

I/27738/2023



भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केंद्रीय विद्युत प्राधिकरण

Central Electricity Authority

विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग- II

Power System Planning & Appraisal Division-II

सेवा में/To

As per list of Addresses

विषय : ट्रांसमिशन पर राष्ट्रीय समिति (एनसीटी) की तेरहवीं बैठक की कार्यसूची – के सम्बन्ध में।

Subject: Agenda for the 13th Meeting of National Committee on Transmission (NCT) – regarding.

महोदया (Madam) / महोदय (Sir),

The 13th meeting of the "National Committee on Transmission" (NCT) is scheduled on 12.05.2023 (Friday) at 11:00 AM as per details given below:

Venue: Chintan, 2nd Floor, CEA, Sewa Bhawan, R.K. Puram Sector-1, New Delhi**Date:** 12.05.2023 (Friday)**Time:** 11.00 AM

The agenda for the meeting is enclosed herewith. Kindly make it convenient to attend the meeting.

भवदीय/Yours faithfully,

(ईशान शरण / Ishan Sharan)

मुख्य अभियंता एवं सदस्य सचिव, एनसीटी
/Chief Engineer & Member Secretary (NCT)**प्रतिलिपि / Copy to:**

Joint Secretary (Trans), Ministry of Power, New Delhi

I/27738/2023

List of Addresses:

1.	Chairperson, Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	2.	Member (Power System), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.
3.	Member (Economic & Commercial), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	4.	Director (Trans), Ministry of Power Shram Shakti Bhawan, New Delhi-110001.
5.	Sh. Dilip Nigam, Scientist ‘G’, MNRE, Block no. 14, CGO Complex, Lodhi Road, New Delhi – 110003	6.	Chief Operating Officer, CTUIL, Saudamini, Plot No. 2, Sector-29, Gurgaon – 122 001.
7.	Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001.	8.	CMD, Grid Controller of India, B-9, Qutub, Institutional Area, Katwaria Sarai, New Delhi – 110010
9.	Dr. Radheshyam Saha, Ex. Chief Engineer, Central Electricity Authority	10	Ms. Seema Gupta, Ex. Director (Operations), POWERGRID

Table of Agenda

1	Confirmation of the minutes of the 12 th meeting of National Committee on Transmission.....	4
2	Status of the transmission schemes noted/approved/recommended to MoP in the 12 th meeting of NCT:.....	4
3	New Transmission Schemes:.....	5
4	Modifications in the Schemes approved/recommended in the earlier meetings of NCT:.....	13
5	Evaluation of functioning of National Grid.....	14
6	Any other issues, with permission of chair.....	14

I/27738/2023

Agenda for the 13th meeting of National Committee on Transmission

1 Confirmation of the minutes of the 12th meeting of National Committee on Transmission.

1.1 The minutes of the 12th meeting of NCT held on 24.03.2023 were issued vide CEA letter no CEA-PS-12-13/3/2019-PSPA-II dated 12/04/2023.

1.2 No comments have been received on the minutes.

Members may confirm the minutes.

2 Status of the transmission schemes noted/approved/recommended to MoP in the 12th meeting of NCT:

2.1 The status of the transmission schemes noted/approved/recommended in the 12th meeting of NCT is tabulated below

Sr. No	Name of the Transmission Scheme	Noted/ Recommended/ Approved	Survey Agency	MoP approval	BPC	Remarks
	12th NCT					
1.	Transmission system for evacuation of power from RE projects in Solapur (1500 MW) SEZ in Maharashtra	Approved	PFCCCL	Not Applicable	PFCCCL	TBCB
2.	Provision of Dynamic Reactive Compensation at KPS1 and KPS3	Recommended	Not Applicable	To be approved		TBCB
3.	Transmission System for Evacuation of Power from RE Projects in Rajgarh 1000 MW SEZ in Madhya Pradesh - Phase-II	Recommended	RECPDC L	To be approved		TBCB
4.	Eastern Region Expansion Scheme-XXXIV (ERES-XXXIV)	Recommended	CTUIL	To be approved		TBCB

I/27738/2023

3 New Transmission Schemes:

3.1 Establishment of State-of Art Unified Network Management System (U-NMS) for ISTS and State Utility Communication System for Southern Region

3.1.1 Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 provides that CTU shall be the Nodal Agency for supervision of communication system in respect of inter-State communication system and will implement centralized supervision for quick fault detection and restoration.

