion)	50	3.73	46.27 (PTCUL)	0	0	0
52	NR1	400kV Malerkotla – Amritsar	149	0	-	1	1	0
53	NR3	400kV Muzaffarpur-Gorakhpur	260	0	-	1	1	1
54	NR3	400kV Lucknow-Gorakhpur	245	0	-	0	0	1
55	NR3	400 kV Meerut - Mandola	101.8	0 (54.3 Km of PG portion to be laid by POWERLINK)	47.5 (POWERLINK)	0	1	0

S. No	Region	Line Name	Total line length(km)	Powergrid Portion(km)	Shared/Multiple ownership with Utility	FOTE Requirement		Repeater
						End A	End B	
56	NR1	220kV Meerut-(Mataur PG)-Modipuram (UP)-ckt 1	9	2.31	UP	0	0	0
57	NR1	220kV Meerut-(Mataur PG)-Modipuram (UP)-ckt 2	12.22	9.25	UP	0	0	0
58	NR1	400kV Hisar-Bhiwadi (Ckt-2 & 3)	144.079	144.079	-	0	0	0
59	NR1	400kV Hisar-Bhiwani (Ckt-2 & 3)	56.7	56.7	-	0	0	0
60	NR2	220kV Jalandhar-Dasuya (PSTCL)	49.79	49.79	-	0	0	0
61	NR3	765kV Balia – Lucknow	319.532	319.532		0	1	1
62	NR3	400kV Allahabad-Kanpur 2	224	219.183		1	0	0
63	NR3	400kV Fatehpur-Panki	113	113		0	0	0
64	NR3	400kV Bareilly-Moradabad (UP)	92.789	92.789		0	0	0
65	NR3	LILO of 400kV Bareilly - Moradabad at Rampur (PG)	2.71	2.71	-	0	1 (Rampur)	0
66	NR3	400kV Singrauli (NTPC)-Allahabad-3	214.851	214.851	-	0	0	0
Total OPGW Length (PG Ownership): 5392.33 Km						Total FOTE 60+8= 68		

- 60 No. of FOTE at ISTS S/s for OPGW on POWERGRID Lines and 8 No. of FOTE at ISTS S/s for OPGW of POWERLINK and INDIGRID. Total 68 FOTE at ISTS stations.
- * STM-64 FOTE is considered at Bhiwadi S/s

Scheme-1.2: ISTS scheme for RTM Projects (POWERLINK)

Sr. No.	Items	Details
1.	Name of Scheme	Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region – Scheme 1.2
2.	Scope of the scheme	Supply & installation of OPGW (48F) on transmission lines mentioned in Table B along with approach Cable, FODP etc. OPGW (Km): 735.7 Kms. + 120.5 Kms. (PG portion to be done by POWERLINK) Total OPGW = 856.3 Km
3.	Objective / Justification	I. As per the CEA letter dtd. 22.05.2024, all lines 110 kV and above shall have Optical Ground Wire along with necessary terminal equipment for speech transmission, line protection, and data channels. Further as CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 primary path for tele-protection shall be on point-to-point Optical Ground Wire and alternative path shall be either on Power Line Carrier Communication or predefined physically diversified Optical Ground Wire paths. During planning of new Transmission Schemes many existing lines get LILOed at upcoming S/s (ISTS/STU). In view of non-availability of OPGW on the existing lines data and voice requirement for new S/s become critical. Further installation of OPGW in live line condition takes lot of time on exiting lines compared to new transmission lines. The installation of OPGW will also enable seamless data transmission from IEMs to the upcoming 5-minute Automatic Meter Reading (AMR) system. Subsequently CEA vide their letter dtd. 22.11.2024, communicated that all the upcoming lines shall be provided with 48 Fiber OPGW to cater to broadband and internet requirements in the rural areas and hinterlands to provide reliable Telecom connectivity. II. Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region was formulated in the 9th and 10th Communication Planning Meeting of Northern Region after getting inputs from all the TSPs and STUs. Some of the lines in the scheme have multiple ownership e.g.,

