सत्यमेव जयते

भारत सरकार Government of India
विद्युत मंत्रालय Ministry of Power
उत्तर पूर्वी क्षेत्रीय विद्युत समिति
North Eastern Regional Power Committee
एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

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No. NERPC/OP/Committee/2024/2602-2679 Date: 28th October 2024

To:

1. Hon'ble Dy. Chief Minister & In-charge of Power, Govt. of Arunachal Pradesh, Itanagar - 791 111
2. Hon'ble Minister of Power, Govt. of Manipur, Imphal – 795 001
3. Hon'ble Minister of Power, Govt. of Meghalaya, Shillong – 793001
4. Hon'ble Minister of Power, Govt. of Mizoram, Aizawl - 796 001
5. Hon'ble Minister of Power, Govt. of Nagaland, Kohima - 797001
6. Hon'ble Minister of Power, Govt. of Tripura, Agartala-799001
7. Member (GO&D), CEA, Sewa Bhavan, R. K. Puram, New Delhi - 110 066
8. Commissioner & Secretary (Power), Govt. of Arunachal Pradesh, Itanagar – 791 111
9. Principal Secretary (Power), Govt. of Assam, Dispur, Guwahati - 781 006
10. Commissioner & Secretary (Power), Govt. of Manipur, Imphal - 795001
11. Commissioner & Secretary (Power), Govt. of Meghalaya, Shillong - 793001
12. Commissioner & Secretary (Power), Govt. of Mizoram, Aizawl - 796001
13. Principal Secretary (Power), Govt. of Nagaland, Kohima - 797001
14. Principal Secretary (Power), Govt. of Tripura, Agartala – 799001
15. Chairman, APDCL/AEGCL/APGCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
16. CMD, MeECL (MePDCL/MePGCL/MePTCL), Lumjingshai, S. R. Road, Shillong - 793 001
17. Chairman, TSECL, Agartala - 799001
18. Managing Director, AEGCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
19. Managing Director, APDCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
20. Managing Director, APGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
21. Managing Director, TSECL, Agartala - 799001
22. Managing Director, TPGL, Agartala - 799001
23. Chairman & Managing Director, NEEPCO Ltd., Lower New Colony, Shillong - 793 003
24. Director (Technical), NHPC Ltd., NHPC Complex, Sector-33, Faridabad - 121 003
25. Director (Finance), NTPC Ltd. NTPC Bhawan, Scope Complex, Institutional Area, Lodhi Road – 03
26. Managing Director, OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi - 110019
27. Director (Operation), POWERGRID, Saudamini, Plot No. 2, Sector-29, Gurgaon, Haryana – 122 001
28. CEO, NVVNL, Core 5, 3rd Floor, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi – 03
29. Chairman & Managing Director, PTC, NBCC Tower, 15 Bhikaji Cama, Place, New Delhi – 110066
30. COO, CTUIL, Plot No.2, sector-29, Gurgaon, Haryana – 122001
31. ED, NLDC, B/9, Qutub Institutional Area, Katwaria Sarai, New Delhi – 16
32. ED, NERLDC, Dongtieh-Lower Nongrah, Lapalang, Shillong- 793006
33. COO, IndiGrid, Unit No. 101, Windsor, Off CST Road, Vidyanagari Marg, Kalina, Santacruz East, Mumbai 400 098

Sub: 27वीं टी.सी.सी और 27वीं एन.ई.आर पावर कमेटी की बैठकों के लिए एजेंडा।

Agenda for the 27th TCC & 27th NER Power Committee Meetings scheduled on 7th & 8th November 2024 respectively at Guwahati – Reg.

Sir,

Please find attached herewith the agenda for the 27th TCC & 27th NER Power Committee Meetings which are scheduled as below:

Date	Meeting	Venue	Time
7th November,2024	27th TCC	Radisson Blu Hotel, Guwahati, National Highway 37, Tetelia,Guwahati-781033	10:30 Hrs
8th November,2024	27th NERPC	Radisson Blu Hotel, Guwahati, National Highway 37, Tetelia,Guwahati-781033	10:30 Hrs

It is once again requested that name of participants and their travel plan be intimated to the following noc officers of APGCL(Assam) with a copy to NERPC Secretariat, at the earliest, for making smooth arrangement f the meeting (if not sent earlier).

Name & Designation	Contact No.	Email
Md. Zakir, CGM	9435529238	md.zakir@apgcl.org
Sh. Nabajit Phukan, AGM/OSD to MD	9401131200	nabajit.phukan@apgcl.org
Sh. Anal Kishore Bordoloi, AGM (HR)	9435008487	anal.bordoloi@apgcl.org
Sh. Utpal Kumar Das, AGM (HR)	9435192617	utpalkr.das@apgcl.org
Sh. Simanta Bordoloi, AO	9864949933	simanta.bordoloi@apgcl.org

कृपया बैठक में भाग ले।Kindly make it convenient to attend the meeting for fruitful deliberation.

Yours faithfully,

किशोर जगतापे
28/10/2024

(के. बी. जगतापे)

सदस्य सचिव

Copy to:

1. PS to Chairman, NERPC and Hon'ble Power Minister, Govt. of Assam, Dispur.
2. PS to TCC Chairman and MD, APGCL, Bijulee Bhawan, Paltan Bazar, Guwahati-781001

Copy for kind information:

1. Director (Distribution), MePDCL, Lumjingshai, S.R. Road, Shillong – 793 001
2. Director (Generation), MePGCL, Lumjingshai, S.R. Road, Shillong – 793 001
3. Director (Transmission), MePTCL, Lumjingshai, S.R. Road, Shillong – 793 001
4. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
5. Managing Director, MSPDCL, Secure Office Bldg. Complex, Near 2nd MR Gate, Imphal – 795 001
6. Director (Tech.), TSECL, Bidyut Bhaban, Banamalipur, Agartala -799 001.
7. Director (Generation), TPGL, Bidyut Bhaban, Banamalipur, Agartala -799 001.
8. GM (Transmission), TPTL, Bidyut Bhaban, Banamalipur, Agartala -799 001.
9. Executive Director (O&M), NEEPCO Ltd., Lower New Colony, Shillong-793003.
10. Regional ED (East –II), NTPC, 3rd Floor, OLIC Bldg., Pl No- N.17/2, Nayapalli, Bhubaneswar-12
11. Executive Director, NERTS, PGCIL, Lapalang, Shillong - 793006
12. Executive Director (O&M), NHPC, NHPC Office Complex, Faridabad-121003.
13. Executive Director (Marketing), PTC, NBCC Tower, 15 Bhikaji Cama, Place, New Delhi – 110066
14. Chief Engineer (GM), CEA, 6th Floor, Sewa Bhawan, R.K.Puram New Delhi-110066.
15. Engineer-in-Chief, P&E Dept., Govt. of Mizoram, Aizawl – 796 001
16. Engineer-in-Chief, Dept. of Power, Govt. of Nagaland, Kohima – 797 001.
17. Chief Engineer (TPMZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 1
18. Chief Engineer (WEZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 1
19. Chief Engineer (EEZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 1
20. Chief Engineer (Commercial) -cum- CEI, Deptt. of Power, Govt. of Arunachal Pradesh, Itanagar- 11
21. VP (Plant), OTPC, Palatana, P.O Udaipur, Gomati Dist., Tripura – 799105
22. GM (BD), NVVNL, Core 5, 3rd Floor, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi-3
23. CGM, AEGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
24. CGM, APGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001

25. CGM, APDCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
26. CGM (LDC), SLDC Complex AEGCL, Kahelipara, Guwahati-781019.
27. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111
28. Head of SLDC, Dept. of Power, Govt. of Manipur, Keishampat, Imphal-795001
29. Head of SLDC, MeECL, Lumjingshai, S.R. Road, Shillong-793001
30. Head of SLDC, P&E Dept., Govt. of Mizoram, Aizawl-796001
31. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur
32. Head of SLDC, TSECL, Agartala – 799001
33. ED, NLDC, Grid-India, B-9 (1st Floor), Qutab Institutional Area, Katwaria Sarai, New Delhi-16
34. Dy. COO, CTUIL, Plot No.2, Sector-29, Gurgaon, Haryana-122001
35. Executive Director, NERLDC, Grid-India (POSOCO), Lapalang, Shillong – 793006
36. Head & VP- Regulatory & Contracts, ENICL, Windsor Building, Near Raheja Centre Point, Off CST Road, Kalina, Santacruz (East), Mumbai-400098

Special Invitee(s):

1. Member Secretary, ERPC, 14 – Golf Club Road, Tollygunge, Calcutta – 700 033
2. Member Secretary, NRPC, NRPC Complex, 18-A, S.J.S. Marg, Katwaria Sarai, New Delhi – 16
3. Member Secretary, WRPC, MIDC Area, Marol, Andheri (E), Mumbai – 400 093
4. Member Secretary, SRPC, 29 – R.C. Cross Road, Bangalore – 560 009
5. Chief Engineer (DP&T), CEA, Sewa Bhawan, R. K. Puram New Delhi-110066.
6. Chief Engineer (NPC), CEA, Sewa Bhawan, R. K. Puram New Delhi-110066
7. Chief Engineer (PDM&LF), CEA, Sewa Bhawan, R. K. Puram New Delhi-110066.
8. Chief Engineer (IRP), CEA, Sewa Bhawan, R. K. Puram New Delhi-110066.

Non-member participants:

1. Head,Transmission,KMTL,7th Floor.Fulcrum,Sahar Road,Andheri (E), Mumbai-400099

किशोर जगताप
28/10/24
सदस्य सचिव

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

उत्तरपूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

AGENDA

FOR

27TH TCC MEETING

(UNDER THE AEGIS OF ASSAM)

Venue	**:**	**Radisson Blu Hotel, GUWAHATI**
Date (TCC)	**:**	**November 7TH,2024**

Contents

Annexure No.	DESCRIPTION
1.3	Action taken report on decisions taken in 26th NERPC meeting
2.1	PSDF Sequence of events
2.4.1	MoM of CPM (Communication planning meeting) of all five-regions held on 12.06.2024
2.4.2	VOIP Communication System proposed scheme.
3.1	Cost quoted by MePDCL for Realignment/Alteration of existing 33kV Power supply to NERPC/PGCIL/NERLDC
5.6.1	NERLDC Communication to state embedded generator regarding NOAR registration
5.6.2	List of intra-state generators as received from NLDC
5.16	Grid-India letter regarding the importance of maintaining harmonic content within the safe statutory limits

AGENDA FOR 27TH TCC MEETING TO BE HELD ON 7th November'2024 (THURSDAY) AT 10:30 HRS

1. MEETING SCHEDULE, CONFIRMATION OF MINUTES & ATR

1.1. Meeting Schedule

SN	Meeting	Date	Time	Venue
1	TCC	07.11.2024	10:30hrs	Radisson Blu Hotel, Guwahati
2	NERPC	08.11.2024	10:30hrs	Radisson Blu Hotel, Guwahati

1.2. Confirmation of the minutes of 26th TCC and 26th NERPC Meetings

The minutes of the 26th TCC & 26th North Eastern Regional Power Committee (NER Power Committee) meetings held on 4th & 5th July 2024 respectively in Guwahati were circulated vide letter no. NERPC/TCC & NERPC/2024/1510-1588 dated 22nd July'2024.

No comments or observations were received from any constituents.

TCC and NER Power Committee may confirm the minutes of above meetings.

1.3. Action Taken Report on decisions taken in 26th TCC/NERPC Meetings

Action taken report on decisions taken in 26th TCC & NERPC Meeting is enclosed (**Annexure-1.3**) for kind information.

1.4. Arrangement of Agenda of 27th TCC Meeting

SN	DESCRIPTION	CATEGORY
1	ITEMS FOR DISCUSSION	A
2	ITEMS FOR APPROVAL	B
3	COMMERCIAL ISSUES	C
4	ITEMS FOR INFORMATION/UPDATE	D
5	ITEMS RECOMMENDED FOR REFERRAL TO SUB-COMMITTEE	E

2. PART-A: ITEMS FOR DISCUSSION

2.1. Upgradation Activities of SCADA-EMS systems at Regional/State level in North-Eastern Region-NERLDC(Grid-India)

Background:

Monitoring Committee, PSDF in its 21st meeting held under Chairmanship of Secretary (Power) on 17th August 2023, agreed for funding of the SCADA/EMS projects (ULDC-Phase III) for the seven NER-SLDCs including AMC for 7 years, amounting to ₹700 crores through PSDF. The estimate of ₹700 crores was based on the quotations received for the States of Western and Northern regions for their SCADA/EMS up-gradation projects.

The major cost of the subject SCADA up-gradation project includes cost of equipment and associated infrastructure (main and back-up control centers) and 7 years AMC charges referred to as Part-A of the Detailed Project Reports (DPRs). The Civil works for establishing the back-up control centers is referred to as Part-B of the DPRs. Further in subsequent meeting NER states also resolved that the cost of the civil works associated with building construction etc. for setting up the back-up control centers should also be met through PSDF fund due to their poor financial conditions as most of them had to create entirely new building infrastructures for the back-up offices at identified location as per disaster management requirements; which entails considerable additional expenditure in most cases.

Meanwhile, GRID-INDIA had sought budgetary quotations for Part A from five qualified vendors and response was received only from two vendors; wherein the enhanced estimated amounts of ₹832.1 crore for Part A due to several additional challenges in the Northeast Region (NER) which drive up project costs, such as higher transportation expenses, law and order issues, manpower deployment difficulties, and the region's hilly terrain. For Part B, each of the NER States have taken individual quotations and the

amount adds up to ₹65 crores, based on which the revised Detailed Project Reports (DPRs) have been prepared by the states and re-submitted to PSDF. In the 26th TCC/NERPC Board Meeting, held on 4th and 5th July 2024, approval was accorded for the additional expenditures of ₹132.1 crore for Part A and ₹65 crore for Part B. Thus, the total approval of the project stands at ₹832.1 crore and ₹65 crore for Part A and Part B respectively.

The Detailed Project Reports (DPRs) for Part A (Cost of Equipment including Upgradation of Hardware, Software and associated systems & infrastructure) for SCADA/EMS project at main as well as backup control centres and Part B (Civil Works) for setting up of backup control centre of SCADA-EMS for the Load Despatch Centres of the North Eastern Region (NER), for each of the seven NER states, were submitted to PSDF Committee for approval on 16th August 2024. The reply of PSDF committee had not received yet.

The extended AMC period for existing (ULDC-Phase II) of the SCADA-EMS Project for SLDC-Assam State ends on 11th November 2024, and for SLDC-Meghalaya on 31st March 2025. Moreover, NER states are already facing financial difficulties in paying the AMC charges for the ongoing SCADA projects, which is hindering the proper service delivery by the vendor, M/s GE T&D India Limited. M/s GE T&D, India is quoting AMC amounts that are three (3) times higher than previous rates for further extension, exacerbating the financial strain.

Additionally, the existing SCADA-EMS systems are facing cybersecurity risks due to outdated critical devices(firewall) and the aging servers are unable to support new operating systems due to hardware limitations.

Since the project has already been approved, it was requested to approve the additional fund of ₹132.1 crore for Part A and ₹65 crore for Part B. It is also requested to expedite the approval process for ensuring the early commencement of the upgradation works. This would help mitigate further delays and financial losses while addressing the pressing cybersecurity and

hardware concerns. The SCADA-EMS upgradation in other regions is moving forward rapidly, and it is imperative that NER should also follows the suit.

Meanwhile on 22nd October 2024, 86th TSEG committee has taken review meeting on the above SCADA/EMS project wherein it was advised by the committee to review the BoQ and revise the budgetary offer as per LoA in Northern Region. Further it was also informed that as per extant PSDF guidelines fund sought for civil construction (Rs 65 Cr.) for backup SLDCs not covered under PSDF.

Sequence of events is attached at **Annexure-2.1**

Members may discuss.

2.2. Implementation of Remote Access System (RAS) and Automatic Fault Analysis System (AFAS)-NERPC

Implementation of the Remote Access System (RAS) and Automatic Fault Analysis System (AFAS) is critical for enhancing grid reliability, ensuring quick fault detection, and improving operational efficiency.

Need for Implementation:

1. **Enhanced Grid Security**: The Remote Access System (RAS) provides operators real-time access to grid data and control systems remotely, ensuring faster decision-making in emergencies and minimizing operational delays.
2. **Automatic Fault Detection**: The Automatic Fault Analysis System (AFAS) enables instant fault detection, isolation, and analysis, helping reduce downtime and improving the overall response time during grid failures or malfunctions.
3. **Operational Efficiency**: By implementing both systems, NERPC can streamline grid monitoring and troubleshooting processes, reducing manual intervention and preventing prolonged outages, thus ensuring uninterrupted power supply to beneficiaries.

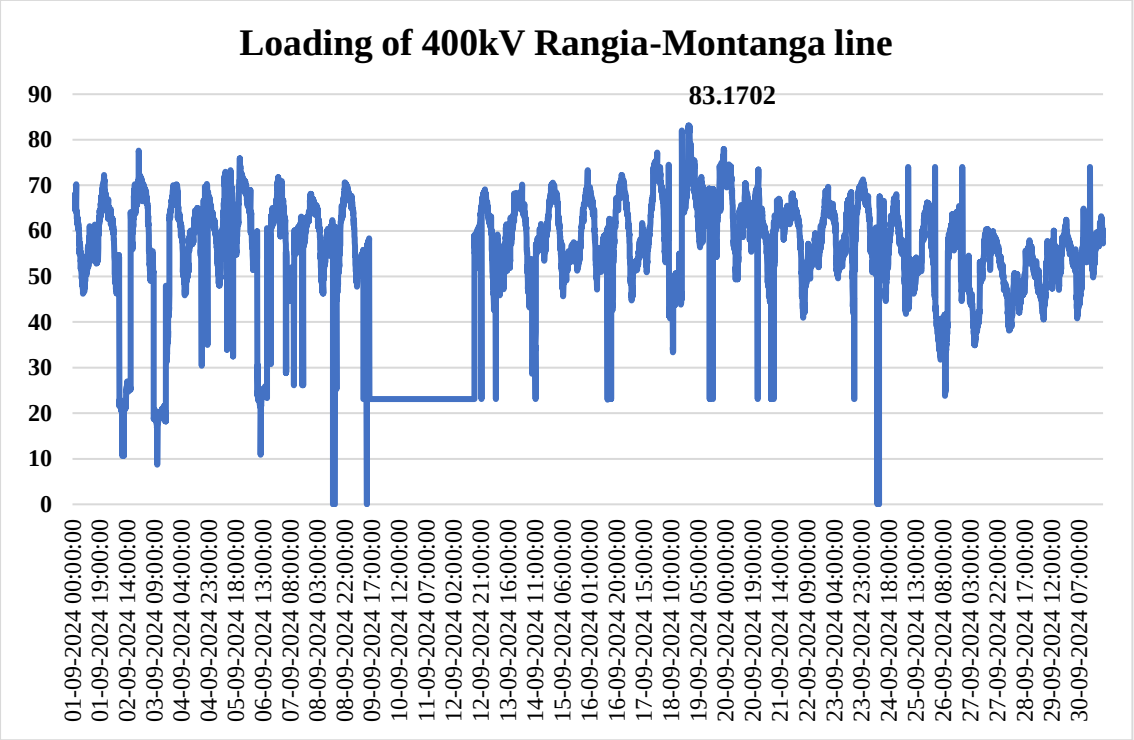
4. **Compliance with Modern Standards**: These systems are aligned with modern grid management practices, helping NER states comply with extant standards for grid operation and fault management.

Implementing RAS and AFAS will not only ensure a more secure and reliable power system but also enhance the resilience of the NER grid against potential disturbances. In 70th PCC Meeting of NERPC, the forum noted the importance of the RAS and AFAS and requested the utilities to deliberate internally and consider implementing the same in their system. MS NERPC stated that PSDF funding may be considered for RAS and AFAS implementation in NER and the matter may be further discussed in upcoming RPC meeting.

Members may discuss.

2.3. High loading in 132 kV Rangia - Montanga international line- NERPC

A high loading 84 MW is being observed in 132 kV Rangia-Montanga line which is close to its thermal limit as per CEA planning criteria. The existing metering CT rated at 300/1 is prone to saturation under high loading conditions. Therefore, to ensure accurate measurement and avoid saturation, it is suggested to upgrade the ACSR panther conductor of 132 kV Rangia - Montanga line with HTLS and replace the current transformer (CT) at Rangia with a CTR 600/1 for smooth operation of the grid



In 219th OCC Meeting, PGCIL submitted that the ownership of 132 kV Rangia-Motanga international line belongs to PTC. PGCIL is responsible only for maintenance of the line as per bilateral contract with PTC. As such, the scope for reconductoring comes under the purview of PTC. The forum noted and agreed to discuss the matter in upcoming TCC & NERPC meeting.

Members may deliberate.

2.4. VOIP Communication system for Grid-Operation for all Five Regions NR, NER, SR, WR, ER as PAN India-CTU

1. Hot Line Speech Communication System (VOIP based PABX system) was implemented in 2016 by POWERGRID in all five regions after grid disturbance in 2012 where grid operators faced problem of fast communication due to unavailability of dedicated speech communication **PAN India** between NLDC, RLDCs, SLDCs, important state and ISTS substations and generators. The said PABX was implemented by M/s Orange through Alcatel Lucent as OEM. The lead region for the existing VoIP system is Northern Region of POWERGRID. After execution of the project cost of the same booked under regional

communication schemes. As per CERC tariff regulations useful life of system is 15 years.

2. In the 67th NRPC meeting dtd. 30.06.2023, POWERGRID representative stated that the scheme executed by M/s ORANGE was with a provision of AMC of 7 years as part of the contract and the same is expiring in July' 2023 for most of the sites.
3. AMC of the same was extended and approved in the 67th NRPC for further 2 years upto July'25 with financial implication and shall be booked under ULDC O&M charges as per the CERC norms. After July'25 there is no support shall be extended by Alcatel (OEM). POWERGRID stated they are not able to maintain the system beyond that AMC expiration. MS-NRPC advised CTU to plan upgradation/ new system in view of expiration of AMC in July'25.
4. Grid-India in 23rd NRPC- TeST meeting (held on dtd. 21.09.2023) stated that VOIP system is utmost requirement of Grid-Operation and shall be planned by CTU in advance as there is no support of OEM after July'25.
5. During 24th TeST Meeting of NRPC held on 09.02.24, it was agreed in Forum that Hot Line exchange should be considered as part of communication system and CTU shall take up scheme in all RPCs for approval and then in the NCT.
6. In this regards CTU discussed the requirements with utilities & various VOIP system suppliers/OEMs and acquired inputs from the utilities in the various meetings of CPM, COM/ TeST/SCADA of all five regions (reference are given in the scheme). For the utilities those have provided inputs we have considered the same in the cost estimate purpose. Further a combined CPM (Communication planning meeting) of all five region was also held on 12.06.2024 to obtain uniformity of features and functions of the VoIP system among all regions. After incorporating the comments of all utilities MoM is issued same is attached at **Annexure-2.4.1**
7. It is to mention that the tentative cost estimate is based on the budgetary quotation/s obtained from three nos. of prospective OEMs.

8. It is proposed that being a Nationwide PAN India project, the total cost of five regions including NLDC and international Exchange (Cross border links) VoIP system shall be put up in all five regions for RPC/s review followed by NCT approval as single Scheme and package PAN India Basis for seamless integration.
9. Tentative Region-wise cost breakup of the scheme is given below:

Cost Breakup Between Regions and Central Sector and State Sector

Region	Central Sector (ISTS) (in Crs.)	State Sector (in Crs.)	Total (in Crs.)
NR	₹18.54	₹15.92	₹ 34.46
SR	₹15.3	₹ 12.68	₹ 27.98
WR	₹14.61	₹ 11.74	₹ 26.35
ER	₹12.32	₹ 7.44	₹ 19.76
NER	₹16.91	₹5.45	₹ 22.36
National Portion (NLDC Ex, International exchange and Cyber audit)	₹ 6.55	₹ 0	₹ 6.55
	Grand Total	₹ 137.46 (excluding GST/TAXES)	

10. There are three types of cost involved, Regional Central Sector, National Central Sector, State Sector. The sharing of cost shall be done as per following mechanism between constituents:

(i) Regional Central Sector Cost to be shared by respective region DICs as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 under Regional Component.

(ii) National Central Sector Cost to be shared by all regional DICs as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 under National Component.

(iii) State Sector Cost shall be shared by respective state/s for their portion as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.

(iv) AMC for State Sector shall be shared by respective states for their portion as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.

Details of proposed scheme is given at **Annexure-2.4.2**.

Members may discuss.

2.5. AMC of Meghalaya SAMAST Project- MePTCL

SAMAST project was funded under PSDF at an amount of Rs.7.175 Cr exclusive of taxes. The warranty period of both Part A (Supply, installation and commissioning of IT solution) and Part B (Supply, installation, testing and commissioning of 0.2s class ABT meters and automated meter reading solutions) of the SAMAST project in Meghalaya ended on the 30th June 2024. The two firms M/s PWC and M/s Genus Power Infrastructure Ltd respectively, submitted their offer for Annual Maintenance Contract as follows:

Part A	Rs.4.4840Cr for three years	Rs.1.5 Cr per annum
Part B	Rs.3.9460 Cr for five years/ Rs.2.3676 Cr for three years	Rs.0.8 Cr per annum
Total	**Rs.6.8516 Cr for three years**	**80.92% of the LOA**

In view of the extremely high AMC cost offered by the two firms and since SAMAST project LOA was issued by NERPC for all the NER states, this matter was raised at various forums of the NERPC. In the meantime the period for

technical support from the firms has lapsed on 31st July, 2024 and there is no breakthrough in the discussions for AMC. The proposed AMC cost is extremely high and will be detrimental to the performance of a small state like Meghalaya, hence AMC cannot be executed from the state resources. **It is requested to recommend 100% funding for the same from the GoI.**

Members may discuss.