3.1.2 Accordingly, communication scheme i.e. Establishment of State-of Art Unified Network Management System (U-NMS) for ISTS and State Utility Communication System for Southern Region has been envisaged. Detailed scheme is given below:

Sl. No.	Items	Details
1.	Name of Scheme	Establishment of State-of Art Unified Network Management System (U-NMS) for ISTS and State Utility Communication System for Southern Region
2.	Scope of the scheme	<ul style="list-style-type: none"> • Main & Back-up UNMS software and hardware along with required Application software including Video Projection System (VPS), firewall and IDPS. • Remote Workstation for SLDCs. • Video Projection System (VPS), Printer, furniture etc. at main & back-up U-NMS location. • Integration of existing NMS/NEs of ISTS and State Utility in a region in the proposed UNMS. • Integration of upcoming U-NMS for National & other regions and upcoming NMS/NEs of ISTS and State Utility in a region during implementation and AMC period of the project. • Operational support, training & maintenance for proposed UNMS software and hardware. • Auxiliary Power System for U-NMS system.
3.	Objective / Justification	(i). CERC Regulations 2017 for Communication System envisages that CTU shall be the Nodal Agency for supervision of communication system in respect of Inter State communication system and will implement centralized supervision of quick fault detection and restoration. Further CERC

I/27738/2023

		<p>regulation also envisages 99.9% availability of communication channel.</p> <p>(ii). The Interstate and Intra-state communication system in the region has evolved over time with modernization of SLDCs/ RLDC. As part of these projects, Network Management Systems (NMS) were also commissioned to support configuration and maintenance of Network Elements (NEs) of communication system. As these projects were implemented in different time frame hence multiple NMSs came up in a region and states. As of now around 40000 Kms of OPGW based communication network is under operation to cater data and voice services pertaining to RTU, PMU and ICCP data etc. in the region including state network. As such, expansion/strengthening of communication system is continuous process.</p> <p>(iii). Further, standalone communication equipment has also come up as part of TBCB/Renewable transmission project whose, integration with existing NMS is not possible as the same are proprietary and generally support integration of same make equipment only. Thus, centralized supervision of entire state/ regional communication system is not possible as envisaged in CERC regulation for communication system. Computation of channel availability is also not possible through present communication infrastructure in view of constraints such as involvement of multiple NMSs and limitation of supplied system.</p> <p>(iv). Accordingly, concept of Unified Network Management System in Control Center setup at National, Regional and state level has emerged to address these issues. This will facilitate centralized supervision of ISTS as well as Intra state communication system at State level, Regional level and Inter-Regional Communication system at national level. Three regional UNMS systems for ER, NER and NR are under implementation. All five (5) Regional UNMS servers shall be integrated in the next layer to the National UNMS server (again in main & backup configuration). National UNMS server shall have topological view of pan India network</p>
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I/27738/2023

		<p>including ISTS and State communication network. Further, control shall be possible only for inter-regional links with National UNMS server.</p> <p>Accordingly, CTUIL had taken up the requirement for SR in Southern Regional Power Committees for their approval to facilitate implementation of the Regional UNMS. National UNMS shall be implemented subsequent to regional UNMS. For National UNMS, Tariff for National UNMS to be shared by all regions.</p> <p>(v). The Main CC Server location shall have 24x7 manning whereas the Backup CC server location & state CC shall have general shift (9AM to 6PM) 365 days for UNMS systems.</p> <p>(vi). CERC order dtd. 15.12.2022 regarding UNMS is also attached.</p>
4.	Estimated Cost	<p>Rs. 90* Crs (approx.) including the AMC charges for 7 years.</p> <p>*Cost has been derived from awarded package of ER and NR UNMS Scheme.</p>
5.	Implementation timeframe	24 Months from date of project allocation based on NCT approval.
6.	Deliberations with SRPC along with their comments	<p>The UNMS scheme has been deliberated in Special Meetings (07.11.2019, 07.12.2020 & 22.03.2022), 37th, 38th, 39th & 40th, 42nd TCC/SRPC meetings and 44th SRPC meeting.</p> <p>As per discussion in the 42nd SRPC meeting held on 4th June 2022, POWERGRID approached PSDF Secretariat for 75% funding, however, the same has not been approved by PSDF Monitoring Committee.</p> <p>Further, agenda for the UNMS scheme was again deliberated in the 43rd SRPC meeting held on 23 September 2022 for implementation the same in Regulated Tariff Mode (RTM). SRPC approved implementation of the UNMS project in RTM mode.</p>
7.	Implementation Mode	To be decided (RTM/TBCB)