		State, POWERLINK and POWERGRID. Further some lines are falls under TBCB as well as RTM projects under ISTS. III. POWERLINK Lines having mixed ownership with POWERGRID, However in the 10th CPM, POWERLINK requested that POWERGRID portion OPGW also to be laid by POWERLINK as agreed in ER Scheme. POWERGRID agreed to the proposal of POWERLINK that OPGW installation on POWERGRID portion in 400kV Bareilly-Meerut (66.18 Km) and 400 kV Meerut -Mandola (54.3 Km) to be done by POWERLINK. IV. As per ownership of transmission lines and substations The scheme is bifurcated owner wise e.g. TSPs (POWERGRID, POWERLINK, SEKURA & PKTCL) and other utility / STU wise (BBMB, RRVPNL, UPPTCL and PTCUL). V. Implementation schedule of this scheme is considered as <i>36 months i.e. matching with scheme 1.1</i>, because FOTE at the end stations are considered in scheme 1.1 in line with CERC order on Petition no. 94/MP/2021(end stations ownership is of POWERGRID). VI. This scheme for STUs scope is also identified, however same to be implemented by respective STUs in matching timeframe ISTS scheme.
4.	Estimated Cost	47.09 crore (approx.)
5.	Implementation Schedule	36 months from date of allocation *Matching with Scheme 1.1, which includes FOTE for the entire NR scheme.
6.	Implementing Agency	POWERLINK
7.	Implementation Mode	RTM
8.	Deliberations in different meetings	a. Deliberated in 16th NPC held on 04.07.2025. b. 55th TCC/ 80th NRPC meeting held on 17.07.2025/ 18.07.2025. c. 9th & 10th CPM of NR held on 19.08.2025 & 31.12.2025 respectively.

Table B: List of transmission lines where OPGW installation is proposed along FOTE locations are given in Table below

Sr. No.	Line Name	Total Line Length (Km)	Total Line Length under POWERLINK (Km)	Shared/Multiple ownership with Utility
1.	400kV Muzaffarpur-Gorakhpur	260	260	-
2.	400kV Lucknow-Gorakhpur	245	245	-
3.	400kV Bareilly-Meerut	249.58	183.2	POWERGRID (66.18Km)
4.	400 kV Meerut -Mandola	101.8	47.5	POWERGRID (54.3 Km)

Scheme-1.3: ISTS scheme for RTM Projects (PKTCL)

Sr. No.	Items	Details
1.	Name of Scheme	Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region – Scheme 1.3
2.	Scope of the scheme	Supply & installation of OPGW (48F) on 400kV Nalagarh-Banala-I transmission lines along with approach Cable, FODP etc. Total OPGW to be installed = 66.38 Km (PKTCL ownership) Total Line Length: 112.78 Km.
3.	Objective / Justification	I. As per the CEA letter dtd. 22.05.2024, all lines 110 kV and above shall have Optical Ground Wire along with necessary terminal equipment for speech transmission, line protection, and data channels. Further as CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 primary path for tele-protection shall be on point-to-point Optical Ground Wire and alternative path shall be either on Power Line Carrier Communication or predefined physically diversified Optical Ground Wire paths. During planning of new Transmission Schemes many existing lines get LILOed at upcoming S/s (ISTS/STU). In view of non-availability of OPGW on the existing lines data and voice requirement for new S/s become critical. Further installation of OPGW in live line condition takes lot of time on exiting lines compared to new transmission lines. The installation of OPGW will also enable seamless data transmission from IEMs to the upcoming 5-minute Automatic Meter Reading (AMR) system. Subsequently CEA vide their letter dtd. 22.11.2024, communicated that all the upcoming lines shall be provided with 48 Fiber OPGW to cater to broadband and internet requirements in the rural areas and hinterlands to provide reliable Telecom connectivity. II. Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region was formulated in the 9th and 10th Communication Planning Meeting of Northern Region after getting inputs from all the TSPs and STUs. Some of the lines in the scheme have multiple ownership e.g., State, POWERLINK and POWERGRID. Further some lines are falls under TBCB as well as RTM projects under ISTS.

		III. As per ownership of transmission lines and substations The scheme is bifurcated owner wise e.g. TSPs (POWERGRID, POWERLINK, SEKURA & PKTCL) and other utility / STU wise (BBMB, RRVPNL, UPPTCL and PTCUL). IV. The implementation schedule of this scheme is considered as 36 months i.e. matching with scheme 1.1, because FOTE at the end stations are considered in scheme 1.1 in line with CERC order on Petition no. 94/MP/2021 (end stations ownership is of POWERGRID). V. This scheme for STUs scope is also identified, however same to be implemented by respective STUs in matching timeframe ISTS scheme.
4.	Estimated Cost	3.65 crore (approx.)
5.	Implementation Schedule	36 months from date of allocation *Matching with Scheme 1.1, which includes FOTE for the entire NR scheme.
6.	Implementation Agency	PKTCL
7.	Implementing Agency	RTM
8.	Deliberations in different meetings	a. Deliberated in 16th NPC held on 04.07.2025. b. 55th TCC/ 80th NRPC meeting held on 17.07.2025/ 18.07.2025. c. 9th & 10th CPM of NR held on 19.08.2025 & 31.12.2025 respectively.