2.6. AMC of ongoing SAMAST project: TPTL Tripura

As per scope of the SAMAST implementation project, in the post warranty period, respective states may individually carry out maintenance contract between buyer and agency with mutual agreement basis.

In this regard, TPTL requests the involvement of NERPC in the finalisation of:

- Scope of the post warranty maintenance contract with GENUS for Metering & PwC for data Centre.
- Determination of Fixed **Base Price** as all State SAMAST data centers are having the same hardware & software architecture and AMC price for 5 years may not exceed 5% of the project cost which has already been raised in 28thNETeST meeting.

The proposal was placed in the 26th TCC meeting held on 04th & 05th July 2024 at Guwahati and referred to discuss in the NETeST meeting and subsequently, it has been discussed in 29th NETeST meeting held on 05th September 2024 at Guwahati. The matter could not be resolved as PwC /Genus has quoted very high AMC price .

Forum is requested to consider the matter to take up with Genus and PwC to resolve the issue.

Members may discuss.

2.7. Restoration of 220KV Marainai-Samaguri Ckt 1 by AEGCL on Priority to address Reduction/Curtailment of Generation in upper Assam area- NERLDC(Grid-India)

Upper Assam Gate flow is monitored and controlled in real time by backing down generation in Upper Assam System, under any shutdowns of tie lines connecting Upper Assam with the rest of the Grid.

Upper Assam Gate consists of:

- 220 kV Mariani (AS) –Samaguri II
- 220 kV AGBPP – New Mariani (PG)
- 220 kV Mariani – New Mariani (PG)
- 132 kV Mariani - Golaghat

Considering N-1 reliability gate flow limit is 320 MW

Name	**Installed Capacity**
AGBPP	291
LTPS	97.2
NTPS	64.5
LRPP	69.8
NRPP	98.5
Amguri (Jakson)	70
Total Installed Capacity	**691**
MW Typical Generation	**380-420 MW**

Typical Load of Upper Assam System:

- 180 MW (Off-Peak)
- 357 MW (Peak)

In 25th TCC/RPC meeting, AEGCL reiterated that circuit 1 will be routed along ckt II due to forest clearance issues and the detailed survey would be

concluded within 3-4 months. The commissioning of the circuit will take upto 3 years.

AEGCL may update the latest status.

2.8. Capacity building for NER constituents on emerging technologies of Power Sector to be funded through PSDF or any other funds- NERPC

North Eastern Regional Power Committee is responsible for ensuring the stability, efficiency, and smooth operation of the power grid in the North-Eastern region. Its key functions include:

- Ensuring stability and efficient operation of the regional power grid.
- Facilitating inter-state and intra-state power transmission planning.
- Coordinating maintenance of generating units and transmission systems.
- Planning transmission system outages and conduct grid protection studies.
- Reviewing reactive power compensation and maintain grid voltage stability.
- Preparing energy accounts and transmission deviation charges.
- Ensuring compliance with grid operation standards and cyber security guidelines.

Capacity building programs are crucial as they help personnel understand and implement advanced grid operations, planning, and regulatory frameworks, ensuring efficient management and integration of power systems, especially learning from successful European models.

Executing Agency: The programme is to be executed by the North-Eastern Regional Power Committee (NERPC) in consultation with partner M/s PTC.

No of Programs and Participants: A total of 4 programs (2-weeks) are proposed to be conducted over one year. The batch having 20 participants from NERPC constituents would include officers from the SLDCs,

transmission utilities/distribution companies, Generators, etc., in the North-Eastern Region and NERPC Secretariat. One representative from MoP/CEA and one representative from POSOCO will be invited for each capacity-building programme. Details of participants will be obtained at the appropriate time.

Course Content/Training Modules: The tentative topics to be covered are placed below:

1. To understand the factors that contributed to the success of the power market liberalization in the Nordic region.
2. Introduction to the European Power Market (Bidding Zones, Day Ahead Market, Intraday Market, Balancing Market, Imbalance settlement).
3. Pumped Storage Hydropower and its features.
4. EV (Electrical Vehicle) and charging.
5. Vehicle to Grid (V2G).
6. Physical Energy Market Operator (NEMO/ Power Exchange) (Norway).
    - Market Coupling: Challenges and Benefits.
    - Physical power market products and the use of AI.
    - Market Surveillance and Market Rules.
7. Financial Power Markets Operator (NASDAQ commodities) (Norway, Sweden).
    - Products traded at Hedge future prices.
    - Market Surveillance and Market Rules.
    - Carbon Markets.
    - EI certificates.
8. Green marketplace: GO (Guarantees of Origin) across Europe.

9. PPA (Power Purchase Agreements).

10. Wholesale market participants.

11. Flexibility market (New markets being developed now or in live testing).

12. Energy companies to visit:

- Hydrogen company (green/blue/grey hydrogen).
- Energy transition for a utility.
- Hydro Power plant (Pump Storage & Europe's biggest hydro reservoirs).
- Nuclear Power plant (Finland, Sweden).
- Wind Power Plant – onshore (Sweden, Denmark, Finland, Norway).
- Wind Power Plant – offshore, both bottom fixed & floating (Denmark, Norway).
- Thermal Power Plant – gas, coal, biofuels (Denmark, Sweden, Finland).
- CHP (Combined Heat & Power) (Denmark).
- Solar Power (PV).
- Virtual Power Plant (VPP) (Norway).
- Geothermal Power Plant (Iceland).

13. Any other emerging technology in Power Sector

DPR was submitted to PSDF Secretariat vide letter dated 19.02.2024. However, it was returned by PSDF Committee by stating shortage of fund for 1 year. DPR may be resubmitted to PSDF Secretariat for consideration.

Members may Discuss

2.9. Setting up of Guest House/Transit Camp at Guwahati for NERPC Members-NERPC

One of the primary roles of the NERPC Secretariat involves organizing various meetings, conducting audits and facilitating communication among the North Eastern Region's power sector stakeholders. These meetings, often held in Guwahati, require the presence of NERPC Secretariat officers and representatives from all constituent members. Currently, they are required to stay in hotels, which can be inconvenient at times.

Guwahati serves as a central hub for the North Eastern Region, offering excellent connectivity to other states. For officials traveling to various locations for official duties, Guwahati often becomes a necessary transit point. Having a dedicated guest house or transit camp in Guwahati for the NERPC constituents would significantly improve convenience for all concerned.

Therefore, it is proposed to set up a transit camp in Guwahati at a suitable location. This can be achieved by renting or leasing a property and converting it into a transit camp. The proposed facility would have around 10-15 rooms, with an estimated monthly rent of ₹1.5 lakhs. **The expenditure of the same will be borne from "NERPC Board Fund".** This would provide comfortable accommodations for NERPC members and officers during their stays in Guwahati for official purposes.

Members may Discuss.

2.10. Formation of Sub group of RE generators and discussion their challenges at RPC level-CEA/NERPC

The Government of India has set a vision to integrate 500 GW of Renewable Energy (RE) into the National Grid by 2030. The rapid integration of numerous RE entities presents several challenges, including operational, commercial, protection, and communication issues. Currently, RE entities are not members of the Regional Power Committees (RPCs), making it increasingly

difficult to ensure compliance with the regulations and guidelines set by the Government of India, like:

1. Compliance of provisions of CEA Connectivity Regulations, CERC IEGC Regulations and other CEA/CERC Regulations in respect of Operational issues
2. Compliance of provisions of CEA Connectivity Regulations, CERC IEGC Regulations and other CEA/CERC Regulations in respect of Protection aspects
3. Compliance of provisions of (Technical Standards for Communication System in Power System Operations) Regulations, CERC Communication Regulations and other CEA/CERC Regulations in respect of Communication aspects
4. Metering and Accounting related issues

In this regard, a meeting was held on 07.08.2024 under the chairmanship of the Chairperson, CEA, where it was decided that all RPCs shall form a sub-committee to discuss the issues of RE generators and the subcommittee shall meet at least once in a quarter. SECI, Solar and Wind Association, State RE Generators of capacity 250 MW & above and Regional RE Generators may be made member of the sub-committee. **The fees/contribution amount for non-RPC member participants of the RE subcommittee may be decided by the respective RPC forum.**

In view of the above, it is requested to take the necessary action at your end

In 218th OCC Meeting, MS, NERPC apprised the forum about importance of the RE integration with grid. Forum noted that addressing the challenges faced by RE developers and ensuring compliance with CEA regulations are critical for achieving the target of integrating 500 GW RE into National Grid by 2030. After detailed deliberation forum decided that an RE Sub-committee may be formed, to carry out the above works, by NERPC comprising

i. NER States, with RE capacity more than 25 MW (grid connected),
ii. CTU,

iii. PGCIL,

iv. NERPC,

v. NERLDC

Forum referred the matter to upcoming TCC/RPC meeting for further action.

Members may discuss.

2.11. Establishment of redundant fibre path between NERLDC, Shillong, Khelieriat and NEHU for reliability of power system communication link till NERLDC-NERLDC(Grid-India)

Following were decided in 26th NERPC and TCC meeting:

a. **From T-25 to NERLDC on 132 kV NEHU-Mawlydep line:** NERPC approved the scheme in 26th NERPC/TCC meeting. POWERGRID-ULDC to lay and maintain the underground 48F cable under the ongoing reliable communication scheme out of which 24F will be connected to NEHU and the balance 24F to be connected with Mawlyndep.
b. Replacement of 12F OPGW with 48F OPGW from NEHU to Khliehriat on 132 kV NEHU-NEIGRIMS-Khliehriat line: Representative of Meghalaya apprised the forum that they require board approval for the said link.

Meghalaya is requested to update the status of the board approval as these links are imperative and critical for NERLDC functionality.

Meghalaya may update/discuss.

2.12. Connectivity of NERLDC Guwahati with Sarusajai and Umiam bypassing Kahilipara for its redundancy-NERLDC(Grid-India)

Following were decided in 26th NERPC and TCC meeting:

a. Two 24-core fibre optic cables from NERLDC Guwahati to Gantry of Kahilipara. At Gantry, a Joint Box would be installed, facilitating the connection of one cable from NERLDC to the Sarusajai direction and the other cable to the NEHU direction. (2 x 1 KMs): Deliberation in 26th TCC and RPC:

POWERGRID informed the forum that for the work as stated above, the cost estimate would be Rs. 10 lacs and this work may be clubbed with the scheme "OPGW replacement on 132 kV Kahilipara - Umiam Stg. III - Umiam Stg. I – NEHU link and OPGW laying on 132kV Sarusujai to Umtru line for back up NERLDC connectivity" and combined scheme may be put up to NCT for approval.

b. POWERGRID to lay 48F-OPGW on 132 kV Sarusajai – Umtru line (Approximately 37 kms): *Meghalaya representative requested the forum that they will take their board approval for the scheme in a month's time.*

c. The replacement of 12F to 48F OPGW on 132 kV Kahilipara – Umtru - Umiam Stg. III – Umiam Stg. I- Umiam – NEHU line by POWERGRID (Approximately 151 kms):

Meghalaya representative requested the forum that they will take their board approval for the scheme in a month's time.

Meghalaya is requested to update the status of the board approval as these links are imperative and critical for NERLDC functionality.

Meghalaya may update/ discuss.

2.13. Overloading of critical transmission lines in Tripura system- NERLDC(Grid-India)

Overloading of transmission lines in Tripura system has become a cause of serious concern and a threat to grid security and reliability. In particular, 132 kV SM Nagar (ISTS) - SM Nagar line and 132 kV PK Bari (ISTS) - PK Bari line is getting critically loaded and experiencing significant over loading for prolong period of time causing vulnerability in the Tripura system. In addition to that due to low generation from Monarchak, RC Nagar, Rokhia and Baramura, the 132 kV SM Nagar (ISTS) - SM Nagar line get prematurely loaded before approaching the peak hours.

After deliberation in multiple OCCM, until the re-conductoring of 132 kV SM Nagar(ISTS) - SM Nagar, 132 kV PK Bari – PK Bari (ISTS), 132 kV SM Nagar-Budjungnagar and 132 kV PK Bari – Ambassa lines with HTLS conductor, an

SPS may be devised as a short term measure till re-conductoring. SPS is already devised and it is being implemented by Tripura.

Tripura may update the status of SPS implementation and the status of reconductoring of the said lines.

2.14. Construction of 132kV Monarchak- Surjamaninagar transmission line - NEEPCO

The proposed evacuation system from 101 MW TGBPS to Suryamaninagar is yet to be commissioned. Due to poor existing evacuation system, frequent tripping of both the Units have been experienced by NEEPCO over the years. Though the matter has time and again been discussed in several Operation Coordination Committee Meetings of NERPC, M/s TSECL has still not indicated the proposed commissioning date.

Due to frequent tripping of existing lines and subsequent tripping of Units, NEEPCO has already observed major damages in the critical components of machines which in turn will reduce the expected life of the Units of TGBPS.

In view of the TSECL may please be requested to complete the construction work of the said line at the earliest.

In 26th TCC Meeting, Tripura representative informed that there is a right-of-way (RoW) issue, which has been brought to the attention of the state government. A survey has been conducted, and the amount involved is quite substantial. The state government has accepted the proposal. The work can only proceed once the funds are released. The total line length is 44 km, with 2 foundations, 8 towers to be erected, and 19 km of stringing remaining.

The timeline for completion is December 2024.

TSECL may update.

2.15. Violation of TTC/ATC Limits by Assam and Tripura and constraints in intrastate network-NERLDC(GRID-India)

In September 2024, high drawl from Assam and Tripura was observed, resulting in violations of state Total Transfer Capability (TTC) and Available

Transfer Capability (ATC), thereby compromising grid security. We once again urge all utilities to strictly limit their power drawl within the defined TTC/ATC margins.

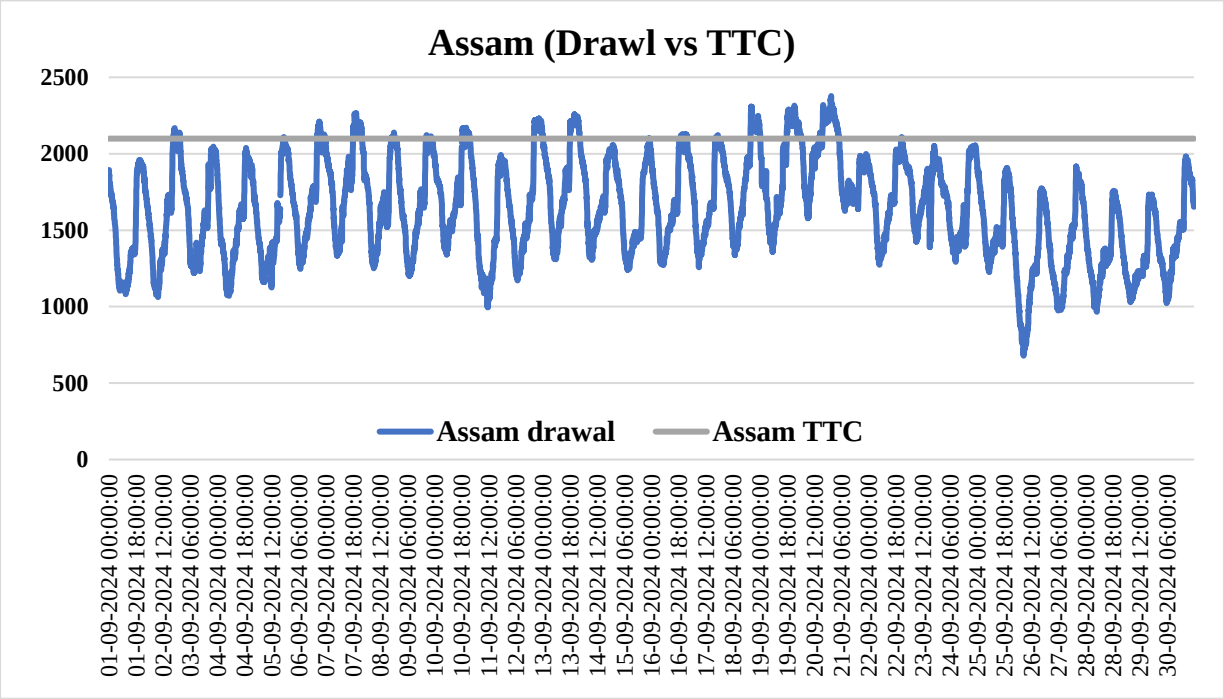


Fig: Drawl pattern of Assam in the month of September 2024

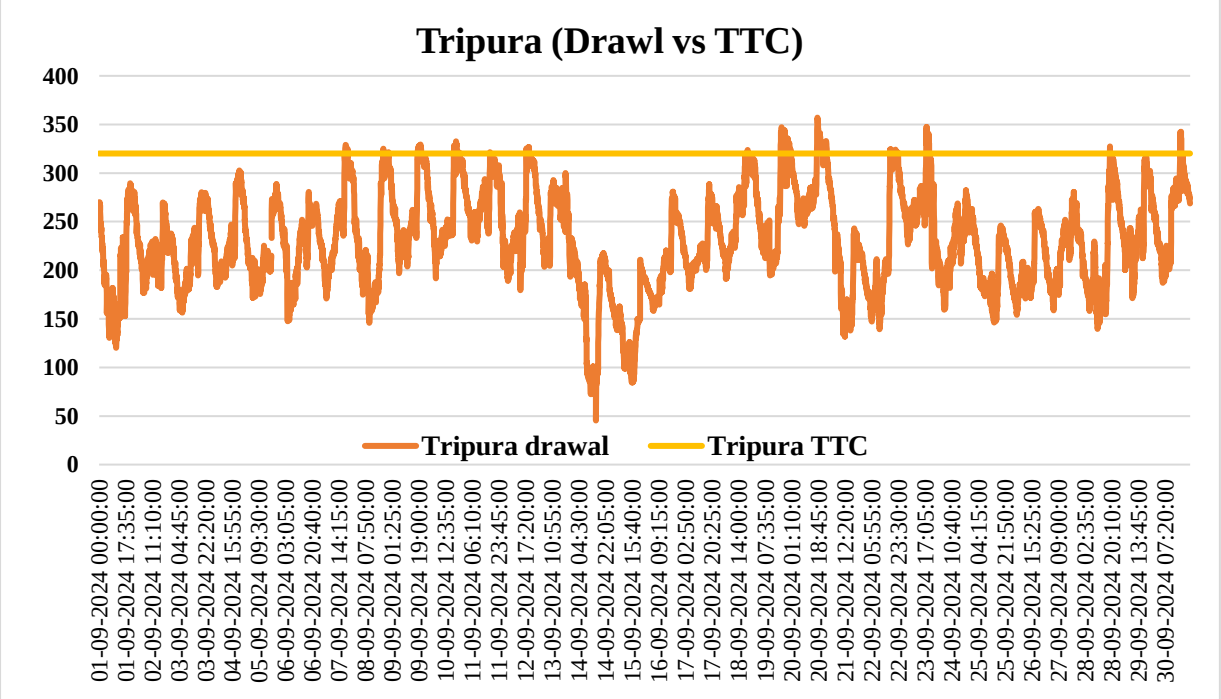


Fig: Drawl pattern of Tripura in the month of September 2024

Additionally, states are requested to plan their networks in accordance with their forecasted load growth to ensure reliable power supply across the North Eastern Region (NER).

Assam and Tripura are requested to provide an update on their plans to ensure that TTC/ATC remains within limit.

In 219th OCC Meeting, NERLDC apprised the forum that the TTC/ATC limit for Assam during peak and off peak hours stands at 2100 MW and the TTC/ATC limit for Tripura during peak and off peak hours stands at 335 MW and 220 MW respectively.

Tripura submitted that the reconductoring projects at SM Nagar-SM Nagar, SM Nagar-Budhjamnagar and PK Bari-Budhjamnagar should help to avoid violations in TTC/ATC. Assam also submitted that there are several projects in scope to address the issue but have not been materialized till date.

Members may discuss.

2.16. Agenda on Resource Adequacy- IRP Div, CEA

- Ministry of Power had notified Electricity (Amendment) Rules in December, 2022. As per Rule 16 of the Electricity (Amendment) Rules, Ministry of Power has to issue guidelines for assessment of resource adequacy during the generation planning stage and operational planning stage. Accordingly, the Resource Adequacy guidelines have been notified by the Ministry of Power in June 2023.
- Distribution Utility need to carry out LTDRAP (Long term Distribution Licensee Resource Adequacy Plan) to meet the utility peak and energy requirement reliably. CEA will guide & hand hold the states in data collection, power system modelling and analysis of result for carrying out state specific resource adequacy studies in order to prepare the respective LT-DRAP within stipulated time frame.
- During the Review, Planning & Monitoring Meeting held on 11th April 2023 under the chairmanship of the Honorable Minister of Power & NRE, Central Electricity Authority was instructed to handhold the States and help them to prepare Resource Adequacy plan for them.

- Accordingly, state-resource adequacy studies for all the States of the North-Eastern Region have already been carried out, and respective reports have been shared with the states. But, in the absence of inputs from the states, except for Assam, the studies have been carried out based on the data available with CEA, NERLDC and NERPC.
- To specifically assist the North Eastern Region in understanding the intricacies of resource adequacy studies, data preparation and to expedite the preparation of Resource Adequacy (RA) Study Plan for the period 2024-25 to 2034-35 for the NER States, the Central Electricity Authority, in collaboration with the North Eastern Regional Power Committee (NERPC), organized a workshop on Resource Adequacy Study on September 20th, 2024, in Guwahati, Assam. In the workshop, participants from Assam, Arunachal Pradesh and Meghalaya, in addition to NTPC and NEEPCO, were present.
- The success of the Resource Adequacy studies and the subsequent power procurement hinges on active state participation. The results of the completed states, various assumptions taken and methodology adopted while carrying out studies need to be discussed with state officials so that states can prepare their power procurement plan based on the studies.
- The LT-DRAP studies, being carried out for a period of 10 years on a rolling basis, require urgent revision. The states whose studies have been carried out till 2029-30 or 2031-32 need to be revised till 2034-35. To revise studies, the contracted capacity of states till March 2024, the Demand profile for the year 2023-24, year-wise demand estimation and planned capacity are required till 2034-35.
- As per the Resource Adequacy (RA) Guidelines, the Central Electricity Authority is entrusted to prepare a Long Term-National Resource Adequacy Plan (LT-NRAP) RA study for the period of 10 years (up to 2034-35) and to revise annually on a rolling basis. Therefore, year-wise demand estimation and planned capacity are required till 2034-35.

CEA may present and Members may discuss.

2.17. Formation and Activities of the Regional Disaster Management Group (RDMG) for Power Sector in NER-NERPC

Background:

In compliance with Section 37 of the Disaster Management Act, 2005, and following the Crisis and Disaster Management Plan for the Power Sector issued by the Ministry of Power and CEA, the formation of the Regional Disaster Management Group (RDMG) for the North Eastern Region (NER) was approved in the 25th NERPC meeting. The RDMG is established to ensure a swift, coordinated response to power sector-related emergencies and disasters in NER. Nominations for the RDMG were sought from stakeholders, and as of 27th August 2024, nominations have been received from various utilities and organizations. The nominations from some entities, such as the Secretary in-charge of Rehabilitation and Relief for affected States and State Civil Defence representatives, are still awaited.

The 1st RDMG Meeting was held on 7th October 2024 at 11:30 hrs via video conference mode. The meeting was chaired by Shri K.B. Jagtap, Member Secretary, NERPC, and attended by officials from the states of Assam, Mizoram, Meghalaya, Tripura, Nagaland, as well as representatives from NERPC, NERLDC, OTPC, and KMTL.

Key Deliberations: During the meeting, the following key points were discussed:

1. **Formation of RDMG**: The group's structure aligns with the Disaster Management Plan for the Power Sector and will coordinate disaster preparedness and response in NER, particularly addressing risks like earthquakes, floods, and cyber threats.
2. **Responsibilities of RDMG**:
    - Ensure that all stakeholders have disaster management plans in place.
    - Facilitate inter-state emergency power supply and early grid restoration.

- Participate in damage assessments and coordinate resource movement between states during emergencies.

3. **Mock Drills and Preparedness**: Regular mock drills were emphasized to ensure readiness. The **Black Start Procedure** was discussed, and utilities were encouraged to conduct drills and share feedback for improvement**. Cyber security** was highlighted as a critical concern, with plans to discuss it further in upcoming meetings.
4. **Communication Enhancement**: A suggestion was made to create a **WhatsApp group** for real-time crisis communication, facilitating quicker coordination among members during emergencies.
5. **Next Steps**: The next meeting of the RDMG will be held physically in Guwahati to focus on disaster management, preparedness, and cyber security.

Action Required: All stakeholders are requested to take note of the discussions, particularly the importance of conducting mock drills, ensuring compliance with the Disaster Management Plan, and improving cyber security measures.

CEA may present/Members may discuss.