3.1.3 Detailed scope of the scheme is as given below:

Sl. No.	Scope of the scheme	Estimated
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I/27738/2023

		Cost (Rs. Crs)
1.	<ul style="list-style-type: none"> • Main & Back-up UNMS software and hardware along with required Application software including Video Projection System (VPS), firewall and IDPS. • Remote Workstation for SLDCs. • Video Projection System (VPS), Printer, furniture etc. at main & back-up U-NMS location. • Integration of existing NMS/NEs of ISTS and State Utility in a region in the proposed UNMS. • Integration of upcoming U-NMS for National & other regions and upcoming NMS/NEs of ISTS and State Utility in a region during implementation and AMC period of the project. • Operational support, training & maintenance for proposed UNMS software and hardware. • Auxiliary Power System for U-NMS system. 	90

3.1.4 The scheme for implementation of Centralized Supervision System i.e. UNMS in Southern Region was discussed in Special Meetings (07.11.2019, 07.12.2020 & 22.03.2022), 37th TCC/SRPC meeting held on 01.02.2020, 38th TCC/SRPC meeting held on 23.12.2020, 39th TCC/SRPC meeting held on 06.12.2021, 40th TCC/SRPC meeting held on 31.01.2022, 42nd SRPC meeting held on 04.06.2022, 43rd SRPC meeting held on 23.09.2022 and 44th SRPC meeting held on 05.11.2022. SRPC approved implementation of the UNMS project in RTM mode in 44th SRPC meeting.

3.1.5 CERC vide order dated 15.12.2022 observed that since CTUIL formation is in nascent stage and that Petitioner (PGCIL) has already taken implementation of the scheme in its capacity as CTU after approval of RPCs, Petitioner may implement the scheme, wherever approved by RPCs. It was also observed that since the UNMS will cover the communication system of various ISTS licensees including Petitioner PGCIL, the operational control of UNMS shall be with CTUIL

3.1.6 As per clause 5 Category (B) of “Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS)” issued by MoP vide letter dated 09.03.2022, the following is provided:

“Communication Schemes/Packages proposed by CTUIL for upgradation/modification of existing ISTS Communication System, standalone projects, adoption of new technologies shall be put up to RPC for their views. RPC to provide their views on the Schemes/Packages proposed by CTUIL within 45 days of receipt of the proposal from CTUIL.

The Schemes/Packages alongwith the views of RPC shall be approved by NCT.”

I/27738/2023

3.1.7 Members may deliberate.

3.2 Eastern Region Expansion Scheme-XXXVII (ERES-XXXVII):

3.2.1 Presently, 400/132 kV Lakhisarai (POWERGRID) S/s is having the transformation capacity of 715 MVA. About 750 MW new solar projects are expected to come at Kajra, Pirpainti and surrounding areas, and is planned to be injected into intra-state network. Accordingly, BSPTCL requested for creation of 220 kV level in the ISTS S/s at 400/132 kV Lakhisarai (POWERGRID).