Scheme-1.4: ISTS scheme for TBCB Projects (NRSS XXXI (B) Transmission Ltd)

Sr. No.	Items	Details
1.	Name of Scheme	Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region – Scheme 1.4
2.	Scope of the scheme	Supply & installation of OPGW (48F) on 400kV Malerkotla – Amritsar transmission line along with approach Cable, FODP etc. Total OPGW = 149 Km
3.	Objective /Justification	I. As per the CEA letter dtd. 22.05.2024, all lines 110 kV and above shall have Optical Ground Wire along with necessary terminal equipment for speech transmission, line protection, and data channels. Further as CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 primary path for tele-protection shall be on point-to-point Optical Ground Wire and alternative path shall be either on Power Line Carrier Communication or predefined physically diversified Optical Ground Wire paths. II. During planning of new Transmission Schemes many existing lines get LILOed at upcoming S/s (ISTS/STU). In view of non-availability of OPGW on the existing lines data and voice requirement for new S/s become critical. Further installation of OPGW in live line condition takes lot of time on exiting lines compared to new transmission lines. The installation of OPGW will also enable seamless data transmission from IEMs to the upcoming 5-minute Automatic Meter Reading (AMR) system. Subsequently CEA vide their letter dtd. 22.11.2024, communicated that all the upcoming lines shall be provided with 48 Fiber OPGW to cater to broadband and internet requirements in the rural areas and hinterlands to provide reliable Telecom connectivity. III. Comprehensive Scheme for OPGW installation on the existing lines of ISTS in Northern Region was formulated in the 9th and 10th Communication Planning Meeting of Northern Region after getting inputs from all the TSPs and STUs. Some of the lines in the scheme have multiple ownership e.g., State, POWERLINK and POWERGRID. Further some lines are falls under TBCB as well as RTM projects under ISTS. IV. As per ownership of transmission lines and substations

		The scheme is bifurcated owner wise e.g. TSPs (POWERGRID, POWERLINK, SEKURA & PKTCL) and other utility / STU wise (BBMB, RRVPNL, UPPTCL and PTCUL). V. Implementation schedule of this scheme is considered as <i>36 months i.e. matching with scheme 1.1</i>, because FOTE at the end stations are considered in scheme 1.1 in line with CERC order on Petition no. 94/MP/2021(end stations ownership is of POWERGRID). VI. This scheme for STUs scope is also identified, however same to be implemented by respective STUs in matching timeframe ISTS scheme.
4.	Estimated Cost	8.19 crore (approx.)
5.	Implementation Schedule	36 months from date of allocation *Matching with Scheme 1.1, which includes FOTE for the entire NR scheme.
6.	Implementing Agency	NRSS XXXI (B) Transmission Ltd
7.	Implementation Mode	RTM
8.	Deliberations in different meetings	a. Deliberated in 16th NPC held on 04.07.2025. b. 55th TCC/ 80th NRPC meeting held on 17.07.2025/ 18.07.2025. c. 9th & 10th CPM of NR held on 19.08.2025 & 31.12.2025 respectively.

Appendix-II

STU/BBMB Schemes

Scheme-2.1: BBMB

Sr. No.	Items	Details
1.	Total OPGW (48F)	576.19 Kms.
2.	Total No of FOTE (STM-16 with minimum 5 MSP) (including Repeaters and its shelter, Amplifiers, FODP approach cable, Power supply etc.)	3 Nos.
3.	Implementation Mode	Through BBMB Scheme
4.	Implementation Schedule	Matching with Scheme-1.1

List of transmission lines where OPGW installation is proposed along with FOTE locations is given below

Sr. No.	Line Name	Total Line Length (km)	Line Ownership Under BBMB(km)	Shared/Multiple ownership with Utility	FOTE Requirement	
					END A	END B
1.	Dehar (BBMB) - Rajpura (PSTCL) (except LILO Portion)	131.2	116.35	POWERGRID	1	0
2.	Bhiwani (BBMB) - Rajpura (PSTCL) (except LILO Portion)	212.5	198.11	POWERGRID	1	0
3.	Dehar-Panchkula (except LILO Portion)	125	115.866	POWERGRID	0	0
4.	Panipat-Panchkula (except LILO Portion)	155	145.866	POWERGRID	1	0