2.18. Funding of proposals for strengthening of Intra State Transmission System of Meghalaya approved by CEA and CTU up To 2032 timeframe-MePTCL

Subsequent to a series of meetings under the aegis of CEA, the proposals of Meghalaya pertaining to intra state transmission requirements up to 2032 timeframe have been finally approved during a meeting held between CEA, CTUIL and North Eastern States on the 23rd and 24th August 2024 at NERPC, Shillong. The proposals which are appended as Annexure A include the following:

(i) Construction of new substations with new transmission lines

(ii) Evacuation of power from generation projects

(iii) Augmentation of substations

(iv) Reconductoring with HTLS conductor of transmission lines.

While proposals for HTLS reconductoring are being pursued for funding under PSDF, MePTCL would like to request the forum for assistance in seeking funding for priority projects from the above list given the acute financial constraints being faced by Meghalaya.

Members may discuss.

3. PART-B: ITEMS FOR APPROVAL

3.1. Realignment/Alteration of existing 33kV Power supply to NERPC/PGCIL/NERLDC-NERPC

The existing 33kV transmission line which supply power to NERPC, PowerGrid and NERLDC needs to converted to 33kV underground cable as the pole is passing through private land owner premises. PowerGrid will look into possibility of providing cable for the same. Based on availability of cable, MePDCL will prepare estimate with detailed sketch/diagram of the scheme. Meanwhile PowerGrid informed that they do not have 33kV power cable available with them. Now, It is observed that these poles are at vulnerable position due to land slide and also on 20th August 2024, a boundary wall(portion) adjacent to the NERPC Type-III quarter collapsed due to heavy rain and ingress of water due to construction adjacent to boundary wall, putting the dedicated 33kV line, which supplies power to NERPC, NERLDC, and PowerGrid, at risk. Any damage to this line could result in a power supply cut to these critical institutions, potentially causing significant problems for the NER grid, which is undesirable. Therefore, immediate action is required to safeguard the power flow through this 33 kV transmission line and a redundant path to be available through 33kV underground cable in case of failure of power supply due to vulnerable position of poles.

MePDCL, NERPC and PGCIL conducted a site survey at the NERPC campus on 27th August'2024. The shortest possible distance from the pole, from where the underground cable will be laid, to the gantry at the NERPC campus is around 130 meters. The total underground cable length required will be 130m * 4 = 520 meters (3 + 1 spare).

Member Secretary, NERPC stated that this is very important transmission line which cater the power supply to NERPC, Grid India (NERLDC) & PowerGrid. In case of pole collapse, all these important institutions will be in dark which will affect entire North Eastern region power supply.

Considering the importance and urgency of task, Forum decided that MePDCL will execute the work on priority and on deposit basis (including supply material along with execution). The expenditure for the work would be shared among NERPC, Powergrid, and NERLDC on contracted capacity basis.

The details of contracted capacity and percentage cost-sharing calculated as below:

- **NERPC: 71 kVA / 571 kVA = 12.43%**
- **NERLDC: 167 kVA / 571 kVA = 29.26%**
- **Powergrid: 333 kVA / 571 kVA = 58.31%**

In this regard the total cost quoated by MePDCL and percentage cost-share i.r.o. NERPC for above mentioned work is tabulated below:

Total cost quoted by MePDCL(copy attached as **Annexure-3.1**)	Rs. 37,55,512/-only
Percentage cost-share i.r.o. NERPC (12.43%)	Rs 3755512*12.43/100=Rs. 4,66,810/-only

Therefore, for the above-mentioned work total financial implication i.r.o. NERPC will be Rs. 4,66,810/-only.

Expenditure will be booked under “NERPC Establishment Fund”.

In 53rd CCM, CC forum in principle approved the proposal of NERPC and recommended to place the matter before next RPC for Board’s approval and information.

Further, CPWD vide letter 23(NERPC)/MGCB/2024-25/1325 dated 19.09.2024 has quoted a preliminary estimate of Rs 12.42 lakhs for repair of collapsed boundary wall at residential premises of NERPC Complex. The expenditure will be booked under “NERPC Establishment Fund”.

Members may approve.

3.2. Quarterly Expenditure of NERPC Establishment Fund -NERPC

Quarterly expenditure of NERPC Establishment Fund is tabulated below:

Details of Expenditure from Establishment Fund from 01-04-2024 to 30-09-2024(Quarter I and Quarter II) FY- 2024-25			
Sl. No.	**Head**	**Proposed Budget Estimates 2024-25) in thousands INR**	**Actual Expenditure from 01-04-2024 to 30-09-2024**
1	Medical	1000	35.161
2	Domestic Travelling Allowances	2500	946.911
3	Fuels and Lubricants	500	159.092
4	Printing Publication	60	1.150
5	Advertising and Publicity	250	0.000
6	Professional Services	10	1.815
7	Office Expenditure	10000	5098.632
8	Minor Work	6000	2737.065
Total		**20320**	**8979.826**

This is for intimation/approval of TCC.

3.3. Quarterly Expenditure of NERPC Board Fund -NERPC

Quarterly expenditure of NERPC Board Fund for FY 23-24 is tabulated below (all figures in INR):

From April 24 to June 24(Quarter-I)	
Head	**Total Expenditure**
Meetings	253596
Outsourcing salary/wages	249649
DTE	0
Internet	167206

Conveyance+Honoratium	10000
Misc.	116500
Total	**796951**

From July 24 to September 24(Quarter-II)	
Head	Total Expenditure
Meetings	548133
Outsourcing salary/wages	249359
DTE	0
Internet	17582
Conveyance+Honoratium	15000
Misc.	15500
Total	**845574**

This is for intimation/approval of TCC.

3.4. Proposal for procurement of new office vehicle for NERPC-NERPC

The NERPC Secretariat currently operates two vehicles for official purposes: a Mahindra Scorpio, purchased in 2010, and a Suzuki Swift Dzire, purchased in 2016. The Mahindra Scorpio, being a diesel vehicle, has exceeded its useful life of ten years, and its maintenance costs have also been rising significantly. Additionally, due to frequent repairs, the vehicle has become unreliable, particularly for long-distance travel in hilly area. Since the NERPC Secretariat regularly undertakes visits to various locations across the North Eastern Region for activities such as protection audits, sub-committee visits, and review meetings of NERPSIP & Comprehensive schemes. In light of this, the Secretariat proposes the procurement of a new office vehicle that can accommodate a minimum of five passengers. Considering the hilly terrain and lack of electric infrastructure for charging, the NERPC Secretariat proposed

to procure preferably a hybrid vehicle with an estimated cost of ₹40 lakh plus applicable taxes. Expenditure will be booked under **"NERPC Board Fund". No additional fund will be required from NERPC constituents. The surplus amount in board fund will be utilized for purchase of the said vehicle.**

In 53rd CCM, CC forum in principle approved the proposal of NERPC and recommended to place the matter before next RPC for Board's approval and information.

Members may discuss/approve.

3.5. Roster for TCC/NERPC Meeting -NERPC

As members of NERPC are aware that TCC & NERPC are being hosted by constituents on rotation basis. In this regard 28th, 29th, 30th , 31st & 32nd meetings has been proposed as:

Sr. No.	Meeting	Hosted by
1.	28th	PTC
2.	29th	DoP Mizoram
3.	30th	Tripura
4.	31st	OTPC
5.	32nd	NVVN

For kind approval/information.

3.6. MePGCL Agenda 1

3.6.1 Re-Engineering of existing 33KV Line on 33 KV Lattice Structures/Towers from Umiam-Umtru Stage-III Power Station, Kyrdemkulai to Stage-IV Concrete Gravity Dam up to Umiam-Umtru Stage-IV Power Station, Nongkhyllem

The proposal envisages Re-Engineering of the existing 33KV Line between Umiam Umtru Stage-III Power Station to Stage-IV Concrete Gravity Dam and finally up to Umiam Umtru Stage-IV Power Station, Nongkhyllem Power Station by re-engineering /reconductoring of the line on 33 KV Lattice Structures/ Towers along with installation of new hardware's, conductors etc., in order to ensure stable and reliable power supply to the said Dam and the Umiam-umtru Stage-IV power station (2x30 MW). The existing 33 KV line from Umiam Umtru Stage-III Power Station, Kyrdemkulai to Stage-IV Concrete Gravity Dam and finally up to Umiam Umtru Stage-IV Power Station,Nongkhyllem, is at present prone to frequent outages /interruptions, as it runs through the very thick Nongkhyllem reserved forest and especially during adverse monsoon weather conditions, the bamboos and small trees used to fall and touch on the line. Although trimming of trees, bamboo etc., is done regularly, the growth of trees, shrubs and bamboos are very fast, thereby, increasing the interruptions and outages of the line.

Further, the existing hardware components, poles of the line (which are very short in height up to 9.5 mtrs only), conductors etc., are in deteriorating condition which is resulting in frequent disruption/ interruption of long duration of power supply in the dam as well as in the power station which in turn causes extreme hardship to the Operation and Maintenance Staff of Stage-IV Power Station who reside in the Power Station Colony. The utilization of the existing man power of Stage-IV Power Station for restoration of this 33 KV line usually severely affects other critical operational and maintenance works in the power station. In future, power supply tapped from this source can be extended to cater to the power supply demand of nearby villages like Umar, Umtasor etc., which are presently suffering from non-reliable and unstable power supply problem. This 33 KV line is very vital as it is the only source of power supply to Concrete Gravity Stage-IV Dam, Stage-IV Officers' and staff colony, Penstock Butterfly Valve Houses as well as an alternative supply source to Stage-IV Power Station (apart from the two UATs). Thus, improving the reliability and stability of this 33 KV line is very much essential

in the overall interest of smooth running and functioning of Stage-IV power station.

Tentative Cost – Rs 10.00 Crore approx.

3.6.2 Installation of Communication System with OPGW from Umiam Umtru-Stage-III Power Station to Umiam-Umtru Stage-IV Dam up to Umiam-Umtru Stage-IV Power Station, Nongkhyllem along the above 33 kV line.

The reliability of communication between Umiam-Umtru Stage-III Power Station and the Stage-IV Dam up to Umiam-umtru Stage-IV power station located in the downstream of Stage-III Power Station is very vital in order to to ensure efficient management of the operation of both the Stage III and Stage IV Power Stations for optimization utilisation of water for power generation of both the Power stations. The present means/process of communication between the Dam and the State Load Dispatch Centre is through GSM Mobile which is not reliable at all due to very poor and sometimes nil network connectivity and between the Dam and the Stage-III Power Station which are 4 (four) Km apart, is through Walky Talky. Secondly, the only means of communication between Umiam-Umtru Stage-III Power Station and Umiam-umtru Stage-IV power station is through PLCC only and there is no network coverage/connectivity through GSM Mobile. All these available means/methods of communication are not reliable and severely prone to outages due to the remoteness of the locations causing several instances of complete breakdown/lack of communication between these vital installations which always occurred resulting into critical situations for efficient management of water leading to loss of generation. This proposal envisages laying of OPGW on the proposed 33 KV lattice structures and associated supporting equipments like control panel etc., at both Stage-III power station and Stage-IV Dam and Stage-IV power station to ensure the availability of an efficient and reliable system of communication.

Tentative Cost – Rs 1.00 Crore approx.

Due to lack of fund /fund constraint, MePGCL is requesting this forum to consider recommending the funding of this project from PSDF.

Total cost – Rs (10.0 + 1.0) Crore = Rs 11.0 Crore

Due to lack of fund /fund constraint, MePGCL is requesting this forum to consider recommending the funding of this project from PSDF.

In 219th OCC Meeting, the forum noted that the submission from MePGCL for funding from PSDF for ***Re-Engineering of existing 33KV Line on 33 KV Lattice Structures/Towers from Umiam-Umtru Stage-III Power Station, Kyrdemkulai to Stage-IV Concrete Gravity Dam up to Umiam-Umtru Stage-IV Power Station, is not covered under the revised guidelines for PSDF funding. The sub-committee advised Meghalaya to explore alternative sources*** for funding. However, ***for Installation of Communication System with OPGW from Umiam Umtru-Stage-III Power Station to Umiam-Umtru Stage-IV Dam up to Umiam-Umtru Stage-IV Power Station, Nongkhyllem along the above 33 kV line., the sub-committee opined that under clause 5.1(c) of the revised guidelines for PSDF funding, MePGCL can apply for PSDF funding.***

Members may approve.

3.7. MePGCL Agenda 2

3.7.1 Re-Engineering of existing 33 kV Line with 33 kV Lattice Structures/ Towers from Myntdu Leshka Stage-I Power Station to Myntdu Leshka Dam.

The proposal envisages Re-Engineering of the existing 33KV Line from Myntdu Leshka Stage-I Power Station to Myntdu Leshka Dam by re-engineering /reconductoring of the line with 33 KV Lattice Structures/Towers along with installation of associated hardware, conductors etc., in order to ensure stable and reliable power supply to the said Dam. The existing 33 KV line of approximately 10 Km in line length erected on the 9.5/12.0 metre Steel Tubular Pole structures along the entire route from Myntdu Leshka Stage – I Power Station up to Leshka Dam is very prone to multiple failure during the high monsoon as half of the line passes through thick jungle areas

accompanied with continuous heavy lightning, thunderstorm and strong windy weather conditions which affects the vital power supply to the Leshka Dam Control Room and adjoining areas especially during the monsoon period where the water flow is continuous and extremely high leading to alarmingly high water level of the Leshka Dam. Reliable and stable power supply is very much required as the motorized gates installed at the dam shall have to be operated regularly to prevent flooding over the Dam and maintain the water level within the permissible limit. Flooding over the Dam will cause heavy damages to the dam electrical and hydraulic infrastructure and huge loss of capital cost involvement.

It may also be noted that huge expenditure is being spent every year for restoration of the above line on emergency basis during such high monsoon period where uninterrupted power supply towards Leshka Dam has to be maintained at any cost. Thus, improving the reliability and stability of this 33 KV line is very much essential for smooth running and functioning of Myntdu Leshka Stage - 1 Power Station and to prevent any possible and unforeseen mishap in the Dam.

Tentative Cost – Rs 9.00 Crore approx.

3.7.2 Installation of Communication System with OPGW from Myntdu Leshka Stage-I Power Station to Myntdu Leshka Dam along the above proposed 33 kV line.

The reliability of communication between Myntdu Leshka Stage-I Power Station and Myntdu Leshka Dam is very vital in order to ensure efficient management of the operation of the Power Station for optimum utilisation of water for power generation from the station. The present means/process of communication between the Dam and the State Load Dispatch Centre is through GSM network which is not reliable at all due to very poor and sometimes nil network connectivity in and around Leshka Dam and all relevant information are then further relayed to the operator at Myntdu Leshka Stage – 1 Power Station. It is worth mentioning that there is zero network coverage at Myntdu Leshka Stage – 1 Power Station and many a

times, during high monsoon period, the operator at Leshka Dam Control Room is usually not aware of the frequent tripping of units at Myntdu Leshka Power Station associated with tripping of 132 KV lines due to lightning strike or inclement weather leading to sudden inrush of heavy flow of water in the dam giving the operator no time at all to react which is very dangerous and risky thereby endangering human lives and the expensive dam equipments and infrastructures in the process. This proposal envisages laying of OPGW on the proposed 33 KV Lattice structure and installation of associated supporting equipment like RTUs, control panels etc., at both ends to ensure the availability of an efficient and reliable system of communication.

Tentative Cost – Rs 1.00 Crore approx.

Total Cost – Rs (9.0 + 1.0) Crore = Rs 10.0 Crore.

Due to lack of fund /fund constraint, MePGCL is requesting this forum to consider recommending the funding of this project from PSDF.

In 219th OCC Meeting, the forum noted that the submission from MePGCL for funding from PSDF for Re-Engineering of existing 33 kV Line with 33 kV Lattice Structures/ Towers from Myntdu Leshka Stage-I Power Station to Myntdu Leshka Dam., is not covered under the revised guidelines for PSDF funding. The sub-committee advised Meghalaya to explore alternative sources for funding. However, for installation of Communication System with OPGW from Myntdu Leshka Stage-I Power Station to Myntdu Leshka Dam along the above proposed 33 kV line., the sub-committee opined that under clause 5.1(c) of the revised guidelines for PSDF funding, MePGCL can apply for PSDF funding.

Members may approve.

3.8. MePGCL Agenda 3: Remote Control of Supervision, monitoring and operation of Umiam Stage II (2x10 MW) power station, Umsumer from Umiam Stage I (4x9 MW) power station, sumer, through OPGW etc.

The proposal envisages provision of state-of-the-art facilities for Remote Control, Supervision, monitoring and operation of Umiam Stage II power

station, Umsumer from Umiam Stage I power station, sumer through OPGW which also includes basic SCADA provision with automation facilities. The said power stations are at a distance of only 6 (six) Km by road from each other. The implementation of this Remote-Control System shall significantly reduce deployment of man power and the cost of operation as well. The existing man power of stage II power station shall be re-deployed in other power stations, as MePGCL is presently considering reducing its man power strength. At the same time this will enhance the efficiency, safety and reliability of the system.

Tentative Cost – Rs 2.00 Crore approx.

Due to lack of fund /fund constraint, MePGCL is requesting this forum to consider recommending the funding of this project from PSDF.

In 219th OCC Meeting, the subcommittee noted that MePGCL which is a generating company and eligible for PSDF funding as per clause 4.2 of revised PSDF guidelines. Further OCC forum opined that MePGCL may request for PSDF funding as per clause 5.1(c) of revised guidelines for PSDF funding.

Members may approve.

3.9. MePGCL Agenda 4: Setting up of Centralised Generation Control Room for supervision, monitoring etc. of all Power stations under MePGCL at Umiam Stage-I Power station.

The proposal envisages provision and Installation of the state of the art Centralised Generation Control Room for Remote Supervision, monitoring and data acquisition of Power Generation data of all power stations under MePGCL. This will require installation of ABT meters for all feeders/generators of each power station, data concentrator system for collecting data from the field, computer, server, hardware, software and reliable communication link from the power stations to this Control room. This Centralised Generation Control Room will also maintain energy data in computerised environment to enable MePGCL in optimum scheduling of energy accounting bills /reports etc., to ensure technical and financial

performance monitoring and to ensure regulatory compliance so as to achieve overall revenue maximisation.

Tentative Cost – Rs 6.00 Crore approx.

Due to lack of fund /fund constraint, MePGCL is requesting this forum to consider recommending the funding of this project from PSDF.

In 219th OCC Meeting, the subcommittee noted that MePGCL which is a generating company and eligible for PSDF funding as per clause 4.2 of revised PSDF guidelines. Further OCC forum opined that MePGCL may request for PSDF funding as per clause 5.1(c) of revised guidelines for PSDF funding.

Members may approve.

3.10. Renovation of the Switchgears and Protection System in the existing ISTS 33/11KV Substations-MePDCL.

It may be mentioned and as your good self is aware, the proposal of MePDCL for "Renovation of Protection System in 33/11KV Substations (existing) - MePDCL", wherein, in the Minutes|210th OCC Meeting |19th January 2024 |Guwahati, *OCC forum opined that renovation of protection system in distribution substations which are directly connected with ISTS and have bearing on grid security may be eligible for PSDF funding.*

Accordingly, the list of existing 33/11 KV Sub Stations associated with the ISTS Grid Sub Stations was submitted vide letter under reference for inclusion and deliberation in the 216th OCCM held on the 12th July, 2024 at NERPC Conference Hall Shillong. The list is as under:

EXISTING 33/11 KV SUB STATION OF MEPDCL ASSOCIATED WITH ISTS			
SL.NO	**NAME OF THE 132 KV ISTS GRID STATION, MEPTCL**	**NAME OF THE 33/11 KV SUB STATION**	**ENTITY AT THE OTHER**

			END
1	EPIP 1 (BYRNIHAT) Sub Station	33/11 KV EPIP Sub Station	MePDCL
2	EPIP 2 (BYRNIHAT) Sub Station	33/11 KV Byrnihat Sub Station	MePDCL
		33/11 KV Killing Sub Station	MePDCL
3	MENDIPATHAR Sub Station	33/11 KV KV Mendipathar Sub Station	MePDCL
		33/11 KV Bajengdoba Sub Station	MePDCL
4	NANGALBIBRA Sub Station	33/11 KV Williamnagar Sub Station	MePDCL
		33/11 KV KV Baghmara Sub Station	MePDCL
		33/11 KV Nangalbibra Sub Station	MePDCL
		33/11 KV Rongjeng Sub Station	MePDCL
5	KHLIEHRIAT Sub Station	33/11 KV Khliehriat Sub Station	MePDCL
6	LUMSHNONG Sub Station	33/11 KV Lumshnong Sub Station Sub Station	MePDCL

In light of the above, MePDCL would like to draw your kind attention for inclusion of the proposal "Renovation of the Switchgears and Protection System in the existing ISTS 33/11KV Substations of MePDCL" for deliberations in the upcoming 217th OCCM to be held on the 09th August, 2024 at NERPC Conference Hall Shillong, and kind consideration of the proposal for recommendation to the next TCC & NERPC Meeting for funding under PSDF.

In 217th OCC Meeting, the forum noted that said project being incidental to ISTS may be eligible under PSDF scheme. After detailed deliberation the forum approved the project under PSDF and referred the matter to upcoming TCC/RPC for further deliberation and approval.

Members may approve.

3.11. Renovation and Modernization (R&M) of Transmission and Distribution Systems for relieving congestion-MePDCL

- **Construction of 33/11kV Substations and associated lines** in specific areas like Umdem, Umling, Jorabad, Patharkhmah, and Mawlasnai to address congestion and low voltage problems.
- **Reconductoring and re-engineering of the 33kV Stage-III-Zero Point-Umsning-Nongpoh line** (33km)

- **Construction of a 33kV line from 220/132/33kV, 2x50MVA GIS Substation, Saisiej, New Shillong** (25km).

About 85% of the Power stations of MeECL are located within Ri Bhoi District. But the power supply in the district is supplied mostly through long 11KV Lines which results in huge voltage drop and ultimately resulting in low voltage problems at the consumer's end. Interconnection of a large number of villages Substations to the long 11KV lines results in frequent interruption of power supply. Many industrial Units are also located within the District which account for huge power consumption and hence huge revenue return to the Corporation. It may be mentioned that under MDoNER's Programme 'Fortnightly visits of Hon'ble Union Ministers to North Eastern Region', the Hon'ble Minister of State for Commerce and Industry, Sri Som Prakash visited Ri Bhoi District from 1-12-2022 where he commented that 'The District also faces problem in power supply as there is only Single Source of power. There is need to upgrade power infrastructure in the district'. For stability and reliability of power supply in the district, an alternative power supply from 220/132/33KV 2x50 MVA GIS Substation, Saisiej, New Shillong by construction of a 33KV S/C line on Wolf Conductor, is also proposed Due to fund constrain it is requested that Renovation and Modernization (R&M) of transmission and distribution Systems for relieving congestion may be funded from PSDF (100% grant). Tentative Cost: Rs 76 Cr. The matter was discussed in 25th TCC/RPC, and the forum referred the matter to subcommittee for further discussion. In 209th OCCM, the forum referred the matter to next OCC meeting for deliberation, as no representative of MePDCL was present in the meeting." The forum opined that as per PSDF guidelines, the proposal for **reconductoring and reengineering the 33kV Umsning-Nongpoh line (33km)** seems eligible under PSDF. Other proposals involving new construction may not be eligible for this funding. The forum approved the proposal for reconductoring and re-engineering the 33kV line and suggested that other proposals be taken up directly with the **CEA/Ministry of Power**.

Members may deliberate/ approve.

3.12. Establishment of State-of-the-Art National Unified Network Management System (N-UNMS) in main & backup configuration integrating all the Regional UNMS- for ISTS Communication System – CTUIL

In line with CERC, CEA Regulations and RPC approvals, the Regional UNMS scheme integrating ISTS communication system along with State sector network, is being deployed in each region.

Now, all five (5) Regional UNMS servers shall be integrated in the next layer to the National UNMs server integrating all the regional ones; in main & backup configuration.

This will facilitate centralized reporting/collection of PAN India communication Network of ISTS as well as State level system including cross border links at National Level. The scope & technical aspect of the National UNMS scheme shall be broadly in line with Technical Specification of Regional UNMS while including features for National aspects, as per the deliberations held in all RPC/NCT forums.

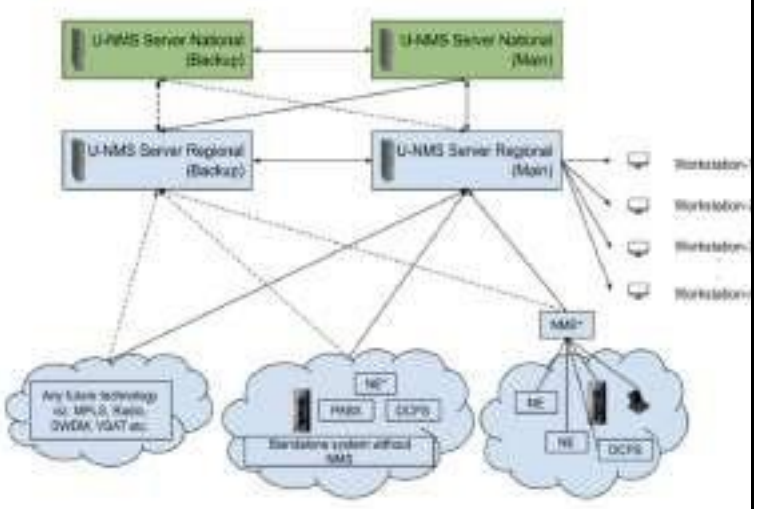
The scheme for National UNMS was deliberated in all RPC forums earlier during deliberation of respective Regional UNMS projects. Further, the National UNMS scheme was also deliberated in the 14th NPC meeting held on 03.02.2024 in Bangalore.