3.2.2 Accordingly, the following scheme is formulated:

Sl. No.	Items	Details
1.	Name of scheme	Eastern Region Expansion Scheme-XXXVII (ERES-XXXVII)
2.	Scope of the scheme	Brief scope of works is given below <ol style="list-style-type: none"> 1. Creation of 220 kV level in GIS (in Double Main Switching Scheme including 1 no. bus coupler bay) at Lakhisarai (POWERGRID) 400/132 kV S/s along with 2 no. 220kV line bays [<i>for termination of Lakhisarai – Haveli Kharagpur 220 kV D/c line to be implemented by BSPTCL under intra-state</i>] 2. Installation of 400/220 kV, 2x500 MVA ICTs along with associated bays at Lakhisarai (POWERGRID) 400/132 kV S/s.
3.	Depiction of the scheme on Transmission Grid Map	Given below.
4.	Upstream/downstream system associated with the scheme	Establishment of Lakhisarai – Haveli Kharagpur 220 kV D/c line along with associated bays at Haveli Kharagpur end by BSPTCL in the matching time-frame of the ISTS scheme.
5.	Objective / Justification	Presently, 400/132 kV Lakhisarai (POWERGRID) S/s is having the transformation capacity of 715 MVA (2x200 MVA + 1x315 MVA). About 750 MW new solar projects are expected to come at Kajra, Pirpainti and surrounding areas, and is planned to be injected into intra-state network in the Gaya (POWERGRID) – Khizersarai (BSPTCL) – Narhat (BSPTCL) – Sheikhpur Sarai (BSPTCL) – Haveli Kharagpur