Scheme-2.2: RRVPNL

Sr. No.	Items	Details
1.	Total OPGW (48F)	124.61 Kms.
2.	Total No of FOTE (STM-16 with minimum 5 MSP) (including Repeaters and its shelter, FODP, Amplifiers, approach cable, Power supply etc.)	6
3.	Implementation Mode	Through STU Schemes
4.	Implementation Schedule	Matching with Scheme-1.1

List of Transmission lines where OPGW installation is proposed alongwith FOTE locations is given below:

Sr. No.	Line Name	Total Line Length(km)	Line Ownership Under RRVPNL (km)	Shared/Multiple ownership with Utility	FOTE Requirement	
					END A	END B
1.	BASSI(PG)-IG NAGAR	30.351	7.873	POWERGRID (22.478 Km)	0	1
2.	HIRAPURA (220KV GSS)-IG NAGAR	27.345	2.47	POWERGRID (24.875 Km)	1	0
3.	HIRAPURA (400KV GSS)-SANGANER	220kV Heerapura-Mansarovar, Length: 6.74 Km 220kV Mansarovar - Sanganer, Length: 14.137 Km	6.04 6.04	POWERGRID (0.7 Km) (8.097 Km)	1	1
4.	BASSI(PG)-BAGRU	63.954	28.601	POWERGRID (35.353 Km)	0	1
5.	220KV SIKAR-RATANGARH	76.43	73.6	POWERGRID (2.83 Km)	1	0

Scheme-2.3: UPPTCL

Sr. No.	Items	Details
1.	Total OPGW (48F)	221.736 Kms.
2.	Total No of FOTE (STM-16 with minimum 5 MSP) (including Repeaters and its shelter, Amplifiers, FODP approach cable, Power supply etc.)	9
3.	Implementation Mode	Through STU Schemes
4.	Implementation Schedule	Matching with Scheme-1.1

List of transmission lines where OPGW installation is proposed along FOTE locations is given in Table below:

Sr. No.	Line Name	Total Line Length(km)		Line length under ownership of UPPTCL (Km)	Shared/Multiple ownership with Utility	FOTE Requirement	
						END A	END B
1.	Meerut-Nara	32.138		29.822	POWERGRID (2.31 Km)	0	1
2.	Meerut-Simbholi	52.2		44	POWERGRID (9.254)	0	1
3.	ALLD-Jhusi(UP)	28.07		6.2	POWERGRID (21.879)	0	1
4.	220KV Jhusi(UP)-Phulpur(UP)	220KV Jhusi(UP)-Machhlisahar (UP):73	122.63	55.874	POWERGRID (16.686)	0	1
		220KV Machhlisahar (UP) - Phulpur(UP): 50			(0.572)		
5.	400kv Muzaffarnagar - Roorkee (except LILO portion)	71		0	PTCUL and POWERGRID	1	0
6	220kv Meerut (Mataur PG)-Modipuram (UP) – Ckt-1	9		6.68	POWERGRID (2.316)	0	1
7	220kv Meerut (Mataur PG)-Modipuram (UP)-ckt-2	12.22		2.96	POWERGRID (9.254)	0	0

8	LILO of 220kV Auraiya(NT)-Sikandra at Saifai(UP)	220kV Auraiya (NT)-Saifai (UP) Length-61.146km and 220kV Saifai (UP)- Sikandra (UP) Length-123.191Km	15.1 15.1	-	0	1 (Saifai)
9	LILO of 400kV Lucknow-Unnao (UP) at Jehta (UP)	400kV Jehta-Lucknow Length:70.41 km and 400kV Jehta-Unnao Length: 14.93km	17 12	-	1 (Jehta)	0
10	LILO of 400kV Varanasi- Biharshariff at Sahupuri	400kV Sahupuri-Varanasi Length:76.4 km	17	POWERGRID	0	0
11	400kV Bareilly- Moradabad (UP)	92.789 km	0	-	0	1

Scheme-2.4: PTCUL

Sr. No.	Items	Details
1.	Total OPGW (48F)	113.54 Kms.
2.	FOTE (STM-16 with minimum 5 MSP) (including Repeaters and its shelter, Amplifiers, FODP approach cable, Power supply etc.)	1
3.	Implementation Mode	Through STU Schemes
4.	Implementation Schedule	Matching with Scheme 1.1