Put up here for views of RPCs before taking up the scheme to NCT forum for final approval:

SL. No.	Items	Details
1.	Name of Scheme	Establishment of State-of- the-Art National Unified Network Management System (N-UNMS) in main & backup configuration integrating all the regional UNMSs.
2.	Scope of the scheme	• Supply and Installation of Main & Backup National-UNMS system hardware and software along with associated items at respective UNMS Centres. The new system shall be deployed

		in such a way that the operation of the existing systems should not be disturbed. • Supply and Installation of hardware & software for workstation, network switches, firewall & IDPS, Printer, Furniture etc. • Integration of existing Regional UNMS (In Main & Backup config) with Main and Back up N-UNMS System. One channel of each Regional UNMS to Main and Back up UNMS center shall be used for redundancy of respective UNMS Centres. • Development of complete Database, displays and reports either from scratch or by extracting existing database, displays and reports, also for creating integrated national communication system overview and inter regional system details for the modules. • Supply of all FCAPS features with advance planning tool. • Import and Adaption of database & displays made for Regional UNMS system including import of historical data stored in existing servers for integration in new system also for creating national dashboard and inter regional system dashboards for the required system details. • Auxiliary Power Supply System Comprising of UPS with Battery set along with all necessary distribution board. • Integration & Testing with any new UNMS

		coming up during implementation and AMC period of this Project. Supply of Spares identified under AMC along with main items to meet the contingency during installation period and during AMC period. • All cabling, wiring, and interconnections to the items being supplied and to be integrated including power supply. • The project scope shall include customization of its database, such as configuration of database, scan period and all other database parameters required to integrate existing system successfully. • Additional Hardware, software and services necessary to ensure compatibility with existing equipment. • Auditing of Cyber Security implementation by CERT-In listed Auditors during AMC & ensuring its compliance. • Training of personnel and Users of the System. • Comprehensive Maintenance of the supplied system for seven (7) years including one (1) year defect liability period as per specification, including integration with future UNMS (if any), Database configurations, Maintaining Spare inventory etc. • Integration with third party Applications: The N-UNMS Systems being supplied shall have provision to exchange data with the existing and or to be purchased third party

		applications of in standard formats like ODBC, OPC & XML etc. • GI/Aluminum cable trays/trace ways with covers shall be supplied in the project for laying cables so that cable can be protected from rodents. These cable trays/trace ways shall be screwed/ fixed on the floor. • The system shall have remote console along with connectivity and shall be under AMC for; CEA- PCD & NPC Division, NLDC- Grid India, CTUIL, GA&C-POWERGRID. • UNMS control room in CTUIL shall be equipped with a 85 Inch TV/Monitor.
3.	Architecture	 Proposed U-NMS Topology for Data Flow (Typical)
4.	Objective/ Justification	i. In line with CERC, CEA Regulations and RPC approvals, the Regional UNMS scheme integrating ISTS communication system along with State sector network, is being deployed in each region. Now, all five (5) Regional UNMS servers shall be integrated in the next layer to the National UNMs server integrating all the regional ones; in main & backup

		configuration. This will facilitate centralized reporting/collection of PAN India communication Network of ISTS as well as Intra State level system including cross border links at National Level. The scope & technical aspect of the National UNMS scheme shall be broadly in line with Technical Specification of Regional UNMS while including features for National aspects, as per the deliberations held in all RPC/NCT forums. ii. The proposed National UNMS (N-UNMS) System shall provide the multi-tiered solution for Network Management System Functions with modules such as Network Resource/Discovery/Inventory, configuration management, Planning, Fault/Alarm Management, Performance Management, Trouble Ticket with application security, reporting, simulation, Artificial Intelligence & Analytics etc. and common dashboards also for integrated national network and for inter-regional systems including cross border. iii. The N-UNMS shall also provide a Pan India visualization of power system communication network. This shall facilitate Centralized Supervision and Quick Fault detection and restoration for ISTS Communications systems for National, Inter-Regional and Cross-Border communication system and the network. The N-UNMS shall additionally have advanced planning tool having features for Long, Medium- & Short-Term Planning for preparing planning projections for ISTS Communication

		System (for National/ Regional/ State) for 2 years, 5 years and 10 years. iv. The proposal of N-UNMS was deliberated in all the RPCs during approval of respective Regional UNMS scheme and the in-principle technical approval has been given by the forum.
5.	Estimated Cost	Rs. 101* CRs. (approx.) and 19.07 CRs. AMC charges for 7 years. The cost of national UNMS shall be recovered on POC basis. *Cost has been derived from awarded package of regional UNMS Scheme
6.	Implementation timeframe	24 Months from date of project allocation based on NCT approval.
7.	Implementation Mode	Through RTM to POWERGRID
8.	Location of National UNMS	Main UNMS at NLDC, Katwaria Sarai, and Backup UNMS at RLDC, Kolkata

The scheme has already been approved in NR, SR and WR and under discussion in ER & NER. After approval of all RPCs the scheme shall be taken up to NCT forum for final approval.

In 214th OCC, MS, NERPC requested all the States to deliberate internally on the matter and provide feedbacks to CTU.

In 26th TCC/NERPC Meeting, the forum opined that the item is to be further discussed in Sub-Committee meeting(s) for detailed deliberation/clarification.

In 53rd CCM, CTUIL representative apprised the forum following about the N-UNMS:

1. The proposed National UNMS (N-UNMS) System shall provide the multi-tiered solution for Network Management System Functions with modules such as Network Resource/Discovery/Inventory, configuration management, Planning, Fault/Alarm Management, Performance Management, Trouble Ticket with application security, reporting, simulation, Artificial Intelligence & Analytics etc. and common dashboards also for integrated national network and for inter-regional systems including cross border.
2. The N-UNMS shall also provide a Pan India visualization of power system communication network. This shall facilitate Centralized Supervision and Quick Fault detection and restoration for ISTS Communications systems for National, Inter-Regional and Cross-Border communication system and the network. The N-UNMS shall additionally have advanced planning tool having features for Long, Medium & Short-Term Planning for preparing planning projections for ISTS Communication System (for National/ Regional/ State) for 2 years, 5 years and 10 years.

He also informed the forum that out of Rs. **101*** Crs. (approx.) and **19.07** Crs. AMC charges for 7 years, NER share will be only approx. 2.5% of the total cost(i.e. around Rs 3 Cr). He further informed the forum that cost will be **recovered on POC basis**.

In this regard all NER constituents requested forum to consider this proposal of N-UNMS project under PSDF funding by considering the poor financial condition of NER states

After detailed deliberation, CC forum gave in-principle approval for the N-UNMS project (including AMC) with a request to CTU to seek PSDF funding for the same for NER as a special case.

Members may approve.

4. PART C: COMMERCIAL ISSUES

4.1 Deviation Pool Account outstanding-NERLDC

Status of outstanding against Deviation charges as on 30/09/2024 is shown in the following table:

Constituent	O/S Payable (INR)	Remarks
Ar. Pradesh	1,87,94,546	Outstanding from Week-22 FY 24-25
Tripura	2,63,70,158	Outstanding from Week-22 FY 24-25

All the pool members are requested to clear outstanding dues as shown above within the stipulated timeline as per CERC DSM Regulations to avoid late payment surcharge.

In 53rd CCM, DoP, Arunachal Pradesh and Tripura representative informed the forum that they will clear their respective dues by next week.

Members may please deliberate.

4.2 Reactive Pool Account outstanding-NERLDC

Status of outstanding against Reactive charges as on 30/09/2024 is shown in the following table:

Constituent	O/S Payable (INR)	Remarks
Manipur	26,797	Outstanding from Week-53 FY 23-24
Nagaland	217,15	Outstanding from Week-15 FY 24-25

Tripura	2,40,191	Outstanding from Week-22 FY 24-25

All the pool members are requested to clear outstanding dues as shown above within the stipulated timeline to avoid late payment surcharge.

In, 53rd CCM, Forum requested concerned utilities to clear the dues at the earliest.

Members may please deliberate.

5. PART D: ITEMS FOR INFORMATION/UPDATE

5.1 Rooftop Solar in NERPC Secretariat-NERPC

As per the Secretary MNRE DO letter 11.05.24 and subsequent directions from ministry of power, all the subordinate offices of Ministry of Power are required to install solar roof top by 2025 at office/residential building. In this regard, NERPC has proposed for installation of 10kW of rooftop solar at office building.

The approximate estimate for 10kW of rooftop solar at office building would be around Rs. 10-15 lakhs include rooftop construction plus installation /inverter. Ministry of Power has designated NVVN to execute the installation of solar roof tops.

NVVN shall be responsible till commissioning of the project and be paid only PMC (Project Management Consultancy).

The proposal is hereby placed before the forum for administrative and financial approval.

In 26th TCC meeting of NERPC, after detail deliberation, the forum recommended for approval of NERPC.

In 26th NERPC meeting, NERPC noted and approved the recommendation of TCC.

However, NVVN vide mail dated 27.08.2024 informed that installation of rooftop solar at NERPC building is not feasible and the same has been communicated to CEA.

Members may note.

5.2 Observation of Quarterly NER Cyber Security Coordination forum(CSCF) meeting-NERLDC(Grid-India)

As per Clause 53 of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 on Cyber Security Co-ordination forum:

Quote:

The sectoral CERT (Computer Emergency Response Team) for wings of power sector, as notified by Government of India, from time to time, shall form a Cyber Security Coordination Forum with members from all concerned utilities and other statutory agencies to coordinate and deliberate on the cyber security challenges and gaps at appropriate level. A sub-committee of the same shall be formed at the regional level.

Unquote:

Accordingly, NERLDC is conducting NER-GO-CSCF meeting quarterly with a view to address all cyber security issues in NER Power Sector. It is requested to all the NER states to deploy senior personnel (SLDC head) along with CISO / Alternate CISO to participate in this meeting so that fruitful discussion and decisions could be taken during the meeting itself. It has also been observed that junior personnel or rather sometimes no members are nominated to attend this meeting.

Also, as on date CSCF of Transmission and Distribution sectors are yet to become operational. It has been observed that few Cyber Security issues falling in the domain of Transmission and Distribution sectors are being raised in CSCF of CERT-GO for discussion/guidance.

Members may note.

5.3 Non-compliance with N-1 Criterion for BTPS 2 X 160 MVA, 220/132 kV ICTs-NERLDC(Grid-India)

BTPS substation is equipped with 2x160 MVA ICTs. The load flow from these ICTs at BTPS exceeds 160 MW, resulting in the inability to meet N-1 contingency criteria on tripping of any of the ICTs at the BTPS substation.

The percentage of time the power flow exceeded 160 MW for the months Jan'24 to Sepember'24 during peak hours have tabulated below:

Month	**BTPS ICTs combined loading > 160 MW %**
January	8%
February	22%
March	61%
April	62%
May	49%
June	38%
July	79%
August	80%
September	76%

To ensure reliable operation in the BTPS area of the Assam power system, it is necessary to upgrade the MVA capacities of ICTs at BTPS S/S with Higher capacity.

In the latest 217th OCC meeting, the forum opined that a new 132 kV BTPS-Salakati line or 132 kV Dhaligaon-Salakti may be planned to address the reliability issue in the area. The forum referred the matter to CMETS for further planning.

AEGCL may update the status.

5.4 Operation of 400 KV Switchyard on Single Bus mode since commissioning at Panyor Lower HEP (PLHEP) -NERLDC(Grid-India)

The existing 400 kV Bus scheme of Panyor Lower HEP is double main scheme, however 400 kV Bus-1 is not available since commissioning. This does not comply with clause no. 44.2(a) CEA Technical Standards for Construction of Electrical Plants and Electric Lines), 2022

In 218th OCC meeting, NEEPCO informed that the isolator spares had arrived and for SF6 breaker, retendering was underway. NEEPCO further stated that the work would be tentatively completed by May'25.

PLHEP may update the status.

5.5 Utilization of 220/132 kV, 2x160 MVA ICT at Balipara (POWERGRID) S/s-NERLDC(Grid-India)

The Total Transfer Capability (TTC) and Available Transfer Capability (ATC) of the Assam power system are currently limited due to the high loading on the 220 kV Balipara-Sonabil D/C. The primary reason for the premature loading of this line is the under-utilization of the 220/132 kV, 2x160 MVA ICTs at the Balipara substation (POWERGRID).

Before June 2018, three 132 kV interconnections were available to utilize the 220/132 kV ICTs at Balipara, specifically:

- 132 kV Balipara – Ghoramari (AEGCL) line
- 132 kV Balipara – Sonabil (AEGCL) line
- 132 kV Balipara – Khupi (DoP, ArP) line

Presently, as only one 132kV connectivity is utilized for Khupi area of Arunachal Pradesh system (around 25 MW flow in peak hour), the 220/132 kV ICTs at Balipara remains inadequately utilized.

As per deliberations in the 21st CMETS-NER meeting held on July 27, 2023, AEGCL would construct the following scheme under intra-state with

completion timeframe of 3 years from date of award for utilisation of 132kV vacant bays at Balipara S/s (vacated by AEGCL due to bypassing of its Balipara – Sonabil and Balipara – Ghoramari 132kV lines):

Establishment of 2x50MVA, 132/33kV Misamari substation
Balipara – Misamari 132kV D/c (ACSR Zebra) line (utilising the 132kV line bays vacated upon bypassing of Balipara – Sonabi and Balipara – Ghoramari 132kV lines at Balipara substation) alongwith associated line bays at Misamari substation.

LILO of Depota – Rowta 132kV S/c line at Misamari substation along with associated line bays
Granting General Network Access (GNA) is based on the TTC/ATC margin, and the approved GNA quantum for Assam has already saturated its current TTC/ATC limits. Effective utilization of the 220/132 kV, 2x160 MVA ICTs at Balipara will significantly help in enhancing the TTC/ATC figures for the Assam power system. This will not only improve the reliability and stability of the grid but also accommodate the growing power demands of the region. Therefore, expediting these proposed projects is crucial for ensuring a robust and reliable power infrastructure in Assam.
In the latest 217th OCC meeting, the forum requested AEGCL to expedite the abovementioned projects so that ICT at Balipara would be utilized fully and it will improve the reliability in the area.

AEGCL may update the status

5.6 Registration of state embedded generators in NOAR for facilitating sale of URS in the Power Market- NERLDC(Grid-India)

Ministry of Power has notified Electricity (Late Payment Surcharge and related matters) Rules 2022 on 3rd June 2022 and Electricity (Late Payment Surcharge and related matters) Amendment Rules 2024 on 28th February 2024. As per the LPSC Rule (9) (1):

Quote

"(1) A distribution licensee shall intimate its schedule for requisitioning power for each day from each generating company with which it has an agreement for purchase of power at least two hours before the end of the time for placing proposals or bids in the day ahead market for that day, failing which the generating company, shall offer, the un- requisitioned surplus power including the power available against the declared capacity of the unit under shut down, in the power exchange, subject to the limitation of ramping and start up capability as specified by the Appropriate Commission:

Provided that if the power so offered by the generating company is not cleared in Day-Ahead Market, it shall be offered in other market segments, including the Real Time Market, in the power exchange:"

Unquote

In view of the above, it is requested to please advise all the state embedded generating stations to get registered on the National Open Access Registry (NOAR) portal (https://noar.in) at the earliest, so that they can participate in the power market.

Communications regarding the same from NERLDC are enclosed as per **Annexure-5.6.1** and list of intra-state generators as received from NLDC (Highlighted ones for NER Region) are enclosed as in **Annexure-5.6.2.**

Members may note.

5.7 Implementation/Review of Islanding Schemes of NER- NERPC

As per Clause 10 of the Central Electricity Authority (Grid Standards), Regulations, 2010: "Islanding Schemes- (1) The Regional Power Committees shall prepare Islanding schemes for separation of systems with a view to save healthy system from total collapse in case of grid disturbance. (2) The Entities shall ensure proper implementation of the Islanding Schemes". In this regard the Islanding schemes

which are being planned/have been implemented in NER are mentioned below, along with the updates from 217th OCCM.

A. Guwahati Islanding Scheme

In 218th OCC Meeting, Assam updated that modified DPR has been sent to PSDF.

B. Tripura/Agartala Islanding Scheme

NERLDC informed that a meeting was held on 07.08.2024 among NERPC, NERLDC and Tripura utilities to discus the scheme. In the meeting, outline of the scheme was finalized and TPTL and TPGCL were requested to provide the following data respectively:

1. Priority wise load data

2. dynamic data of generators involved (Monarchak, Rokhia, and Baramura)

NERLDC further stated that the formats for data will be shared shortly with Tripura utilities. The forum requested Tripura utilities to provide the data at the earliest.

In 218th OCC Meeting, NERLDC have informed forum that Required format was shared with Tripura. NERLDC have also apprised forum that Generation data form Tripura along with load data yet to be received from Tripura. Forum requested Tripura to provide all the required data at earliest.

C. Upper Assam Islanding Scheme

In 218th OCC Meeting, Assam informed forum that NTPS is a very old power station and we do not have the data as required for updation for islanding scheme. For LTPS, regarding change in frequency settings, communication has been done with BHEL and we are awaiting response from their end. For LRPP, Stage I frequency setting is alarm and Stage II frequency setting is Trip. Forum asked NEEPCO and AEGCL to make the necessary changes and updating their settings in consultation with their respective OEMs.

D. Itanagar Islanding Scheme

In 218th OCC Meeting, Arunachal Pradesh informed that the required load data had been submitted to NERLDC. MS, NERPC has urged all the stakeholder to expedite the process so that this Islanding Scheme can be approved in next RPC meeting.

E. Kohima Islanding scheme

In 218th OCC Meeting, DoP Nagaland updated that the DPR preparation was underway, as they have not received Budgetary offer from vendor. MS NERPC urged DoP Nagaland to take the budgetary offer from a vendor at the earliest so that the same may get approved in the upcoming RPC meeting.

F. Imphal Islanding scheme

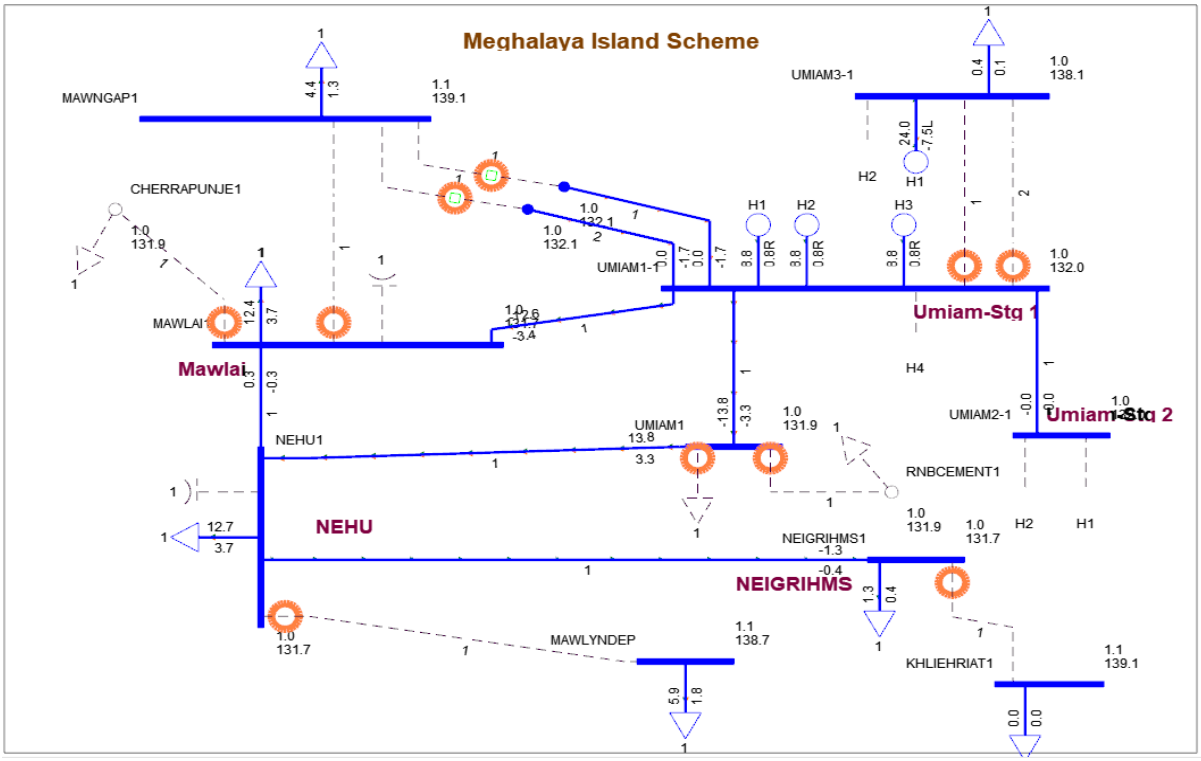
In 218th OCC Meeting, Manipur informed forum that due to law and order situation AUFLS Mapping is pending from substations end and assured to provide the required data shortly. NERLDC stated that data from NHPC is yet to be received. NHPC stated that they will provide required data shortly.

G. Aizawl Islanding scheme

In 218th OCC Meeting, Mizoram informed that the required load data had been provided to NERLDC. The forum stated that a special meeting will be held shortly to finalize the scheme.

H. Meghalaya/Shillong Islanding Scheme:

NERLDC requested Meghalaya to provide load data for further study. NERLDC requested Meghalaya utilities to provide the load and generation data at the earliest, the format will be shared shortly. The forum stated that a special meeting will be held shortly to finalize the scheme. Meghalaya requested the inclusion of generating station Stage III and IV instead of Stage I and II, as both are small machines with no FGMO provision as per IEGC.



Members may discuss.

5.8 Construction of 2nd transmission line to Tuirial power station of NEEPCO - NEEPCO

NEEPCO is facing problem in operating 2x30 MW power station with only one power evacuation line i.e. 132 KV single Circuit Bawklang (Kolasib) - Tuirial line. The matter has been discussed with Power and Electricity Dept. Govt of Mizoram on various occasions in the past and the Govt. of Mizoram has agreed to construct the same.

However, NEEPCO has observed that till date no progress on ground has been made for construction of the second circuit. lt may please be noted that a generating station which is based on reservoir operation cannot operate for long with a single evacuation transmission line and is also not fulfilling the N minus 1 condition. There should be redundancy in power evacuation system as per the Grid code.

It may please be noted that NEEPCO has sufficient numbers of line bays in its switch yard for smooth evacuation as per requirement.

lt has been observed that during rainy season, in the event of the lone line outage, load throw off of the Units takes place and the reservoir may spill over for non-availability of power evacuation, which is an avoidable national loss.

NEEPCO requests through this forum for early construction of the 2nd evacuation transmission line for Tuirial HPS by Mizoram for safe and smooth operation of the Tuirial Hydro Electric power station.

In 26th TCC Meeting, Mizoram representative informed that an amount of INR 28 crore has been allocated for the project by the State Govt.. Upon the release of government funds, the project is expected to be completed within two years(May'2026).

NEEPCO representative requested Mizoram to expedite for early execution of this transmission line being crucial for evacuation of Turial power generation.

NERPC to monitor the progress of the project in sub-committee meetings.

Mizoram/NEEPCO may update.

5.9 Status update of proposed immediate provisional arrangement at upstream transmission systems in Assam for interim relief to Arunachal Pradesh on Chakhowa-Roing 132 kV transmission system and the regular arrangement works of Tinsukia-Rupai-Chapakhowa-Roing 132 kV D/C transmission line – DoP, AP

The existing Panyor HEP to Namsai 132 kV long radial line via Ziro, Daporijo, Aalo, Pasighat and Roing 132/33 kV Sub-Stations is prone to frequent disruptions on account of natural calamity triggered faults caused in the very lengthy line traversing all through dense jungles of treacherous mountainous topography between Ziro and Pasighat. Hence, for fulfilment of N-1 condition to this line, after a much await, Roing - Chapakhowa 132 kV D/C transmission line was commissioned last year, in July 2023, with huge expectational fanfare in Arunachal Pradesh. However, to utter dismay of Arunachal Pradesh, it was later learnt that power of only 18 MW could be allowed at Roing terminal point for Arunachal Pradesh in view of reported constraints of the upstream transmission systems in Assam. Thus, the

purpose of the 132 kV D/C transmission line of Roing-Chapakhowa got defeated and Arunachal Pradesh continued to be deprived of its intended benefit.

Hence, upon taking up of the matter in the NERPC forum, it was decided to conduct a joint inspection of the sites to put in place an interim arrangement till commissioning of the other alternative Kathalguri-Namsai 220 kV D/C anchoring transmission system, which is expected in 2025. Accordingly, the joint inspection was conducted by a team lead by NERPC with participation of NERLDC, Assam and Arunachal Pradesh on 23/02/2024; whereupon it was decided and proposed for carrying out Double-Jumpering works with Special Protection Scheme in upstream systems in Assam as immediate interim arrangement to enable Arunachal Pradesh draw its required power through the Roing-Chapakhowa 132 kV D/C transmission line in the event of failure of the Panyor-Namsai 132 kV transmission line.

Till date Arunachal Pradesh faces the above drawl restriction on the stated corridor during exigencies. Hence, present status and expected schedule of putting in place of the above proposal may be elucidated.

In 26th TCC Meeting, Assam representative informed that double jumpering work has been completed.

Powergrid updated that hat SPS is under process and expected to be completed within 15 days.