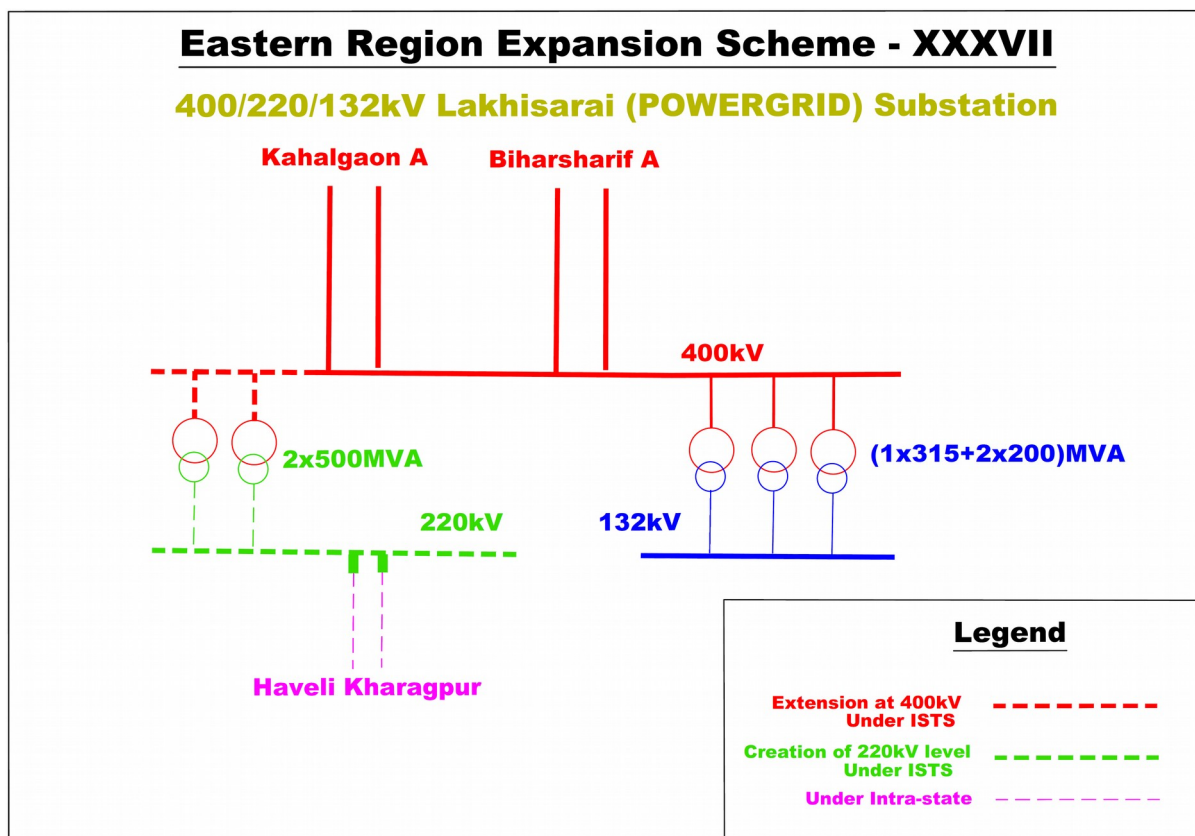
I/27738/2023

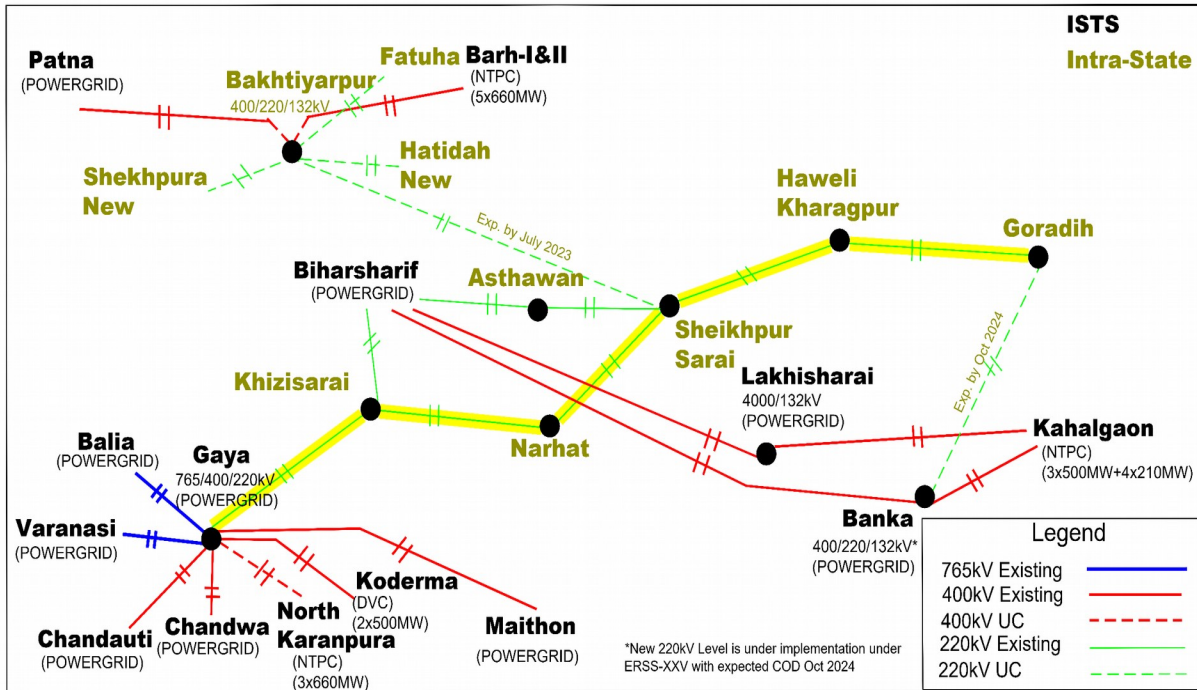
Sl. No.	Items	Details
		<p>(BSPTCL) – Goradih (BSPTCL) 220 kV link.</p> <p>Studies were carried out in consultation with BSPTCL officials for two different load-generation conditions in 2027-28 time-frame viz. peak demand without solar generation and off-peak electricity demand with all India high solar generation. It was observed that during peak load condition, power flow on 400/220 kV ICTs at Banka and Lakhisarai is towards 220 kV level, however, during peak solar generation, power flow would be towards 400 kV level from 220 kV level. It was observed in the studies that the power transfer requirement in 2027-28 time-frame with additional 750 MW solar generation in the above mentioned 220 kV link can be fulfilled with only 400/220 kV ICTs at Banka. However, BSPTCL mentioned in the 17th CMETS-ER held on 29-03-2023 that in view of present and future power drawl requirement in this area and also to improve reliability & security of power supply through the Gaya (POWERGRID) – Khizersarai (BSPTCL) – Narhat (BSPTCL) – Sheikhpur Sarai (BSPTCL) – Haveli Kharagpur (BSPTCL) – Goradih (BSPTCL) 220 kV link, it is essential to establish 220 kV level at Lakhisarai 400/132 kV S/s along with 220 kV interconnection to Haveli Kharagpur. This system would also be required to meet high solar and non-solar power exchange requirement between ISTS and state network.</p> <p>Thus, keeping in view the requirement of BSPTCL, creation of 220 kV level along with installation of 2x500 MVA, 400/220 kV ICTs at existing Lakhisarai (POWERGRID) S/s was agreed in the 17th CMETS-ER held on 29-03-2023.</p>
6.	Estimated Cost	₹ 120.61 Cr.
7.	Impact on the total Annual Transmission Charges in % along with the existing ATC	<p>A. ATC (considering levelized tariff @15% of estimated cost): about ₹18.0915 Cr.</p> <p>B. Present ATC: ₹ 46405.37Cr.*</p> <p>C. A/B: about 0.039%</p>
8.	Need of phasing, if any	Nil