List of transmission lines where OPGW installation is proposed along FOTE locations is given in Table below

Sr. No.	Line Name	Total Line Length (Km)	Line Ownership Under PTCUL (Km)	Shared/Multiple ownership with Utility	FOTE Requirement	
					END A	END B
1.	400kV Muzaffarnagar - Roorkee (except LILO portion)	71	67.27	POWERGRID (3.73)	0	0
2.	400kV Roorkee -Rishikesh (except LILO portion)	50	46.27	POWERGRID (3.73)	0	1

Upgradation of FOTE at ISTS Locations due to Bandwidth congestion in Northern Region

Sr. No.	Items	Details
1.	Name of Scheme	Upgradation of FOTE at ISTS Locations due to Bandwidth congestion in Northern Region
2.	Scope of the scheme	Supply and installation of 14 No. of FOTE (11 no. of STM-16 and 3 No. of STM-64) Total No of FOTE : 14 (STM-16 & STM-64 with minimum 5 MSP) (including associated system e.g. Repeaters and its shelter, FODP, NMS, Amplifiers, Approach cable, Power supply etc.) Location of FOTE is mentioned in Table C.
3	Objective / Justification	i. In 27th TeST Meeting held on 21.04.2025 and 28th TeST meeting held on 23.07.2025. NMT brought out bandwidth congestion in some of the FOTE of NR which requires upgradation/replacement. System generated report from UNMS system is attached where Bandwidth Utilization is over 75%. CTU has studied these nodes for bandwidth congestion from UNMS. Considering critical grid operations, these FOTEs experiencing high bandwidth congestion and may be upgraded/replaced. ii. This agenda was further deliberated in the 10th NR CPM (Communication Planning Meeting) regarding upgradation existing bandwidth congestion in critical links of NR. At Allahabad & Varanasi node, requirement of STM-64 FOTE (with minimum 5 MSP) was deliberated in view of inter-regional data transfer towards Main & Backup NLDC and Main and Backup RLDCs. POWERGRID and NMT suggested that upgrading to STM-64 for Allahabad-Varanasi link also requires nearby nodes to be upgraded to STM-64 for utilization of STM-64 bandwidth. It is proposed that to provide congestion free corridor between NLDC/NRLDC – ERLDC/Backup NLDC, STM-64 based path can be created, which cater critical interregional data between ER- NR such as ICCP, AGC etc.

		iii. Further the requirement of STM-64 FOTE upgradation at Tughlakabad, Bhiwadi & Kotputli S/s has been agreed in 10th CPM. FOTE at Tughlakabad, Kotputli S/s are considered in this scheme and FOTE at Bhiwadi S/s is considered in Comprehensive OPGW scheme. iv. This scheme was further discussed in 30th TeST Meeting held on 10th April wherein, one FOTE at Neemrana S/s (STM-64) was agreed to be added in the scheme.
4.	Estimated Cost	9.04 Crs.
5.	Implementation Schedule	24 Months from date of allocation
6.	Implementing Agency	POWERGRID
7.	Implementing mode	RTM
8.	Deliberations in different meetings	a. 27th TeST Meeting held on 21.04.2025 and 28th TeST meeting held on 23.07.2025. b. 10th NR CPM held on 31.12.2025 c. 30th TeST meeting of NRPC held on 10.04.2026

Table C- List of Stations where FOTE is to be Upgraded

S. No.	Substation Name	Proposed FOTE(STM-16/64)
1.	Sohwal	STM 16(5 MSP)
2.	Merrut01	STM 16(5 MSP)
3.	Bhiwani 2	STM 16(5 MSP)
4.	BBMB_DADRI_HR	STM 16(5 MSP)
5.	Shahjhanpur	STM 16(5 MSP)
6.	Gagal	STM 16(5 MSP)
7.	Hamirpur 2	STM 16(5 MSP)
8.	Rep Jalandhar	STM 16(5 MSP)
9.	Hamirpur PG	STM 16(5 MSP)
10.	Tughlakabad 400	STM 64(5 MSP)
11.	Abdullapur PG	STM 16(5 MSP)

12.	KOTPUTLI	STM 64(5 MSP)
13.	Kunihar LDC_HP	STM 16(5 MSP)
14.	Neemrana S/s	STM 64(5 MSP)
Total No. of FOTE		14