TCC advised Assam and Powergrid to coordinate and implement the SPS as soon as possible.

Assam representative mentioned that the DPR for reconductoring of 132kV Tinsukia-Ledo & Tinsukia-Rupai lines had already been submitted.

Powergrid informed that for the Kathalguri-Namsai line, the target completion date is July 2025. GIS work is currently ongoing, and foundation has been completed.

Members may update.

5.10 Completion of Tower Loc # 213 of Pasighat-Roing Transmission Line and early normalization of the line – DoP, AP

Tower Loc # 213 of Pasighat-Roing transmission line of POWERGRID was washed away in the flooding of Dotung river in the monsoon of 2020. Since then the damaged portion of the line is on makeshift ERS (Emergency Restoration System), despite numerous assurances rendered by NERTS, POWERGRID, for completion and normalization of the line on several occasions in many meetings at the NERPC forum. However, the situation continues to remain precarious, thereby keeping the reliability of the line at constant risk. This has also obstructed the laying works of OPGW on the Pasighat-Roing line by the Comprehensive Scheme team of POWERGRID, thereby keeping the Pasighat Sub-Station isolated from communication links.

NERTS, POWERGRID, may update the situation with the request for intervention by NERPC for early resolution of this long pending situation.

In 26th TCC Meeting, POWERGRID informed the forum that tower foundation for location number 212 and 214 (Pile of 400kV Design) is now complete after overcoming challenges posed by difficulties due to double river crossing etc. Tower Erection and stringing work is pending. Mobilization of men and materials for erection is under progress. Presently, work of around 45 days is balance which is requiring around 60 MT tower erection per tower.

Work is expected to be completed by Aug'24. However, considering present rainy season, the work may be delayed by another 15 days. However, regular monitoring of ERS towers is ensured and suitable measures like tightening of Guy Wires, Protection to ERS location etc. are being ensured by POWERGRID.

MS NERPC stated that NERPC Secretariat will review the progress along with AP and Powergrid teams.

Members may update.

5.11 Status of Commissioning of Lower Subhansiri HEP (8x250 MW)-NERPC

In the 25th NERPC Meeting held on 9th December 2023, Director (Technical), NHPC intimated the forum that unit 1 and 2 were scheduled to be commissioned in February'24 and March'24 respectively. However, due to geological events the commissioning schedules may likely be postponed by three to four months. He however stated that all the units of the project (8x250 MW) will be positively commissioned by May 2025.

In this regard, NHPC is requested to update the status of commissioning of Lower Subhansiri HEP.

In 26th TCC Meeting, NHPC representative informed that there was a massive landslide in October'2023. Post that incident an Expert Committee was constituted in Nov'2023 by Ministry of Power, Govt. of India to investigate the matter. The recommendations of the Expert Committee are being complied with.

NHPC representative informed that 3 units will be commissioned by March'2025 and the rest 5 units by May'2026.

PGCIL representative raised the concern of high reactive power generated by idle charged Lower Subhansiri HEP-BNC lines 1 & 2 and requested for commissioning of Bus Reactor at Lower Subhasiri at the earliest.

NHPC may update.

5.12 Agenda items on Distribution Sector – CEA, DP&T

5.12.1 Request for Proposal for Down Stream Distribution Network connectivity of 33 KV sub-stations implemented/being implemented under NERPSIP and Comprehensive Scheme in NE States.

- During a meeting taken by Additional Secretary (Transmission), Ministry of Power on 14th May, 2024 to discuss the requirement of strengthening of intra-state transmission system in North Eastern States, it was informed that out of 155 number of 33 KV sub-stations being

implemented in NE States under NERPSIP and Comprehensive Scheme, only 49 sub-stations are having Down Stream Connectivity distribution network.

Scheme	Total No of 33 KV SSs	No of 33 KV SS having downstream system at 11 KV	Balance 33 KV SS which do not have downstream connectivity
NERPSIP	85	48	37
Comprehensive scheme	70	1	69
Total	155	49	106

- During the meeting it was decided that Distribution division of CEA would prepare a plan for distribution Down Stream network of 33 KV sub-stations being implemented under the NERPSIP and Comprehensive scheme which would be considered for approval under RDSS by Ministry of Power.
- Down Stream distribution network of some of the 33 KV sub-stations under NERPSIP and Comprehensive scheme have already approved under State schemes/ RDSS/ Ministry of DONOR/NEC Schemes/ or externally funded schemes like ADB, WB etc, however, downstream network of many of the sub-station might still not finalized/approved.
- ***NE States are requested that the requirement of Down Stream distribution network of remaining 33 KV sub-stations being implemented under NERPSIP and Comprehensive Scheme may be finalized and furnished to CEA so as to submit a comprehensive plan for consideration of MOP for funding under RDSS.***
- The Down Stream network may include the 11 KV Panels (if not available at SS), 11 KV lines, associated distribution transformers , LT lines & LT switchgears etc. as per the actual site requirement.

- There should not be any duplication of works with already approved/implemented works.
- CEA has already requested to all NE States vide letter Dt 4-6-2024 to furnish the proposals on the above to CEA on priority

In 26th TCC meeting, CE(DP&T), CEA informed the forum about the status of 33 KV sub-stations under the NERPSIP and Comprehensive Scheme. It was highlighted that while many 33 KV sub-stations have been implemented, a significant number still lack 11 KV downstream networks. This issue was discussed during a meeting held on 14th May 2024, chaired by the Additional Secretary (Transmission), Ministry of Power. Key points of the deliberation:

- CE(DP&T),CEA emphasized that only 49 out of 155 33 KV sub-stations have downstream connectivity distribution networks. The remaining 106 sub-stations lack these networks.
- It was decided in the meeting on 14th May 2024 that the Distribution Division of CEA would prepare a plan for the downstream network of 33 KV sub-stations and submit it for RDSS approval.
- NE States were requested to finalize and furnish the requirements for the downstream distribution network of the remaining 33 KV sub-stations within 15 days. This will ensure that there is no duplication of work.
- The downstream network may include 11 KV panels, 11 KV lines, associated distribution transformers, LT lines, and LT switchgears as per actual site requirements.
- MS NERPC reiterated the importance of submitting these details to avoid delays in the approval and implementation process.
- It was noted that CEA had already requested all NE States, via a letter dated 4th June 2024, to furnish the proposals on the above to CEA on priority.

TCC acknowledged the importance of this task and urged all NE States to submit their requirements to CEA within 15 days. This will facilitate the

comprehensive planning and approval process for the downstream distribution network under RDSS.

In 26th NERPC Meeting, Member (GO&D), Central Electricity Authority, informed the forum that at present the RDSS Scheme is available up to March'2026. He further requested NE states to submit the requisite data to CEA at the earliest.

RPC emphasized the significance of Down Stream Distribution Network connectivity of 33 KV sub-stations of NER and encouraged all NE States to provide their requirements to CEA within 15 days. This will enable thorough planning and expedite the approval process for the downstream distribution network under RDSS.

The matter was also discussed in various subcommittee meetings of NERPC.

NE States may update.

5.12.2 Request for Proposals for high Impact distribution sector infrastructure projects to be funded under PM-DevINE scheme of Ministry of DONER.

- Ministry of Power forwarded a DO letter dated 10th May, 2024 received from Secretary, Ministry of Development of North Eastern Region (DoNER) on the above subject to CEA for inputs.
- It is indicated in DO letter from Secretary, Ministry of DONER that high impact Infrastructure development projects, social development projects, enhancing livelihoods of the region, etc are being taken up under PM-DeVINE scheme of Ministry of Doner and requested to explore the possibility of taking up the power sector related high impact projects under PM-DevINE scheme as per guidelines of the scheme.
- The high impact distribution sector scheme may include the schemes for improving the reliability of power supply in major cities /towns, introduction of smart distribution system in major cities /towns or any gap funding for high impact scheme etc.

- ***It is requested that the all-NE states may identify some high impact power distribution sector projects in their states and the concept notes / proposal of these projects may be furnished to CEA so as to furnish the same to compiled project lists to Min. of Doner through MOP for funding under PM-DevINE scheme.***
- Before submitting the proposal, the non-duplication of proposed works may be taken into account and the works should be according to the Guidelines of PM-DevINE scheme.
- A request email in this regard has been forwarded by CEA to all NE States on 31st May 2024.

In 26th TCC Meeting, CE(DP&T),CEA informed the forum about the DO letter from the Ministry of Power, dated 10th May 2024, requesting inputs from CEA on high-impact infrastructure projects under the PM-DevINE scheme.

- CE(DP&T),CEA emphasized the need for NE states to identify high-impact power distribution sector projects and submit concept notes or proposals to CEA.
- Projects should focus on improving power supply reliability in major cities/towns, introducing smart distribution systems, or addressing funding gaps for high-impact schemes.
- It was stressed that proposals should avoid duplication of existing works and adhere to the guidelines of the PM-DevINE scheme.
- NE states were requested to submit their project proposals promptly, as per the request email sent by CEA on 31st May 2024.

TCC urged all NE states to prioritize the identification and submission of high-impact project proposals to CEA to further facilitate funding under the PM-DevINE scheme.

In 26th NERPC Meeting, CMD MeECL inquired about the types of projects that can be included under high-impact projects and sought more clarity on the PM-DevINE scheme and the maximum sanctionable amount.

Member GO&D, CEA stated that CEA would provide the necessary guidelines to the utilities for more clarity on this matter.

RPC forum noted and directed all NE States to promptly identify and submit high-impact project proposals to CEA to facilitate funding under the PM-DevINE scheme.

The matter was also discussed in various subcommittee meetings of NERPC.

NE States may update.

5.12.3 Request for furnishing the data for preparing Distribution Perspective Plan 2035 by CEA

- Realizing the importance of Distribution infrastructure requirement for meeting the projected load up to 2030, CEA prepared a Draft Distribution Perspective Plan up to 2029-30 based on the information received from the Discoms. The Draft DPP 2030 was uploaded on CEA website on 2nd February, 2024 for public comments/inputs by 1st April, 2024.
- This Plan has included the Discom wise and All India level Distribution infrastructure planned by major discoms in the country to meet the projected demand by 2029-30. (Demand as per 20th EPS of CEA)
- The distribution infrastructure requirement includes the projected Sub Stations (66/33/22 kV), Feeders (66/33/22 kV), 11 KV Feeders, Capacitor Banks, Distribution Transformers, LT Feeders along with AT&C loss Reduction trajectory till 2030, Consumer Metering status and Consumer Growth, SCADA /RTDAS and Estimated Fund Requirement etc.
- The best practices being followed by the Discoms for management of distribution system and details of the new technologies available for introduction of Smart Distribution have also been included for guidance of the distribution utilities.
- The Projections made in draft DPP 2030 regarding distribution infrastructure requirement was reviewed by Hon'ble Cabinet Minister of Power & NRE on 16th February, 2024.

- Hon'ble Minister of Power & NRE suggested that the infrastructure requirement for providing 24x7 reliable power to consumers under RDSS-PH-II should be based on the following priority
    - Meeting Load Growth Requirement by 2030
    - Improving Reliability
    - Technology Improvement
    - Loss reduction works
- Subsequently, a workshop was organized by PFC on 6th March 2024 at N. Delhi to discuss the requirement of distribution infrastructure up to 2035.
- CEA circulated the revised formats in March 2024 to all States including NE States for furnishing the data up to 2035 by April 2024 end.
- Data from Mizoram and Sikkim has been received in CEA.
- It is requested to furnish the data in revised formats within 10 days so as to compile the data and to submit the Distribution Perspective Plan 2035 to MOP in the month of July 2024.

In 26th TCC Meeting, CE(DP&T), CEA informed the forum about the preparation of the Draft Distribution Perspective Plan (DPP) up to 2029-30 by CEA, based on information received from Discoms, and its upload on the CEA website for public comments.

- CE(DP&T),CEA emphasized the need to submit revised data formats to CEA by April 2024 end to compile and submit the Distribution Perspective Plan 2035 to MoP by July 2024.
- Highlighted that data from Mizoram and Sikkim has been received, and other NE states need to furnish their data within 10 days.
- The infrastructure requirement for providing 24x7 reliable power to consumers under RDSS-PH-II should focus on meeting load growth requirements by 2030, improving reliability, technology improvement, and loss reduction works.

TCC urged all NE states to prioritize and expedite the submission of their data in the revised formats to CEA to ensure timely compilation and submission of the Distribution Perspective Plan 2035 to MoP.

In 26th NERPC meeting, CE(DP&T),CEA informed the forum that Govt of India has already identified 100 high growth cities including Guwahati that may be partly funded through RDSS.

Member, GO&D, CEA urged the NE States to identify high growth cities and submit the requisite data latest 31st July'2024.

CMD, MeECL suggested that the Ministry's upcoming 5-year roadmap for high-growth cities may include the capital cities of the North Eastern Region.

RPC forum noted and stressed the urgency for all NE States to prioritize submitting their revised data to the CEA, facilitating the timely completion and presentation of the Distribution Perspective Plan 2035 to the MoP.

The matter was also discussed in various subcommittee meetings of NERPC.

NE States may update.

5.12.4 Status of Integration of feeders with National Feeder Monitoring System (NFMS)

Presently, National Power Portal (NPP) developed by CEA is a centralized system which facilitates online data of whole power sector including generation, transmission, and distribution on one platform at National Level. The average Hours of power supply of States (Urban & rural) is also being captured on NPP which is being provided by States on NPP portal on monthly basis. However, the rural & urban power supply data on NPP is provided by discoms manually on NPP in a defined format, hence, there is always a delay in providing the data by discoms on NPP.

Keeping in view the challenges faced in the existing Rural & Urban Feeder Monitoring System and with objective to monitor the availability of power

supply to all the urban and rural feeders in the country without any human intervention, a National Feeder Monitoring System (NFMS) has been approved under RDSS which is being developed by RECPDCL.

NFMS would integrate all the communicable feeder meters with a Centralized system to have M2M communication without any human intervention. NFMS would provide the states wise /utility wise power availability status at feeder level; however, it would require the installation of communicable meters on all feeders and integration of these meters with Centralized system.

The status of integration of feeders of NE states in NFMS is as under:

SN	State/ Discom	Total No of Feeders	Monitored Feeders	Un monitored Feeders	Existing SI	No. of Feeder Meters sanctioned under RDSS*	NFMS Integration Status
1	Mizoram-P&ED	301	121	180	RT-DAS-M/s. Neo Silica	398	Integration activity started, one API integration completed others under process.
2	Tripura-TSECL	494	0	494	N/A	473	LOA awarded to M/s Techno, Not

							in stage of Integration
3	Meghalaya-MePDCL	345	0	345	N/A	1324	AMISP not yet awarded
4	Nagaland-PD	295	0	295	N/A	392	LOA awarded to M/s Anvil, Not in stage of Integration
5	Sikkim-P&ED	633	0	633	N/A	633	LOA awarded to M/s Anvil, Not in stage of Integration
6	Assam-APDCL	2782	1048	1734	AMI-M/s. Genus Power & M/s. Apraava Energy	2782	Integration completed with Apraava and Genus. Integration with Adani and Intellismart feeder is pending.
7	Arunachal Pradesh-PD	688	0	688	N/A	688	LOA awarded to

							M/s Anvil, Not in stage of Integration
8	Manipur-MSPDCL	357	0	357	N/A	357	LOA awarded to M/s Polaris, Not in stage of Integration

After the installation of smart feeder meters, the feeder data would be integrated by NFMS with MDM of AMISP to have M2M connectivity with NFMS.

As, the integration of Feeder with NFMS is also linked with release of Grant for 2024-25 under RDSS, All the NE States are requested to provide the integration of NFMS with existing Feeder Monitoring system of state (M2M or manual), as an interim arrangement till the smart meters are installed on feeder by AMISP, to provide countrywide picture on NFMS.

In 26th TCC Meeting, CE(DP&T), CEA, apprised the forum about the Ministry of Power's approval of NFMS under RDSS to monitor power supply availability without human intervention. The manual data submission by discoms on the National Power Portal (NPP) causes delays, which the NFMS aims to address.

CE(DP&T), CEA, emphasized the following points:

- States must integrate their feeders with NFMS.
- Until the feeders are fully integrated with NFMS, states are requested to manually provide data to a centralized location and upload it to the NFMS portal via a provided link.

- This integration is crucial for the release of the grant for 2024-25 under RDSS.

It was also reported that integration activities have started in Mizoram, and API integration for one feeder has been completed. Other States were urged to expedite the integration process.

TCC urged all NE states to prioritize the integration of their feeder data with NFMS, to ensure a countrywide picture on NFMS and facilitate timely release of grants under RDSS.

In 26th NERPC meeting, RPC noted and stressed the necessity for all NE States to prioritize integrating their feeder data with NFMS. This integration will provide a comprehensive national overview and help facilitate the timely release of grants under RDSS.

The matter was also discussed in various subcommittee meetings of NERPC.

NE States may update.

5.13 Allocation of firm power w.r.t. Parbati-II hydroelectric project (800 MW) and Dibang multi-purpose project (2880 MW) of NHPC Ltd-NERPC

Ministry of Power conveyed that, Power of under construction hydro projects through firm power allocation of Parbati-II hydroelectric project (800 MW) and Dibang multi-purpose project (2880 MW) of NHPC Ltd is available for allocation to NER States. The consent from states of NE region for willingness to take Firm power from Parbati-II hydroelectric project (800 MW) and Dibang multi-purpose project (2880 MW) of NHPC Ltd sought so that proposed allocation can be furnished to MoP.

In 53rd CCM Meeting, Tripura representative gave their consent for willingness to take Firm power from Dibang multi-purpose project (2880 MW) of NHPC Ltd.

MS, NERPC requested all NER states to send their consent for willingness to willingness to take Firm power from Parbati-II hydroelectric project (800 MW) and Dibang multi-purpose project (2880 MW) of NHPC Ltd to IRP division, CEA at the earliest for onwards submission to Ministry of Power. Further he also informed the forum that in this regard NERPC had already sent the mail to all NER states.

Members may note.

5.14 AMC of SCADA/EMS of NER States-AEGCL

It is to inform you that, the existing AMC of SCADA/EMS which was extended for 2 years under the scope of the contract is going to expire on 11.11.2024. The system is due for upgradation. As such, the DPR for upgradation has already been submitted to NERPC for onward submission to PSDF. However, before the upgraded system is put in place, the AMC of the existing system is going to expire. In view of the above M/S GE T&D Ind. Ltd. (the OEM of the existing system) was requested to submit an offer for further extension of AMC for another 2 years on 02.05.2024. M/S GE T&D Ind. Ltd. has reverted with techno-commercial offer on 09.07.2024. Following are the observations made on the offer:

1. The offered price is significantly high as compared to the existing AMC with the following exclusion from maintenance:
   a. Any Upgrade (hardware & Software)
   b. Signature and Patch updates for End of Support Products
   c. External Firewalls (Checkpoint)
   d. VC System
   e. TV Screen-55 Inch
   f. Printer
   g. Input/Output ACDB, UPS Battery and Battery Bank
   h. Any RTU and field equipment
   i. Any new bay/station integration shall be done at mutually agreed price

j. L-3 support for deep application issues and customization for eDNA
k. Any item not mentioned in above Scope of Work
l. 3rd Party audits, mitigations and support
m. SAN/NAS storage availability

For signature and patch update for the products which are not in their end of support is not specified. Inclusion of UPS along with DG has also not specified. Also, the license of the External firewall is going to expire in December, 2024 and End of Life for the same has been declared as December, 2025. Till the EOL the firewall shall be within the scope of AMC. After EOL the same may be upgraded by SLDCs on their own or by M/S GE T&D Ind. Ltd. as in the case of internal firewall.

2. In the existing AMC the scope (terms and condition) such as system availability, Manpower requirement, Service response requirements were broadly elaborated. The same is missing from the new offer.

   The offer having such escalate financial implication for AMC with significant reduction in the scope of work appears very difficult to accept.

   Hence, considering the above M/S GE T&D Ind. Ltd. has been requested to submit a revised offer on 24.07.2024. M/S GE T&D Ind. Ltd. has declined the request.

Also, other SLDCs of NER are nearing their 2-year extended AMC period. Looking at the above and to bring uniformity to the scope, financial implication, and terms and condition for extension of AMC beyond existing AMC, NERPC is requested to put up this matter in the forthcoming 29th NETeST meeting for discussion.

As per the deliberation of 26th TCC/NERPC Meeting, a special meeting was held on 14.10.2024 in VC mode among NERPC, NERLDC, GE and all NER states to deliberate on the issue of AMC of SCADA/EMS.

Members may discuss.

5.15 Implementation of revised load shedding quantum for UFR by states- NERLDC(Grid-India)

UFR load shedding for NER states for the FY 2024-25

State	Stg I (MW)	Stg II (MW)	Stg III (MW)	Stg IV (MW)
Ar. Pradesh	8.659594937	10.39151392	12.12343291	12.12343291
Assam	112.3419494	134.8103392	157.2787291	157.2787291
Manipur	11.54612658	13.8553519	16.16457722	16.16457722
Meghalaya	18.85556962	22.62668354	26.39779747	26.39779747
Mizoram	7.542227848	9.050673418	10.55911899	10.55911899
Nagaland	8.100911392	9.721093671	11.34127595	11.34127595
Tripura	16.85362025	20.2243443	23.59506835	23.59506835
Total	**183.9**	**220.68**	**257.46**	**257.46**

In 218th OCC meeting, Forum has requested all the States to implement the revised load shedding quantum by end of Sep-2024.

Members may deliberate.

5.16 Ensuring Harmonic Content in the All-India Electricity Grid within Safe Limits and Statutory Provisions- NERLDC(Grid-India)

This is to bring to your notice that apart from voltage and frequency, uncontrolled harmonics can cause damage to the equipment/protective system mis-operations. Director SO, Grid-India, has issued a letter regarding the importance of maintaining harmonic content within the safe statutory limits as prescribed by the Central Electricity Authority (CEA) Standards and Central Electricity Regulatory Commission (CERC) Regulations (**Annexure-5.16**).

Subsequently, the matter was discussed 216th OCCM (agenda C.12) and till date no reports have been received.

Therefore, it is once again requested to all the utilities to share the harmonic measurement test report from your respective sub-station with Grid-India and the Central Transmission Utility of India (CTUIL).

If these tests have not yet been conducted, please ensure that they are carried out at the earliest convenience and subsequently share a copy of the report with NERLDC and CTUIL.

Members may deliberate.

5.17 Nomination for co-signatory for "NERPC Establishment Fund"/ "NERPC Board Fund"-NERPC

Presently two officers (Assistant Secretary & DDO) from NERPC Secretariat are nominated by Member Secretary, NERPC as signatories of NERPC Establishment Fund/ NERPC Board Fund. It is proposed to modify the signatory requirements for withdrawals from 'NERPC Establishment Fund'/ 'NERPC Board Fund'. There shall be 3 signatories for the fund, 1 officer nominated among the NER Constituents and 2 officers from NERPC Secretariat as nominated by Member Secretary, NERPC. To execute transactions above 1 lakh INR shall require signature of any two signatories. In this regard, CC Forum is requested to nominate an officer among the NER Constituents for the same.

In the 51st CC meeting NERPC has proposed a modification to the signatory requirements for withdrawals from the 'NERPC Establishment Fund' and 'NERPC Board Fund.' Currently, two officers from the NERPC Secretariat are nominated as signatories.

The proposal suggests adding a third signatory, among the NER Constituents for the transactions above 1 lakh INR. After detailed deliberations, it was decided to nominate an officer from Meghalaya (MeECL) for the same.

In 26th TCC and NERPC meeting, the forum approved the above recommendation.

Subsequently MePDCL vide letter dated 03.09.2024 nominated Shri K. Sohtun, AO(Cash & Bank), MeECL as one of the co-signatories in connection with "NERPC Establishment Fund/ NERPC Board Fund'.

Members may note.

5.18 Consultancy Services for management of NERPC Funds -NERPC

Presently, NERPC Secretariat has been maintaining its own fund. The officers deployed at the secretariat by CEA are from engineering background with technical domain knowledge. And hence lacks specialization on finance / accounting.

A need has been felt to procure consultancy services with specialization on finance and accounting for management of NERPC Funds. Expenditure for the said services shall be borne from NERPC Secretariat Establishment Fund.

In 26th TCC and NERPC Meeting, the forum approved procurement of consultancy services with specialization on finance and accounting for management of NERPC Funds.

Subsequently, a work order vide dated 26.09.2024 has been placed with M/s GAPP & Associates Chartered Accountants. The contract shall be in effect for 01 year (01-10-2024 to 30-09-2025)

This is for intimation/approval of TCC.

5.19 Energy transaction of Assam with Arunachal Pradesh and Nagaland and its commercial settlement with respect to Office Memorandum of Ministry of Power, Govt. of India dated 15th June, 2023-Assam

This is to inform the forum that Assam has commenced supplying power to three connection points of WBSEDCL (West Bengal State Electricity Distribution Company Limited), namely:

i) Purbo-Falimari and Chhat Falimari areas

ii) Chit Bara Laukuti in the Nadir Char area

iii) Jhawkuthi in Cooch Behar, West Bengal

This supply is being carried out in accordance with the guidelines outlined in the Ministry of Power, Government of India's notification "Protocol for providing Electricity to Border Areas of one State from the Grid of a Neighbouring State" as per Office Memorandum F. No. 43/4(9)/2121-DS-II-(E259171), dated 15th June 2023.