I/27738/2023

Sl. No.	Items	Details
9.	Implementation timeframe	24 months from date of award/allocation
10.	Inclusion of any wild life/ protected area along the transmission line route	Not applicable.
11.	Deliberations with RPC along with their comments	Estimated cost of the ISTS scheme is less than INR 500 Cr. Accordingly, the same is not required to be sent to ERPC for deliberation in line with MoP office order no. 15/3/2018-Trans-Pt (5) dated 28-10-2021 regarding reconstitution of NCT.
12.	System study for evolution of the proposal	Study results available in the minutes of 17 th CMETS-ER held on 29 th March, 2023.

*Total YTC allowed for Mar 2023, as per notification of transmission charges payable by DICs for billing month of May 2023 dated 25-04-2023 published on NLDC website (available @ <https://posoco.in/download/notification-of-transmission-charges-for-dics-for-billing-month-may2023/?wpdmdl=51244>)





3.2.3 Detailed scope of the scheme is as given below:

Sl. No.	Scope of the Transmission Scheme	Capacity/ km	Estimated Cost (₹ Cr.)
1	Creation of 220 kV level in GIS (in Double Main Switching Scheme including 1 no. bus coupler bay) at Lakhisarai (POWERGRID) 400/132 kV S/s along with 2 no. 220 kV line bays [for termination of Lakhisarai – Haveli Kharagpur 220 kV D/c line to be implemented by BSPTCL under intra-state]	220 kV level in GIS 220 kV GIS line bays – 2 no. 220 kV bus coupler bay – 1 no.	19.62
2	Installation of 400/220 kV, 2x500 MVA ICTs along with associated bays at Lakhisarai (POWERGRID) 400/132kV S/s	400/220 kV, 2x500 MVA ICTs – 2 no. 400 kV ICT bays – 2 no. 220 kV ICT bays (in GIS) – 2 no.	100.99
Total Estimated Cost:			120.61

I/27738/2023

3.2.4 Members may deliberate

4 Modifications in the Schemes approved/recommended in the earlier meetings of NCT:

4.1 **Modification in the Eastern Region Expansion Scheme-XXXIV (ERES-XXXIV)**

4.1.1 Transmission scheme Eastern Region Expansion Scheme-XXXIV (ERES-XXXIV) costing Rs. 2564.24 was recommended to MoP in 12th meeting of NCT.

4.1.2 CTUIL vide letter dated 03rd May, 2023 suggested some minor changes in the future space provisions at Paradeep 765/400kV ISTS S/s i.e.:

Abstract of Original scope	Modifications suggested
Future Provisions: Space for - 765/400kV, 4x1500MVA ICTs (13x500MVA single phase units including one spare) along with associated ICT bays at both voltage levels - 765kV, 2x330MVA (7x110MVA single phase units including one spare) bus reactor along with associated bays - 220kV transfer bus coupler bay: 2 no.	Future Provisions: Space for - 765/400kV, 4x1500 MVA ICTs (12x500MVA single phase units) along with associated ICT bays at both voltage levels - 765kV, 2x330MVA (6x110MVA single phase units) bus reactor along with associated bays

4.1.3 MoP vide letter dated 22nd March 2023, delegated some Power to National Committee on Transmission (NCT) for approving minor changes in the scope of ISTS schemes allotted by MoP for implementation under TBCB/RTM mode in cases which inter-alia includes Addition/ deletion in the future scope (space provisions) at a substation.

4.1.4 Members may deliberate.

5 Evaluation of functioning of National Grid.

POSOCO may make the requisite presentation apprising NCT of the performance of national Grid.

6 Any other issues, with permission of chair