For the Jhawkuthi connection point, a Power Purchase Agreement (PPA) has been in place since 17th January 2017, with billing previously done according to APDCL's tariff. However, as per the updated protocol, billing will now be based on the Average Cost of Supply (ACoS), and this method will be implemented for all three connection points going forward. Both WBSEDCL and APDCL have mutually agreed to comply with the protocol issued by the Ministry of Power on 15th June 2023, and accordingly, a new PPA was signed on 25th September 2024 to formalize this arrangement.

Given that this is an interstate matter, it is being brought to the attention of the forum for awareness and record.

In a similar context, it is important to note that Assam and Arunachal Pradesh also have interstate power connections. To prevent financial losses in the Deviation Settlement Mechanism (DSM), both states should adopt the same protocol. This would ensure a consistent approach to electricity supply and billing, avoiding any disputes related to energy settlements between neighbouring states.

In 53rd CCM, APDCL representative requested forum that to expedite the MoP Protocol for providing Electricity to Border areas of one State from Grid of Neighboring State as decided in the 51st CCM of NERPC that it will be implemented from January 2025.He further apprised the forum that for the implementation of MoP protocol there will be need of some documentation process such as SOPs, new PPA etc. He further informed the forum that in order to complete these formalities, it requires around 2-3 months. Therefore, he requested forum to allow APDCL to expedite the formalities so that it can be implemented by the Jan'25.

In this regard CE(Comml.), DoP Arunachal Pradesh appreciated the forum for considering their request to implement the Ministry Protocol from Jan'25 onwards. He further requested APDCL to send the all-sample documents that they had signed with WBSEDCL at earliest for the ref. of Arunachal Pradesh to expedite the process so that it can be implemented by the Jan'25.

After detailed deliberation forum noted that the APDCL and DoP, Arunachal Pradesh will complete all the documentation formalities bilaterally at earliest so that MoP Protocol for providing Electricity to Border areas of one State from Grid of Neighboring State can be implemented by the Jan'25.

This is for intimation.

6. PART E: ITEMS IRECOMMENDED FOR REFERRAL TO SUB-COMMITTEE

6.1. Telemetry issues due to nonfunctional 48V DC Chargers installed under NERPSIP- MePTCL

The 48V DC Chargers installed by PGCIL at NEHU, Mawlai, Nongstoin, Nangalbibra and Rongkhon Sub stations as part of the NERPSIP project are non functional. PGCIL has not responded to the concerns on this issue which were highlighted way back since August 2023. It may be noted that all the telemetry information from all the substations after 132kV Nongstoin are being routed via the 132kV Nongstoin NERPSIP HITACHI SDH. However the power supply to this SDH is being fed from the existing old 48V DC Charger which goes down every now and then especially during off peak hours due to high system voltage wherein the charger disconnects its AC inputs. Due to this reason, the telemetry availability of these substations comes down to 40% as per NERLDC Telemetry Availability Report. NERLDC has filed petitions with the CERC against NER states wherever the availability is less than 40%. MePTCL may also have to suffer the same due to no reason of its own. It is requested that NERPC instruct PGCIL to attend to these issues immediately.

Additionally, no DI cards were installed at Ampati Sub station against the two 132kV bays at Phulbari. The details of the NMS, test report of the OPGW and even nos of junction boxes installed were also not submitted by PGCIL to MePTCL thereby rendering maintenance or restoration work impossible. From the communication point of view, NERPC may instruct PGCIL to ensure that these issues are attended to immediately.

Members may discuss.

6.2. Technical Assistance for maintenance of GIS Substations constructed under NERPSIP-MePTCL

PGCIL has constructed two GIS 220/132/33kV substations in Meghalaya at Mawphlang and New Shillong, Saisiej under NERPSIP. The substations will soon be taken over by MePTCL after rectification of some issues by PGCIL. Since the project was carried out by PGCIL it is felt that PGCIL should lend technical assistance to MePTCL after the expiry of the defect liability period to ensure continuous support from the OEMs and for trouble shooting.

Members may discuss.

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Annexure-1.3

Action taken report by NERPC Secretariat on decisions taken in 26th TCC/NERPC Meetings				
Sl No	ISSUES	TCC/NERPC MEETING	MEETING DELIBERATION	Action taken/to be taken
1	Upgradation Activities of SCADA-EMS systems at Regional/State level in North-Eastern Region	26th TCC/NERPC	During the meeting, it was agreed by all the states that both the Part A and Part B of the DPRs will be submitted by the respective states to PSDF Secretariat via NERPC at the earliest.	DPR sent to PSDF Secretariat on 12.08.2024
2	Resolutions regarding anction of Critical Projects under PSDF for the NE Region, Reinstatement of Funding for Small Hydro Projects in North Eastern Region under MNRE's SHP Scheme & Financial Support for Critical Intra-State Transmission System Projects in the NE Region	26th TCC/NERPC	TCC has recommended to place the matter before RPC to adopt a resolution for consideration of the project under PSDF as a special dispensation.	All resoulations sent on 22.07.2024
3	Nomination for co-signatory for "NERPC Establishment Fund"/"NERPC Board Fund"-	26th TCC/NERPC	NERPC noted and approved the recommendation	Letter sent on 16.08.2024 to MeECL and nominations was received vide letter dated 03.09.2024
4	AMC of PDMS and PSCT	26th TCC/NERPC	After detailed deliberations the forum decided that RPC Secretariat will review the cost of AMC with vendor. NERPC secretariat has taken the matter with the vendor, meanwhile TCC is requested to approve the tentative cost quoted by the vendor.	Revised estimtate has been submitted by the vendor. The same has been agreed upon by PSDF Secretraiat
5	Rooftop Solar in NERPC Secretariat	26th TCC/NERPC	NERPC noted and approved the recommendation of TCC	NVVN vide mail dated 27.08.2024 informed that installation of rooftop solar at NERPC building is not feasible and the same has been communicated to CEA
6	Consultancy Services for management of NERPC Funds	26th TCC/NERPC	NERPC noted and approved the recommendation of TCC	W.O placed vide order dated 26.09.2024
7	Permanent protection for tower no. 152 at Silchar-Byrnihat section of 400 kV Palatana to Bongaigaon Transmission Line by using SDA bar anchored with gabion box, 3D mat & wire rope system	26th TCC/NERPC	TCC opined to form a sub-group including representatives from NERLDC, Powergrid, NERPC, Meghalaya, and Assam. The sub-group will visit the site and submit their report to NERPC Secretariat at the earliest. TCC recommended in-principle approval for the proposal, subject to verification of the committee's report by NERPC Secretariat.	Final final report has been submitted on 18.09.2024

8	Contribution of Non-Regular Members of NERPC	26th TCC/NERPC	NERPC noted and approved the recommendation of TCC	Letter sent on 16.08.2024
9	Less gas supply by ONGC & GAIL to state and ISGS Power Plant	26th TCC/NERPC	MS NERPC informed that the matter had already taken up with CEA. It was also opined that this issue would be highlighted during the meeting with the Hon'ble Power Minister on 9th July 2024 in Guwahati. NERPC noted as above.	Letter has been sent to Member (GO&D)
10	Integrated Resource Planning as per MoP Guidelines and IEGC 2023.As per Ministry of Power Guidelines for Resource Adequacy Planning framework published on 28th June 2023	26th TCC/NERPC	Member Secretary NERPC will take up matter with CEA for conduct of workshop for NER States.	Workshop on Integrated Resource Planning was conducted on 20-09-2024(Friday) at NERLDC conference hall, Guwahati from 11:00 Hrs
11	Nomination for Constituents of Regional Disaster Management Group (RDMG) for North Eastern Region	26th TCC/NERPC	Nominations from all the remaining constituents have been received.	The 1st RDMG Meeting was held on 7th October 2024 at 11:30 hrs via video conference mode. The meeting was chaired by Shri K.B. Jagtap, Member Secretary, NERPC, and attended by officials from the states of Assam, Mizoram, Meghalaya, Tripura, Nagaland, as well as representatives from NERPC, NERLDC, OTPC, and KMTL
12	Completion of Tower Loc # 213 of Pasighat-Roing Transmission Line and early normalization of the line	26th TCC/NERPC	MS NERPC stated that NERPC Secretariat will review the progress along with AP and Powergrid teams	Team had already visited and it was ensured by Powergrid that the work would be completed by September'24. To be followed up in OCC Agenda

Annexure - 2.1

Progress of SCADA/EMS upgradation in NER as on 10th October 2024

Sl. No.	Date	Description
1	17th March 2023	**74th TESG Meeting of PSDF:** DPRs for SCADA-EMS Upgradation Projects of NER-SLDCs rejected by Techno-Economic Sub-Group (TESG) stating that the SCADA Projects are not being funded through PSDF.
2	4th May 2023	Letter from Chairperson, NERPC & Minister-in-Charge (Power), Government of Arunachal Pradesh vide letter Ref. D.O.No.DCM(AP)/01/2023 was sent to the Hon'ble Union Ministry of Power and MNRE, for funding of the SCADA/EMS upgradation project for NER States through PSDF, considering the poor financial conditions of the NER States and to alleviate huge burden on NER State Utilities.
3	19th June 2023	**Appraisal Committee Meeting of PSDF:** Requested NER states for Revised-DPRs after finalizing "Technical Specs" and "BoQ"
4	17th Aug 2023	**21st Monitoring Committee Meeting of PSDF:** Agreed to extend funding of the ₹700 crores to upgrade the SCADA/EMS of Main SLDC and establish SCADA/EMS in backup SLDCs (ULDC-Phase III) for the seven NER-SLDCs. This also includes 100% funding, covering AMC for 7 years. The cost was projected as ₹700 crores based on the quotations received for the states of WR and SR regions for SCADA/EMS upgrades project. The exact budgetary estimate of NER could not be prepared as the Technical Specification and BoQ of NER states were under still discussion and finalization.
5	22nd Nov 2023	Technical Spec and BoQ **finalized** for each NER State and subsequently sent to the vendors for budgetary quotation.
6	9th Apr 2024	GRID-INDIA had sought budgetary quotations for Part A from five qualified vendors and response was received from two vendors, which are L&T and GE with estimate of ₹832.1 crores. The enhanced estimated amounts is due to several additional challenges in the Northeast Region (NER) which drive up project costs, such as higher transportation expenses, law and order issues, manpower deployment difficulties, and the region's hilly terrain.
7	5th July 2024	**26th TCC/NERPC Board Meeting held in Sonapur:** NER states appealed for funding the additional expenditures and also for constructions of backup SLDC. NERPC was accorded approval for the additional expenditures of ₹132.1 crores for Part A (Upgradation of SCADA/EMS) and ₹65 crores for Part B (Civil Works for construction of backup SLDC) and advised states to put the proposal to PSDF for necessary funding.
8	16th Aug 2024	Detailed Project Reports (DPRs) for Part A and Part B (Civil Works) submitted to PSDF for approval. Total amount for Part A and Part B is ₹832.1 crores and ₹65 crores respectively.

Note:

a) Part A consist of Cost of Equipment including Upgradation of Hardware, Software and associated systems & infrastructure for SCADA/EMS project at main as well as backup control centres and Part B consist of Civil Works for setting up of backup control centre of SCADA-EMS for the Load Despatch Centres of states in North Eastern Region (NER).

b) The extended AMC period for ULDC-Phase II of the SCADA-EMS Project ends on 11th Nov 2024 for SLDC-Assam and 31st Mar 2025 for SLDC-Meghalaya. NER states face financial difficulties in paying AMC charges, affecting service delivery by M/s GE T&D India Limited. Additionally, GE is quoting AMC rates three (3) times higher than before, worsening the financial strain.

c) The existing SCADA-EMS systems face cybersecurity risks from outdated devices, and aging servers can't support new operating systems due to hardware limitations.

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Minutes of meeting for VOIP Communication System for all regions held in virtual mode (MS-Teams) on 12th June 2024

The meeting for VOIP Communication System for all regions held in virtual mode (MS-Teams) on 12th June 2024.

The list of participants is attached at ***Annexure-I***.

Sr. GM (CTU) welcomed all the participants at the meeting and proceeded with the agenda items. CTUIL emphasised that as the existing VoIP system is under extended AMC till July 2025, so a new system has to be designed and planned by this time. Further CTUIL stated that as the proposed VoIP system shall be PAN India single package, the purpose of this meeting is to make all the functional requirement of the system uniformly in all the region. The agenda of the meeting is attached at ***Annexure-II.***

With reference to ***Annexure-II ;*** 6 . iv) GRID-INDIA requested for discussion on features technical specification etc before optimization of the Cost. CTUIL agreed for the same and discussed all the possible options of design during the meeting and stated that whatever is agreed by the participants in the meeting shall be taken up.

CTUIL shared a presentation (attached at ***Annexure-III***) and explained the present and proposed VOIP architecture. The proposed VOIP architecture is a server-based system with 4 level of redundancy through hierarchical control centre servers for each user including RLDC subscribers. The broad aspects and basic features of the proposed VOIP system were explained in detail by CTUIL. Tentative BoQ & Cost of the proposed VOIP system for all regions was presented with three different options in view of cost optimisation.

NRLDC (GRID-INDIA)/ TSTRANSCO enquired about the number of licenses required for each subscriber to achieve 4 level of redundancy in the proposed VOIP system. CTUIL replied that only a single license will be sufficient for each subscriber, regardless of the number of servers they register with, as the proposed VOIP system achieves four levels of redundancy through software configuration and IP mapping and only the capacity of servers shall be enhanced to cater the requirement rather than requiring multiple licenses. Further, GRID-INDIA inquired about the necessity of a hierarchical control centre with multiple levels of redundancy for servers instead of within the utility control centres wise redundancy in line with other ULDC schemes like SCADA, WAMS systems. Further, each Main or Backup Control Centre shall have redundant server (HA Mode) for each function (communication, voice server and NMS etc..). GRID-INDIA also requested for Voice recording System redundancy at each control centre at both application and Hardware level . AEGCL stated that in case of failure of STUs VoIP server the switches (to be procured under VoIP project and connected to VoIP server) which will be connected to STUs FOTE and ISTS FOTE, the VoIP traffic from state GSS will be routed to RLDC VoIP server and accordingly redundancy of VoIP services will be maintained. AEGCL further emphasized that with such design aspect redundant STU VoIP server may not be required . CTUIL replied that this VOIP system is operational PAN India and is instrumental in managing the regional and national grids through voice commands exchanged among various control centres. This calls for a high redundancy especially for the remote stations under central and state sector. Hence 4 level redundancy for all remote subscribers is

very much required. However, CTUIL stated that it was already decided in previous meetings with all constituent of all regions.

SRLDC (GRID-INDIA) enquired about whether the multiple level of redundancy planned is for Voice Recording Failure / application-level failure or supply failure or communication channel failure etc. at SLDC and its routing to the next level i.e RLDC. CTU explained that at SLDC level both hardware and channel level redundancy for STUs subscribers is considered but at RLDC level only hardware level redundancy for these subscribers is envisaged. In the similar fashion central sector and local subscribers of RLDC have both hardware and channel level redundancy but at NLDC level only hardware level redundancy is considered. .

TSTRANSCO further enquired about the voice recording backup of STUs at RLDC level. CTUIL replied that voice recording is limited to state level only as STUs/SLDC have already stated in the various meetings of all regions that there voice recording backup should not be kept at RLDC/other utility.

TANTRANSCO enquired about the number of servers whether single server will be used for communication, voice and NMS functions or separate for all functions. CTUIL replied that a set consisting of 3 separate servers shall be used at each control centre. This was discussed and agreed in various meetings of all regions. TANTRANSCO further asked that whether exchanges will be required along with servers in the proposed VOIP system. CTUIL replied that exchanges are not required in the proposed VOIP system. TANTRANSCO asked whether any special feature are required in VOIP phones to connect with RLDC. CTUIL replied that no extra feature is required in VOIP phones to connect with RLDC. TANTRANSCO asked that whether VOIP phones in the upcoming Scheme can connect with the existing exchange of STUs. CTUIL replied that they have discussed the same with the OEMs and it was clarified that once the existing exchange gets integrated with proposed VoIP system, all subscribers of existing exchange shall also be registered in upcoming system. So the existing subscribers can be connected in this manner. TANTRANSCO asked that whether UPS are considered with servers. CTUIL replied that UPS are not considered in the scope of the upcoming VOIP scheme. TANTRANSCO informed that they will revise their inputs and provide to CTUIL. SRLDC (GRID-INDIA) requested to explore the architecture/solution of other OEMs also for better participation and competition. CTUIL stated that proposed solution is complied by many OEMs and the cost of other prospective vendors is also expected soon and shall be taken into consideration in final proposal at RPC.

WRLDC (GRID-INDIA) enquired about the connectivity of VOIP phone with both (Main & Backup Control centre) and also informed that RLDC shall be operating as Main I and II Control Centre philosophy with Active-Active Mode and remote subscriber call shall be routed to acting Main control Centre by VOIP system itself based on the designated as acting Main Control Centre. This feature shall be incorporated in the detailed feature by the implementing agency. CTUIL replied that there are two different cards in the FOTE, one reports to main control centre and other reports to Backup Control Centre or Main II Control Centre. Through a switch VOIP phone is connected to the two different ports in the FOTE which are reporting to both main and backup control centre. Two different channels will be in active- active mode. WRLDC (GRID-INDIA) asked whether routers are considered in the scope of this scheme. CTUIL replied that routers are not required as present communication system is TDM based. Further CTUIL clarified that the L3 switches being used which shall work like routers.

WRLDC (GRID-INDIA) also enquired whether cyber security audit is considered in the scope of AMC. CTUIL replied that revised cost estimate with cyber security audit cost will be shared. WRLDC (GRID-INDIA) also requested to make VLANs for different channels for seamless operation. CTUIL replied that these aspects shall be covered under detailed engineering while implementation.

GRID-INDIA emphasized that managing a large network in a flat manner (Layer 2) would be extremely challenging for troubleshooting network issues, particularly network loops, which are common due to the involvement of multiple stakeholders across thousands of sites. This is because the network has a massive broadcast domain, this issue is also observed in the existing VOIP system which is designed back in the year 2013. To mitigate this, routers/firewalls at the SLDCs/RLDCs and NLDCs levels should be implemented with Access Control Limits for each utility Electronic Security Boundary (ESB) in line with the CEA Cyber Security Guidelines 2021GRID-INDIAFurther, the network should be segmented using VLANs with proper subnetting to prevent lateral movement and ensure need basis logical reachability among sites and control centres. GRID-INDIA has also informed that this suggestion is given to CTUIL from SRLDC as part of comments in format shared by CTUIL for sizing of the Exchange.. CTUIL stated that the detailed specifications shall be prepared by the implementing agency in consultation with stakeholders and shall be in accordance with the CEA cyber security guidelines 2021.

NERLDC (GRID-INDIA) requested to include various aspects for AMC period such as Patch Management of Servers, Firewalls, Switches and other devices of the system. Moreover, it is requested that responsibility of complying with cyber security guidelines and advisories during the maintenance phase should be of the implementing agency the system and it should in scope of AMC. GRID-INDIA suggested to include the scope work for AMC in line with the other ULDC Schemes like SCADA/EMS upgradation. CTUIL clarified that such aspects shall be covered in the bidding documents prepared by the implementing agency in consultation with stakeholders.

GRID-INDIA also requested for Provision (Optional Rate) of integration of all VOIP /phones etc with 3rd Party Voice Recording System during contract period . CTUIL stated that such feature is not envisaged in the present scope because any integration with 3rd party equipment /system may lead to cyber threats.

ERLDC (GRID-INDIA) enquired whether voice recording shall be stored at hot standby redundant the servers at each control centre. CTUIL replied that recording will be stored in the server through which call is connected and both main and backup servers will get synchronised periodically. CTUIL also clarified that if both main and backup servers at SLDC are down even then also, remote subscribers can connect with RLDC level server, but voice recording shall be restricted to SLDC servers due to administrative reasons. ERLDC (GRID-INDIA) also asked that NMS server that will be used here is for VOIP or complete communication system. CTUIL replied that NMS server proposed here is solely for proposed VOIP system.

ERLDC (GRID-INDIA) suggested that two number of VoIP phones along with two POE switches can be considered at remote subscriber end for better redundancy. CTUIL replied that such arrangement is not available with switching of 2 phones along-with POE switches. If

multi-port single POE switch is used for switching of the two phones may result in single point failure of the combined switch, hence the same will not result in better design. ERLDC (GRID-INDIA) requested to include the complete cabling at control centres in the scope of the scheme. CTUIL replied that local cabling at control centre level is included in the scope.

ERLDC /POWERGRID requested to include remote site installation also in the scope of this scheme. CTUIL stated that it will increase the cost further so if all constituents agree, this can be included. WRLDC & NRLDC (GRID-INDIA) informed that remote installation may not be included in the scope of this scheme but POWERGRID,ERLDC & NERLDC were of view that remote installation should be included. CTUIL stated that after taking cost of remote installation from OEMs, revised tentative cost estimate will be shared with the MoM. NERLDC MePTCL/ERLDC also requested to consider cordless VOIP phones for their remote generation plants. CTUIL replied that they have explored this aspect with various OEMs/suppliers. The OEMs suggested that a local tower will be required connecting the wireless users. This is not a feasible solution for the stations and involves high cost as compared to the normal cordless phones. In view of this this aspect is not advisable to be adopted with the said scheme.

Maha TRANSCO raised query that they do not have separate media from all substations which can provide redundant path upto SLDC. CTUIL suggested Maha TRANSCO to take up this as a separate agenda in the TeST meeting of the region. Maha TRANSCO further asked that whether existing Alcatel phones will be utilised in the upcoming scheme. CTUIL replied that existing Alcatel phones are proprietary in nature so they may not be used in the upcoming VOIP scheme. Maha TRANSCO asked about the configuration of despatcher console. CTUIL replied that configuration of despatcher console shall be taken care at the time of detailed engineering.

NLDC asked regarding the provision of international exchange for cross border links. CTUIL replied that a separate server set (with Voice, NMS and recording) with desired capacity shall be considered for the NLDC/Backup NLDC and RLDCs shall be Remote Subscribers for cross border voice communications. Tentative Cost of international exchange along with phones shall be included in the cost estimate shared with the MoM.

HVPNL also raised query regarding integration of their exchange. CTU replied that in case of integration, only servers are required at control centres as suggested by the OEMs, and the cost for integration of existing exchange will be added in the cost estimate shared with the MoM. HVPNL also asked the basis of cost estimate. CTUIL replied that the tentative cost is based on the budgetary quotes received from prospective OEMs/supplier.

MePTCL raised query regarding redundancy of fibre paths for FXS & FXO i.e. 2W phones.. CTUIL asked MePTCL to take up separate agenda in this regard in the TeST meeting.

AEGCL asked that if both switch and FOTE fails at a node then how it will route to SLDC, CTUIL explained that if both the switch and FOTE fails than it will not route to SLDC/RLDC.

POWERGRID asked whether POE switch and DC-AC converter are required for remote as well as local subscribers. CTUIL replied that POE switch and DC-AC converter are required only for remote sites and for remote sites installation, remote support shall be provided by OEM/vendor for installation purpose. AEGCL also informed that the switches required at both GSS

end and SLDC/RLDC end may be considered with dual source DC supply POWERGRID also suggested to take DC (48V) operated POE switch with 2 sources of supply instead of DC-AC converter. CTUIL replied that after taking cost of such DC operated POE switch, revised tentative cost estimate shall be shared with the MoM.

NERLDC (GRID-INDIA) requested that the inclusion of various minor components such as Rack for PoE Switches, MCB for DC connections etc., should also be considered in the project. CTUIL responded that the same will be done during detailed engineering by implementing agency.

NERLDC (GRID-INDIA) requested that PoE switch with AC Supply should be provided at SLDCs, RLDCs and NLDCs also for powering up the IP based local subscriber of LDCs, as connecting the individual phones with power adapter will not be feasible at all the desks. SRLDC (GRID-INDIA) also seconded the fact that PoE with AC Supply switch is very much required for LDCs. CTUIL clarified that covering of this feature shall be costlier than providing the adapters for the phones at these control centres which are already equipped with UPS/ battery banks/ DG Set hence it is not recommended. Further at the time of deliberation of final technical specification with the stakeholders by implementing agency same shall be taken care in agreement with all stakeholders.

KSEB enquired that two phones can be considered if one phone is engaged, call can be made on the other phone. CTUIL stated that overriding facility is considered in the upcoming VOIP system.

APTRANSCO enquired regarding sharing of cost for the server required for the integration of existing exchange and how the cost will be shared among various utilities. CTUIL informed that project shall be under Regulated Tariff Mode (RTM) and cost will be shared as per CERC sharing of ISTS charges regulation 2020.

MS,SRPC suggested that tentative cost breakup of phones at STU locations may be worked out and during RPC agenda same shall be presented accordingly. CTUIL agreed for the same and shall provide the Central sector (CS) and State sector (SS) cost and the cost shall be borne by the constituent as per the CERC Regulation.

Following was concluded in the meeting:

1. Draft Technical Specifications shall be prepared by implementing agency in which the scheme details along with BoQ shall be shared with all stakeholders before finalization..
2. Provision of separate international exchange server with phones to be considered.
3. Remote location cabling and installation shall be included in the scope
4. Cordless VOIP phones for ER/NER is not advisable with said scheme..
5. POE switch with dual DC input source shall be considered as per site condition and DC-AC converters shall be deleted.
6. Cyber security audit cost of VoIP system shall be considered.
7. Central Sector (CS) and State Sector (SS) wise cost breakup shall be shared.
8. Proposed System shall comply with the CEA Cyber Security Guidelines 2021.

Revised Cost estimate is prepared after incorporating inputs received from the utilities and is attached at **Annexure-IV**

Meeting ended with vote of thanks.

Annexure -I

List of Participants

Sr.No	Name	Desigination	Organisaation	Mobile no.	Email-Id
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28	L Sharath chand		SRLDC		
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51	Arup Sarmah		AEGCL		
52	K.Sridhar	Executive Engineer	APTRANSCO		
53	Representative from BBMB	Xen	BBMB		
54	Pongmei		SLDC Nagaland		
55	Representative from SLDC Panipat	Xen	SLDC Panipat		
56	N.K Patel	SE	GETCo		
57	Representative from SLDC Chattisgarh		SLDC Chattisgarh		
58	Niranjan Dalal		MahaTRANSCO		

Annexure-II

Agenda for combined meeting

VOIP System (Hotline speech communication)

1. Hot Line Speech Communication System (VOIP based Exchange system) was implemented in 2016 by POWERGRID in all the five regions for faster communication due to unavailability of dedicated **PAN India** speech communication between NLDC, RLDCs, SLDCs, important state and ISTS substations/generators. The said PABX was implemented by M/s Orange through Alcatel Lucent as OEM.

2. In the 67th NRPC meeting, POWERGRID representative stated that the scheme executed by M/s ORANGE was with a provision of AMC of 7 years as part of the contract and the same is expiring in July' 2023 for most of the sites.

3. AMC of the same was extended and approved in the 67th NRPC for further 2 years upto July'25. After July'25 there is no support shall be extended by Alcatel (OEM).

4. In 67th NRPC Meeting, MS, NRPC advised CTU to plan upgradation/ new system in view of expiry of AMC of existing VOIP System in July'25.

5. As life of existing system is 15 years as per CERC tariff petition, POWERGRID shall file petition to CERC for revised depreciation, after which new project shall be awarded.

6. CTU has discussed the requirement with various VOIP system suppliers and proposed VOIP System Architecture is attached at **Annexure-I**.

   Salient features of proposed VOIP system are given below as below:

   i. Server based architecture:
      Multiple level (4) of redundancy as compared to no redundancy in existing system.
   ii. SLDC & RLDC servers has Local (Central Sector phones) and Remote (Substation, generators) Phone support. However, at NLDC only local phone support will be there.
   iii. Power over ethernet switches proposed for all VOIP pone at stations for redundancy and powering the phones. In place of POC injectors, Switches with POE output are considered (additional DC to AC convertor will be required as switches operates at AC voltage)

   iv. For cost optimization single servers are proposed for Voice, NMS & Call Recording.

   v. There are no duplication of licenses for backup servers.

vi. Server size and software has been considered by taking future requirement of phones.

vii. Support for integration of future exchange of other utilities considered (their control centres).
viii. NMS for adding/ deleting users shall be provided at RLDC/ SLDC levels
ix. Operator console shall be provided to manage calls at RLDC/SLDC
x. Call recording features shall be provided at RLDC & SLDC level
xi. VOIP, Digital, Analog, Four Wire E&M (at PLCC locations) phones are considered
xii. Video Phones at RLDC/ SLDC for Senior officials
xiii. Sufficient numbers of licenses to cater future RE/ ISTS/ ISGS/ IPP and STU substations locations. The licenses for present and future requirement of the phones are considered under the scope of project, however phones for present requirement only shall be procured.
xiv. Firewall at control centres is considered
xv. Exchanges are not required at STUs where STUs have their own existing exchange, only integration shall be required which can be done through SIP/PRI lines
xvi. One Exchange for international connection at NLDC main and Backup of NLDC (25 lines) to be decided.
xvii. 1 year of warranty with 6 year of AMC which can be extendable up to 3 years
xviii. VOIP phones are to be installed at Control Centre Level, at Stations levels phones/ gateways to be handed over to utilities and remote support shall be provided.
xix. Cat-6 cable of 100 meter has been considered for remote locations.

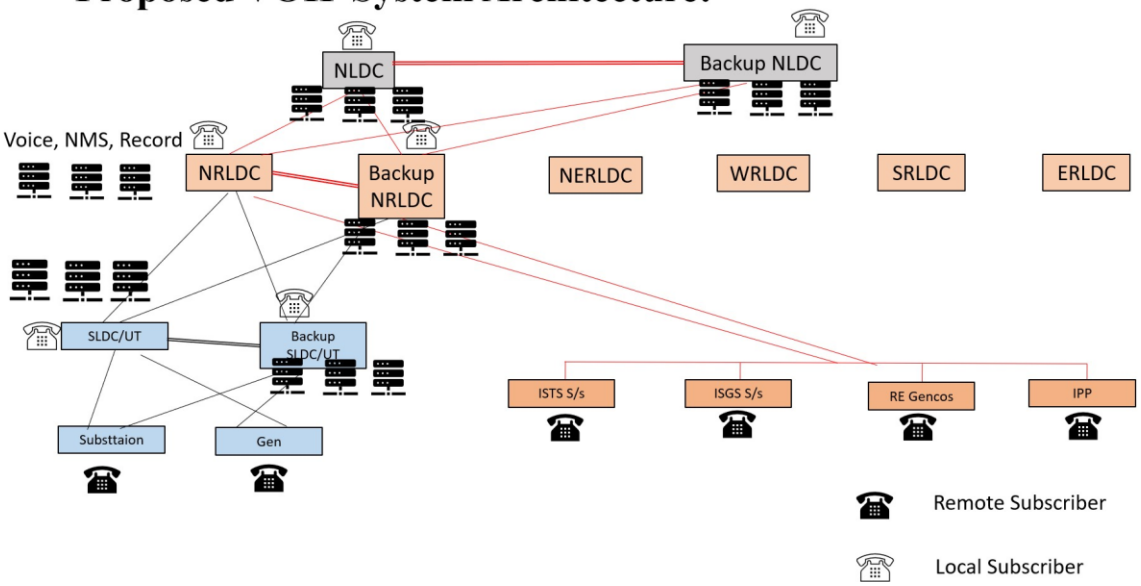
7. In this regard inputs were received from the utilities in the various meetings of CPM/ TeST of all five regions. For the utilities those have provided inputs we have considered the same in the cost estimate purpose. For the utilities where inputs are not available the present exchange license sizes have been considered for the cost estimate purpose.
8. Tentative cost estimate based on the budgetary quotation from prospective suppliers has been obtained and shall be presented during the meeting.
9. It is proposed that being a Nation wise project, the total cost of five regions including NLDC shall be put up in all five regions RPCs/NPC thereafter, getting views of RPCs scheme shall be put in the NCT for approval.

Tentative Region wise Cost estimates:

S. No.	**Region**	**Tentative Cost (in Cr.)**
1	NR	27.61
2	SR	24.71
3	WR	21.61
4	ER	16.69
5	NER	17.71
6	NLDC	2.63
Grand Total		**110.96**

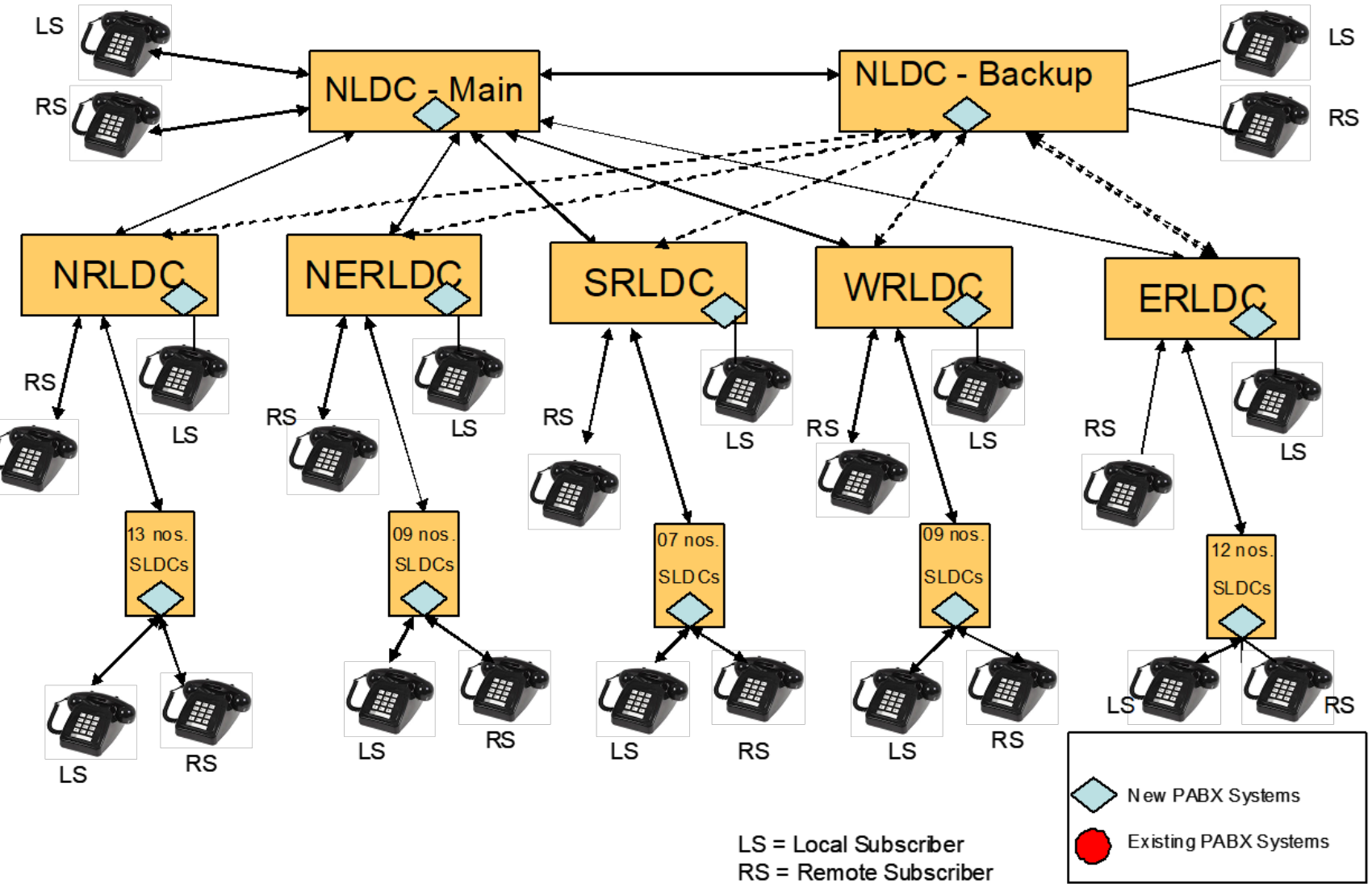
Annexure-I

Proposed VOIP System Architecture:



Annexure-III

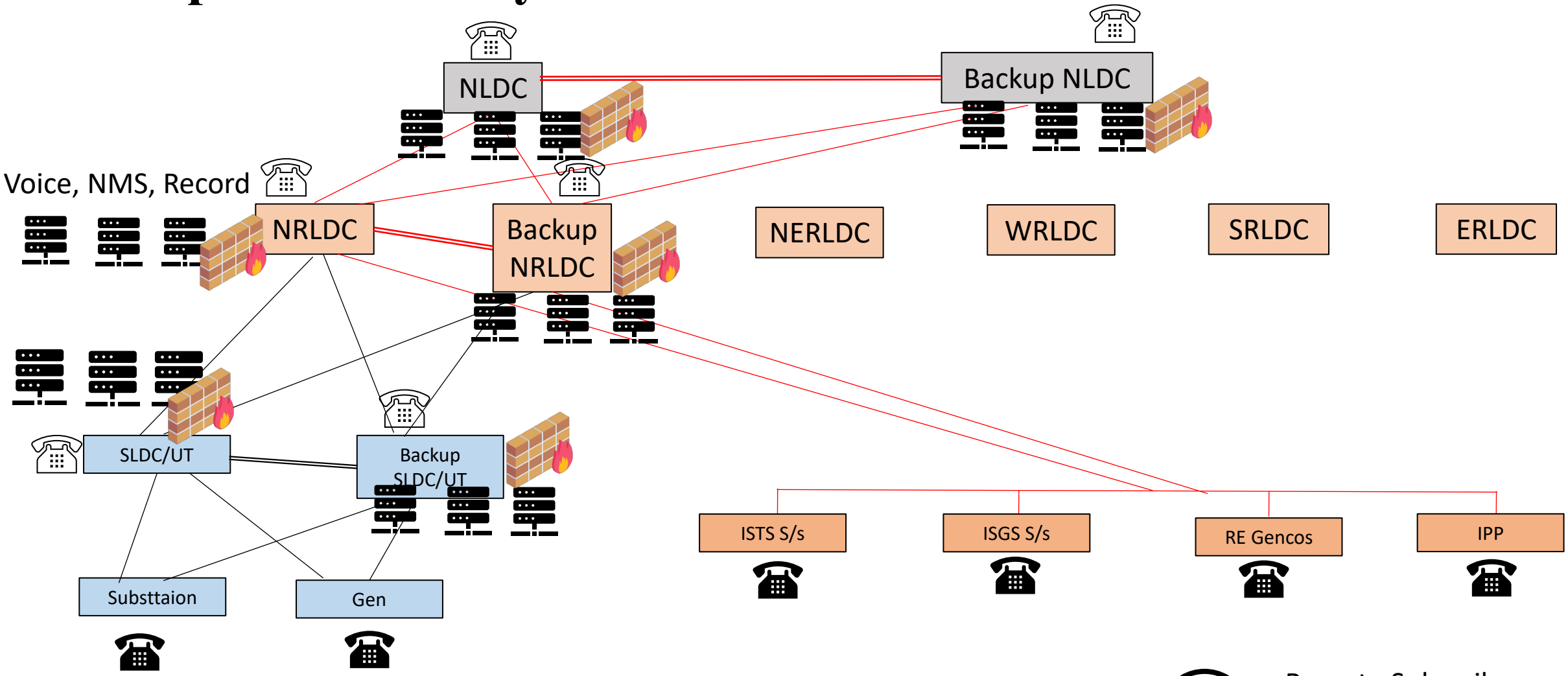
Combined CPM VOIP Communication System 12.06.2024



Present Hotline PABX Architecture

Proposed VoIP System Architecture

Proposed VOIP System Architecture:



Design Aspects

Each control center (Main & Backup) has 3 Servers

Voice NMS Recording

The main and its backup servers of the control centres (SLDC, RLDC & NLDC) shall be placed respectively at their physical locations.

Each Remote Subscriber of STU/UT shall be registered at four voice servers i.e. remote subscriber of SLDC will be registered at main SLDC, backup SLDC, Main RLDC and Backup RLDC in view of redundancy.

Call recording servers shall be provided at all main and backup control centres and will be sync through network periodically.

Configuration and management servers (NMS server) shall be provided at both main and backup SLDC, RLDC, NLDC individually.

Design Aspects

- The redundancy of subscriber channels between SLDC and RLDC shall be met by two discrete wide channels (similar to ICCP channel) containing the data of all SLDC subscribers. Similar is the case with backup SLDC and RLDC.
- The voice recording of subscribers of each utility shall be limited to that utility control centres only.
- In case communication link failed between subscriber to main SLDC server, subscriber will be switched automatically to the already active backup server and if both main and backup SLDC servers failed, subscriber will be connected with the already active Main RLDC server.
- Hardware level redundancy of SLDC servers has been considered at RLDC level.
- In case of central sector subscribers, similar redundancy has been planned for RLDC and NLDC level.

Design Aspects – Contd.

- VOIP as well as anolog both phones are considered at SLDC, RLDC, NLDC locations.
- Provision of Video phones for higher officials
- POE based switched at remote site for power supply to IP phones
- DC-AC converter for remote sites.
- Trunk/SIP lines integration is considered for outside network calls on mobile or another landline and the cost towards this shall be billed and settled by the respective utility.
- (4 wire E&M) phones are also planned through PLCC integration for few locations at SLDC level
- Integration with proposed Exchanges is kept at RLDC/ SLDC
- For Cyber Security Firewall are considered at each (main and backup) Control Centre
- Sizing of servers has been done as per the no. of subscribers at each control centres
- Cat-6 cable (100m) has been considered at each remote locations for VOIP phone/Gateway connection with FOTE

Features in Proposed VOIP system

- All Control Centres (NLDC, RLDCs and SLDCs) shall be provided with dispatcher console with advanced features such as touch screen dialing, directory sorting, user friendly display etc. The directory display in touch screen shall be configurable.
- A flexible closed numbering scheme shall be developed. The numbering scheme adopted shall take into account future network expansion so that introduction of new exchanges and subscribers shall require configuration of only those exchanges directly involved in the expansion.
- The proposed VOIP system is a PAN India system where any user can call to any user in Nation Wide.
- It will be possible to intrude on and/or disconnect ongoing calls of lower priority if free trunks are not available or if the called subscriber is engaged.
- Seamless network wherein existing multi-vendor Exchange/VOIP system of utilities are networked together.
- The equipment shall have flexibility to add/delete/modify Service Features and other facilities without requiring extensive modification and service discontinuity.

SIP based open sources VOIP phones can be integrated

Cost & BoQ of Proposed VOIP System for all regions (Option-1)

Region	Server Set		Phone (No.)		POE Switch	DC-AC Converter	Cat 6 cable (100m set)	NGFW (No.)	Grand Total (with AMC) (in Crs.)
	Main	Backup	VOIP	Analog Phone (including gateway)					
NR	10	10	2479	951	2368	2368	2368	20	**₹ 27.61**
SR	7	7	2875	252	2517	2517	2517	14	**₹ 24.02**
WR	8	6	2192	1044	2092	2092	2092	14	**₹ 21.62**
ER	7	7	1079	1059	942	942	942	14	**₹ 15.96**
NER	8	8	1424	619	1311	1311	1311	16	**₹ 19.19**
NLDC	1	1	42	400				2	**₹ 2.63**

Grand Total **₹ 110.62**

Cost & BoQ of Proposed VOIP System for all regions (Option-2)

Region	Server Set		Phone (No.)		POE Switch	DC-AC Converter	Cat 6 cable (100m set)	Remote VOIP Phone with POE injector	NGFW (No.)	Grand Total (with AMC) (in Crs.)
	Main	Backup	VOIP	Analog Phone (including gateway)						
NR	10	10	2479	951	0	0	4736	4736	20	₹ 18.65
SR	7	7	2875	252	0	0	5034	5034	14	₹ 15.23
WR	8	6	2192	1044	0	0	4184	4184	14	₹ 13.53
ER	7	7	1079	1059	0	0	1884	1884	14	₹ 12.41
NER	8	8	1424	619	0	0	2622	2622	16	₹ 14.23
NLDC	1	1	42	400					2	₹ 2.63
									Grand Total	₹ 76.71

Cost & BoQ of Proposed VOIP System for all regions (Option-3)

Region	Server Set		Phone (No.)		POE Switch	DC-AC Converter	Cat 6 cable (100m set)	Remote VOIP Phone with POE injector	NGFW (No.)	Grand Total (with AMC) (in Crs.)
	Main	Backup	VOIP	Analog Phone (including gateway)						
NR	10	10	2479	951	0	0	4736	4736	0	₹ 15.80
SR	7	7	2875	252	0	0	5034	5034	0	₹ 13.10
WR	8	6	2192	1044	0	0	4184	4184	0	₹ 11.54
ER	7	7	1079	1059	0	0	1884	1884	0	₹ 10.42
NER	8	8	1424	619	0	0	2622	2622	0	₹11.96
NLDC	1	1	42	400						₹ 2.35
									Grand Total	₹ 65.2

Thank you

Annexure-IV Revised Cost estimate

Tentative Cost & BoQ of Proposed VOIP System for All regions CS +SS(Option-1 revised)

Region	Server Set		Phone (No.)		POE Switch (with dual DC)	Cat 6 cable (100m set)incl. installation	NGFW (No.)	Grand Total (with AMC) (in Crs.)
	Main	Backup	VOIP	Analog Phone (including gateway)				
NR	10	10	2479	951	2368	2368	20	₹ 34.3227
SR	7	7	2875	252	2517	2517	14	₹ 32.8099
WR	8	6	2022	1044	1882	1882	14	₹ 26.1236
ER	7	7	1032	1093	822	822	14	₹ 17.8878
NER	8	8	1599	326	1138	1138	16	₹ 22.0682
NLDC	1	1	42	400	0	0	2	₹ 2.6325
Intl.	1	1	29	0	0	0	2	₹ 1.209754
Cyber Audit of complete VoIP network for 7 years								**₹ 2.8**

Grand Total **₹ 139.85**

Tentative Cost & BoQ of Proposed VOIP Syst. for NR SS(Option-1)

State	Server Set		Phone (No.)		POE Switch (with dual DC)	Cat 6 cable (100m set)incl. installation	NGFW* (No.)	Grand Total (with AMC) of SS (in Crs.)
	Main*	Backup*	VOIP	Analog Phone (including gateway)				
SLDC DTL, Minto Road	1	1	226	0	193	193	2	1.61
SLDC,RRVPNL, Heerapura	1	1	24	49	0	0	2	0.081
SLDC,BBMB, Chandigarh	1	1	182	116	182	182	2	1.57
SLDC,PSTCL, Patiala	1	1	203	8	197	197	2	1.64
SLDC,HPSEBL, Shimla	1	1	182	164	182	182	2	1.59
SLDC, UPPTCL, Lucknow	1	1	820	0	800	800	2	6.49
SLDC, HVPNL, Panipat	1	1	0	0	0	0	2	0
SLDC, JKPTCL, Jammu	1	1	182	148	182	182	2	1.58
SLDC, PTCUL, Dehradun	1	1	182	116	182	182	2	1.57
						Grand Total		₹16.14

* This BoQ pertains to Central Sector(CS) and has not been included in the cost.

Tentative Cost & BoQ of Proposed VOIP System for SR SS (Option-1 revised)

Region	Server Set		Phone (No.)		POE Switch (with dual DC)	Cat 6 cable (100m set)incl. installation	NGFW* (No.)	Grand Total (with AMC) of SS (in Crs.)
	Main*	Backup*	VOIP	Analog Phone (including gateway)				
KSEB, Kalamessary	1	1	563	0	546	546	2	4.49
TSTRANCO, Hyderabad	1	1	862	20	800	800	2	6.73
KPTCL, Bangaluru	1	1	2	0	0	0	2	0.0015
Puducheery	1	1	75	64	41	41	2	0.50
TANTRANSCO, Chennai	1	1	141	18	130	130	2	1.14
APTRANSCO, Vijaywaya	1	1	0	0	0	0	2	0.00

* This BoQ pertains to Central Sector(CS) and has not been included in the cost.

Grand Total **₹ 12.86**

Tentative Cost & BoQ of Proposed VOIP System for WR SS (Option-1 revised)

Region	Server Set		Phone (No.)		POE Switch (with dual DC)	Cat 6 cable (100m set)incl. installation	NGFW* (No.)	Grand Total (with AMC) of SS (in Crs.)
	Main*	Backup*	VOIP	Analog Phone (including gateway)				
SLDC,Panjim/Madgo	1	1	100	84	100	100	2	0.89
SLDC,Bhopal	1	1	440	220	400	400	2	3.40
SLDC,Raipur	1	1	400	148	400	400	2	3.34
SLDC,Vododara	1	1	200	244	200	200	2	1.77
SLDC,Mumbai	1	1	182	244	182	182	2	1.62
SLDC Daman & Diu	1	0	50	84	50	50	1	0.49
SLDC DNH	1	0	50	0	50	50	1	0.40

* This BoQ pertains to Central Sector(CS) and has not been included in the cost.

Grand Total ₹ 11.92

Tentative Cost & BoQ of Proposed VOIP System for ER SS (Option-1 revised)

Region	Server Set		Phone (No.)		POE Switch (with dual DC)	Cat 6 cable (100m set)incl. installation	NGFW* (No.)	Grand Total (with AMC) of SS (in Crs.)
	Main*	Backup*	VOIP	Analog Phone (including gateway)				
SLDC,Ranchi	1	1	60	100	60	60	2	0.59
OPTCL ,Bhubneshwar	1	1	108	85	92	92	2	0.85
SLDC Bihar Patna	1	1	182	212	182	182	2	1.61
SLDC WB Howrah	1	1	182	212	182	182	2	1.61
SLDC DVC backup Maithan	0	1	87	150	70	70	1	0.71
SLDC DVC Kolkata	1	0	81	150	54	54	1	0.60
SLDC Sikkim	1	1	182	84	182	182	2	1.56

* This BoQ pertains to Central Sector(CS) and has not been included in the cost.

Grand Total **₹ 7.53**

Tentative Cost & BoQ of Proposed VOIP System for NER SS (Option-1 revised)

Region	Server Set		Phone (No.)		POE Switch (with dual DC)	Cat 6 cable (100m set)incl. installation	NGFW* (No.)	Grand Total (with AMC) of SS (in Crs.)
	Main*	Backup*	VOIP	Analog Phone (including gateway)				
SLDC Imphal	1	1	70	24	40	40	2	0.47
SLDC,Meghalay (Nehu)	1	1	108	63	92	92	2	1.03
SLDC Guwahati-kahilipara	1	1	265	10	180	180	2	1.68
SLDC Mizoram(Aizwal)	1	1	68	23	38	38	2	0.45
SLDC (Nagaland)Diamapur	1	1	74	26	44	44	2	0.50
SLDC Agartala	1	1	90	34	60	60	2	0.65
SLDC Itanagar	1	1	114	46	84	84	2	0.76

* This BoQ pertains to Central Sector(CS) and has not been included in the cost.

Grand Total **₹ 5.54**

Tentative Cost & BoQ of Proposed VOIP System for All regions CS +SS(Option-1 revised)

Region	CS(ISTS) (in Crs.)	SS(in Crs.)	Total(in Crs.)
NR	₹18.18	₹16.14	₹ 34.3227
SR	₹19.95	₹ 12.86	₹ 32.8099
WR	₹14.20	₹ 11.92	₹ 26.1236
ER	₹10.36	₹ 7.53	₹ 17.8878
NER	₹16.53	₹5.54	₹ 22.0682
NLDC	₹ 2.64	₹ 0	₹ 2.6325
Intl.	₹ 1.20	₹ 0	1.209754
Cyber Audit	₹ 2.8	₹ 0	₹ 2.8
	₹ 85.86	₹ 53.99	₹ 139.85

Annexure-2.4.2

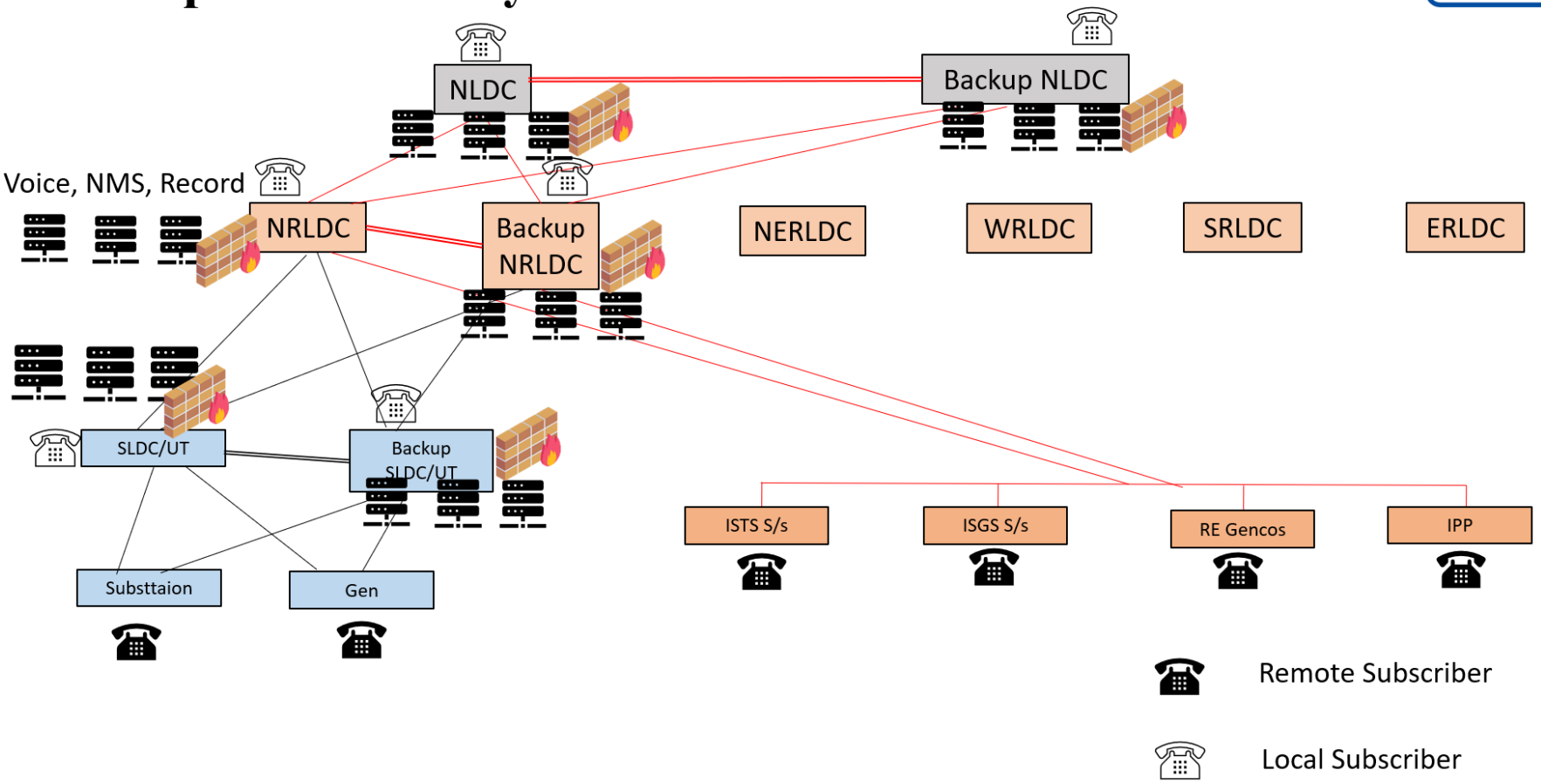
GS. No.	Items	Details
1.	Name of Scheme	VOIP Communication system for Grid-Operation for all Five Regions NR, NER, SR, WR, ER as PAN India
2.	Scope of the scheme	Supply and installation of VOIP Communication system including Phones, Voice Recorder etc. for Grid-Operation for all Five Regions NR, NER, SR, WR, ER as PAN India at NLDC, RLDCs, SLDCs
3.	Objective / Justification	1. Hot Line Speech Communication System (VOIP based PABX system) was implemented in 2016 by POWERGRID in all five regions after grid disturbance in 2012 where grid operators faced problem of fast communication due to unavailability of dedicated speech communication **PAN India** between NLDC, RLDCs, SLDCs, important state and ISTS substations and generators. The said PABX was implemented by M/s Orange through Alcatel Lucent as OEM. The lead region for the existing VoIP system is Northern Region of POWERGRID. 2. In the 67th NRPC meeting, POWERGRID representative stated that the scheme executed by M/s ORANGE was with a provision of AMC of 7 years as part of the contract and the same is expiring in July' 2023 for most of the sites. 3. AMC of the same was extended and approved in the 67th NRPC for further 2 years upto July'25 with financial implication and shall be booked under ULDC O&M charges as per the CERC norms. After July'25 there is no support shall be extended by Alcatel (OEM). POWERGRID stated they are not able to maintain the system beyond that AMC expiration. MS-NRPC advised CTU to plan upgradation/ new system in view of expiration of AMC in July'25.

GS. No.	Items	Details
		4. Grid-India in 23rd NRPC- TeST meeting stated that as VOIP system is utmost requirement of Grid-Operation and shall be planned by CTU parallel as POWERGRID has to file petition in the CERC for revised depreciation of existing VOIP System in view of 15 years of useful life. 5. In this regards CTU discussed the requirements with utilities & various VOIP system suppliers/OEMs and proposed the VOIP System Architecture which is attached at **Annexure-IIA**. 6. Comparison between present and proposed VOIP System is attached at **Annexure-IIB**. 7. Broad Specifications of the proposed VOIP system is attached at **Annexure-IIC** 8. In this regard inputs are acquired from the utilities in the various meetings of CPM, COM/ TeST/SCADA of all five regions. For the utilities those have provided inputs we have considered the same in the cost estimate purpose. Further a combined CPM(Communication planning meeting) of all five region was also held on 12.06.2024 to obtain uniformity of features and functions of the VoIP system among all regions. After incorporating the comments of all utilities MoM was issued. 9. The project is of utmost importance for grid management and operation by grid operators and also time critical. As the AMC of existing system is expiring by July,2025 the proposed system needs to be placed before that.

GS. No.	Items	Details
		10. It is proposed that being a Nation wide project, the total cost of five regions including NLDC and international Exchange (Cross border links) VoIP system shall be put up in all five regions for RPC/s review followed by NCT approval as single Scheme and package PAN India Basis for seamless integration and installation purpose. 11. Tentative cost of the scheme is **Rs. 137.46 Crs.** (including 6 years AMC after completion of 1 year warranty period) Excluding taxes & Duties 12. There are three types of cost involved, Regional Central Sector, National Central Sector, State Sector. The sharing of cost shall be done as per following mechanism between constituents: (i) Regional Central Sector Cost to be shared by respective region DICs as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 under Regional Component. (ii) National Central Sector Cost to be shared by all regional DICs as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 under National Component. (iii) State Sector Cost shall be shared by respective state/s for their portion as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020. (iv) AMC for State Sector shall be shared by respective states for their portion as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.

GS. No.	Items	Details
4.	Estimated Cost	Total project cost : 137.46 Crs. (including 6 years AMC after completion of 1 year warranty period) (Excluding taxes & Duties) NR – Rs. 34.46 Crs ER – Rs. 19.76 Crs. SR – Rs. 27.98 Crs. NER- Rs. 22.36 Crs. WR – Rs. 26.35 Crs. National – Rs. 6.55 Crs. Breakup of estimated cost and tentative BoQ at Regional, National and State Sector wise is attached at **Annexure-IID.** After approval of the scheme POWERGRID shall prepare detailed BoQ as per actual requirement.
5.	Implementation timeframe	9 months from the date of allocation
6.	Implementing Agency / Mode	**POWERGRID/ RTM**
7.	Deliberations in different meetings	i. 67th NRPC dtd. 30.06.2023 ii. Joint CPM of all Region dtd. 12.06.24 iii. 23rd NRPC TeST dtd. 21.09.2023 iv. 24th NRPC TeST dtd. 09.02.2024 v. NR CPM 5th ,6th dated 20-03-2024 & 23.04.2024 respectively. vi. 44th COM SR dtd.21.03.2024 vii. 46th COM SR dtd.22.05.2024 viii. SR CPM 4th ,5th dated 31.07.2023 & 18.04.2024 respectively ix. WR 4th ,5th CPM dated 26-07-2023 & 28-03-2024 respectively. x. 28th NETeST meeting dtd. 14.05.2024 xi. 4th CPM of NER region dtd. 28.07.2023 xii. 14th ER TeST dtd. 16.04.24 xiii. ER 4th CPM dtd. 27.07.2023

Proposed VOIP System Architecture:



Annexure-IIB

Comparison of features between present and proposed VOIP System

S. No	Present VOIP Exchange	Proposed VOIP system
1	Exchange based system	Server based system
2	Star based architecture and no redundancy between exchanges (SLDC/RLDC/NLDC)	Multiple level of Redundancy kept. At phone level two channels are proposed for main and backup exchanges of SLDCs and RLDCs. For State sector four level Hardware redundancy has been considered as e.g. Main SLDC/ Back Up SLDC/ Main RLDC/ Backup RLDC For Central sector four level Hardware redundancy has been considered as e.g. Main RLDC/ Back Up RLDC/ Main NLDC/ Backup NLDC
3	Proprietary License based system	SIP based open source licenses
4	The IP Phones connected at NLDC, RLDC and	IP Phones shall not be proprietary in nature.

	SLDC are proprietary IP Phones of Alcatel	
5	No PoE Switches	POE switch with dual redundancy considered
6	NA	Firewall are considered for cyber security
7	NA	Cyber Security Audit is considered
8	NA	Provision of video phones at Control Centre for higher officials
9	NA	Sufficient numbers of licenses considered to cater future RE/ ISTS/ ISGS/ IPP and STU substations locations.
10	Recording done at one location	Recording at each Control Centre shall be done locally and later at regular intervals transferred to a backup server for storage and archival

Annexure-II C

Broad Specifications of proposed VOIP System

1. Server based architecture: Multiple level (4 level) of redundancy as compared to no redundancy in existing system.
2. SLDC & RLDC servers has Local (Control Centre phones) and Remote (Substation, Generators) Phone support. However, at NLDC only local phone support has been considered.
3. Power over ethernet (PoE) switches with dual DC supply ports has been considered for all VOIP phones at remote stations for redundancy and powering the phones.
4. One set of three servers are proposed for Voice (VOIP), NMS & Call Recording at each control centre.
5. There is no duplication of licenses for backup servers.
6. Server size and software has been considered by taking future requirement of phones.
7. Support for integration of future exchange of other utilities considered (their control centres).
8. NMS for adding/ deleting users shall be provided at RLDC/ SLDC levels
9. Operator console shall be provided to manage calls at RLDC/SLDC
10. Call recording features shall be provided at RLDC & SLDC level with backup.
11. VOIP, Analog & Four Wire E&M (at PLCC locations) phones are considered
12. Video Phones at RLDC/ SLDC for Senior officials
13. Sufficient numbers of licenses to cater future RE/ ISTS/ ISGS/ IPP and STU substations locations. The licenses for present and future requirement of the phones are considered under the scope of project, however phones for present requirement only shall be procured.
14. Firewall at control centres is considered
15. Installation with 100m Cat-6 cable considered at remote locations.
16. Integration with existing STU exchanges has been considered.
17. One Exchange for international communication for cross border links has been considered at NLDC main and Backup NLDC.
18. **6 year of AMC has been considered after 1 year warranty.**
19. Cyber Security Audit has been considered.

Annexure-IID

Cost Breakup Between Regions and Central Sector and State Sector

Region	Central Sector (ISTS) (in Crs.)	State Sector (in Crs.)	Total (including 6yr AMC after completion of 1 yr warranty period & excluding taxes) (in Crs.)
NR	₹18.54	₹15.92	₹ 34.46
SR	₹15.3	₹ 12.68	₹ 27.98
WR	₹14.61	₹ 11.74	₹ 26.35
ER	₹12.32	₹ 7.44	₹ 19.76
NER	₹16.91	₹5.45	₹ 22.36
National Component (NLDC, International exchange and Cyber audit)	₹ 6.55	₹ 0	₹ 6.55

Grand Total ₹ 137.46 Crs. (including 6year of AMC after completion of 1 yr warranty period) (excluding GST/TAXES)

Northern Region Cost Breakup

Northern Region Utility	Servers		Phones			POE Switch (with dual DC) (No.)	Cat 6 cable (100m set) incl. installation (No.)	NGFW* (No.)	Total Cost with AMC (6 Yr after 1 Yr. warranty (in Crs.)	Total cost (in Crs.)	Central Sector (CS)/State Sector (SS)
	Main (No.)	Backup (No.)	VOIP (Local) (No.)	VOIP (Remote) (No.)	Analog Phone (including gateway) (No.)						
NRLDC	1	1	28	450	350	450	450	2	18.44	**18.44**	**CS***
SLDC DTL	1*	1*	33	193	0	193	193	2*	1.59	**16.02**	**SS**
SLDC, RRVPNL	1*	1*	24	0	49	24	25	2*	0.180		
SLDC, BBMB	1*	1*	30	152	116	152	152	2*	1.55		
SLDC, PSTCL, Patiala	1*	1*	6	197	8	197	197	2*	1.62		
SLDC, HPSEBL	1*	1*	30	152	164	152	152	2*	1.57		
SLDC, UPPTCL	1*	1*	20	800	0	800	800	2*	6.40		
SLDC, HVPNL	1*	1*	0	0	0	0	0	2*	0		
SLDC, JKPTCL	1*	1*	30	152	148	152	152	2*	1.56		
SLDC, PTCUL	1*	1*	30	152	116	152	152	2*	1.55		

***Servers and NGFW shall be physically placed at SLDCs for STUs but their cost has been included in Central Sector Portion**

Grand Total ₹34.46 Crs. (including AMC) (excluding GST/TAXES)

Cost breakup of Southern Region

Southern Region Utility	Servers		Phones			POE Switch (with dual DC) (No.)	Cat 6 cable (100m set) incl. installation (No.)	NGFW* (No.)	Total Cost with AMC (6 Yr after 1 Yr. warranty (in Crs.)	Total cost (in Crs.)	Central Sector (CS)/State Sector (SS)
	Main (No.)	Backup (No.)	VOIP (Local) (No.)	VOIP (Remote) (No.)	Analog Phone (including gateway) (No.)						
SRLDC	1	1	232	400	150	400	400	2	15.30	**15.30**	**CS***
KSEB	1*	1*	17	546	0	546	546	2*	4.43	**12.68**	**SS**
TSTRANCO	1*	1*	62	800	20	800	800	2*	6.64		
KPTCL	1*	1*	2	0	0	0	0	2*	0.0015		
Puducheery	1*	1*	34	41	64	41	41	2*	0.49		
TANTRANSCO	1*	1*	11	130	18	130	130	2*	1.12		
APTRANSCO	1*	1*	0	0	0	0	0	2*	0.00		

***Servers and NGFW shall be physically placed at SLDCs but cost has been included in Central Sector Portion**

Grand Total ₹27.98 Crs. (including AMC) (excluding GST/TAXES)

Cost breakup of Western Region

Western Region Utility	Servers		Phones			POE Switch (with dual DC) (No.)	Cat 6 cable (100m set) incl. installation (No.)	NGFW* (No.)	Total Cost with AMC (6 Yr after 1 Yr. warranty (in Crs.)	Total cost (in Crs.)	Central Sector (CS)/State Sector (SS)
	Main (No.)	Backup (No.)	VOIP (Local) (No.)	VOIP (Remote) (No.)	Analog Phone (including gateway) (No.)						
WRLDC	1	1	100	500	20	500	500	2	14.61	**14.61**	**CS***
SLDC, Panjim	1*	1*	10	48	84	48	48	2*	0.87		
SLDC, Bhopal	1*	1*	30	400	220	400	400	2*	3.35		
SLDC, Raipur	1*	1*	30	400	148	400	400	2*	3.30		
SLDC, Vadodara	1*	1*	30	150	244	150	150	2*	1.75	**11.74**	**SS**
SLDC, Mumbai	1*	1*	30	200	244	200	200	2*	1.60		
SLDC Daman & Diu	1*	0	10	40	84	40	40	1*	0.48		
SLDC DNH	1*	0	10	40	0	40	40	1*	0.39		

***Servers and NGFW shall be physically placed at SLDCs but their cost has been included in Central Sector Portion**

Grand Total ₹26.35 Crs. (including AMC) (excluding GST/TAXES)

Cost breakup of Eastern Region

Eastern Region Utility	Servers		Phones			POE Switch (with dual DC) (No.)	Cat 6 cable (100m set)incl. installation (No.)	NGFW* (No.)	Total Cost with AMC (6 Yr after 1 Yr. warranty (in Crs.)	Total cost (in Crs.)	Central Sector (CS)/State Sector (SS)
	Main (No.)	Backup (No.)	VOIP (Local) (No.)	VOIP (Remote) (No.)	Analog Phone (including gateway) (No.)						
ERLDC	1	1	150	200	100	200	200	2	12.32	**12.32**	**CS***
SLDC, Ranchi	1*	1*	10	50	100	60	60	2*	0.58	**7.44**	**SS**
OPTCL	1*	1*	16	92	85	92	92	2*	0.84		
SLDC Bihar Patna	1*	1*	30	152	212	152	152	2*	1.59		
SLDC WB Howrah	1*	1*	30	152	212	152	152	2*	1.59		
SLDC DVC backup Maithan	0	1*	17	70	150	70	70	1*	0.70		
SLDC DVC Kolkata	1*	0	27	54	150	54	54	1*	0.60		
SLDC Sikkim	1*	1*	30	152	84	152	152	2*	1.54		

***Servers and NGFW shall be physically placed at SLDCs but their cost has been included in Central Sector Portion**

Grand Total ₹19.76 Crs. (including AMC) (excluding GST/TAXES)

Cost breakup of North Eastern Region

Northern Eastern Region Utility	Servers		Phones			POE Switch (with dual DC) (No.)	Cat 6 cable (100m set) incl. installation (No.)	NGFW* (No.)	Total Cost with AMC (6 Yr after 1 Yr. warranty (in Crs.)	Total cost (in Crs.)	Central Sector (CS)/State Sector (SS)
	Main (No.)	Backup (No.)	VOIP (Local) (No.)	VOIP (Remote) (No.)	Analog Phone (including gateway) (No.)						
NERLDC	1	1	210	600	100	600	600	2	16.91	**16.91**	**CS***
SLDC Imphal	1*	1*	30	40	24	40	40	2*	0.46	**5.45**	**SS**
SLDC, Meghalaya	1*	1*	16	92	63	92	92	2*	1.01		
SLDC Guwahati	1*	1*	85	180	10	180	180	2*	1.66		
SLDC Mizoram	1*	1*	30	38	23	38	38	2*	0.44		
SLDC (Nagaland)	1*	1*	30	44	26	44	44	2*	0.49		
SLDC Agartala	1*	1*	30	60	34	60	60	2*	0.64		
SLDC Itanagar	1*	1*	30	84	46	84	84	2*	0.75		

***Servers and NGFW shall be physically placed at SLDCs but cost has been included in Central Sector Portion**

Grand Total **₹22.36 (including AMC) (excluding GST/TAXES)**

National Component of VOIP System

Utility	Servers		Phones			POE Switch (with dual DC) (No.)	Cat 6 cable (100m set)incl. installation (No.)	NGFW (No.)	Total Cost with AMC (6 Yr after 1 Yr. warranty (in Crs.)	Central Sector (CS)/State Sector (SS)
	Main (No.)	Backup (No.)	VOIP (Local) (No.)	VOIP (Remote) (No.)	Analog Phone (including gateway) (No.)					
NLDC	1	1	42	0	400	0	0	2	2.60	**CS**
International Exchange	1	1	30	0	0	0	0	2	1.19	
Cyber Audit Cost									2.76	
Grand Total ₹6.55 (including AMC) (excluding GST/TAXES)										

Annexure-3.1

MEGHALAYA POWER DISTRIBUTION CORPORATION LIMITED

LIGHTING UP YOUR LIFE

OFFICE OF THE ASSISTANT EXECUTIVE ENGINEER
LAPALANG DISTRIBUTION, SUB-DIVISION
SHILLONG-793006

Email:lapalangdsd@gmail.com

No.MePDCL/AEE/LDSD/T-23/2024-25/553/169.

Dated: 09th Sept, 2024.

To,
PGCIL, NERLDC and NERPC
Lapalang, Shillong

Sub: - Payment of Bill No. AEE/LDSD/63/03321 Dated: 09th Sept, 2024.

Ref: - 1. MePDCL/SE/ (SD)/T-17(E)/PT-X/2024-25/16 Dated: - 04th Sept, 2024.
2. MePDCL/EE (SE)/D/T-11(LP)/2024-25/675 Dated: - 09th Sept, 2024.

Sir/Madam,

In inviting a reference to the above, I am enclosing herewith a photocopy of an approved estimate along with an original bill bearing no. AEE/LDSD/63/03321 Dated: 09th Sept, 2024, amounting **Rs. 37,55,512.00** (Rupees Thirty Seven Lakhs Fifty Five Thousand Five Hundred Twelve) only for Using 33kV XLPE Single Core Cable in replaced with Wolf Conductor for providing power supply to PGCIL, NERLDC and NERPC, Lapalang, Shillong as desired by PGCIL, NERLDC and PGCIL at Lapalang, Shillong, under deposit work. The payment should be made by NEFT/RTGS only to the account as mentioned below:

Name of Branch: State Bank of India, Shillong Branch
Branch Code: 0181
IFSC Code: SBIN 0000181
Name of Account: MePDCL, Deposit Works Account
Account No.: 38523607373
GSTIN No.: 17AAICM1935F1ZJ

After payment is made, the Bank Receipt indicating the UTR/Transaction Reference No. & Date of transaction is to be presented to the office of the undersigned at Lapalang Distribution, Sub- Division, Shillong and send through whatsapp to the following number.

Assistant Executive Engineer, Lapalang Distribution, Sub- Division, Shillong 9245048560.

TERMS AND CONDITIONS:

1. The Bill is valid up to one month from the date of issue of this letter.
2. Work will be started only after receiving full payment and subjected to the availability of materials.
3. Any price escalation, a revise estimate will be served by the undersigned office and the additional amount shall be borne by you as per the revised approved estimates.

Enclosed: - As stated above

Yours Faithfully,

Assistant Executive Engineer
Lapalang Distribution Sub Division
Me.P.D.C.L, Shillong

Dated: 09th Sept, 2024.

Memo No.MePDCL/AEE/LDSD/T-23/2024-25/553 (a)
Copy to: - The Executive Engineer (Shillong East), Distribution Division, B.C. House, MePDCL, Shillong for favour of your kind information.

N.E.R.P.C. Dy. No. 179 Dt. 11

Sh Alik, DD (Services)

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
(Formerly Power System Operation Corporation Ltd. (POSOCO)
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र/North Eastern Regional Load Despatch Centre
कार्यालय: लोअर नोंगराह, लापालांग, शिलांग- 793006(मेघालय)
Office: Lower Nongrah, Lapalang, Shillong- 793006 (Meghalaya)
CIN:U40105DL2009GOI188682, Website: www.nerldc.in, E-mail: nerldc@grid-india.in,Tel:0364-2537470/427,Fax:03642537486

संदर्भ/Ref. No: NERLDC/MO/1/6457 **दिनांक/ Date: 15/07/2024**

To,

As per Distribution List

Subject: Registration of state embedded generators in NOAR for facilitating sale of URS in the Power Market reg.

Reference: Grid-India letter dated 3rd June 2024 regarding procedure for implementation of LPSC Rules 2022 and amendment thereof

Sir,
Ministry of Power has notified Electricity (Late Payment Surcharge and related matters) Rules 2022 on 3rd June 2022 and Electricity (Late Payment Surcharge and related matters) Amendment Rules 2024 on 28th February 2024. As per the LPSC Rule (9) (1):

Quote
"(1) A distribution licensee shall intimate its schedule for requisitioning power for each day from each generating company with which it has an agreement for purchase of power at least two hours before the end of the time for placing proposals or bids in the day ahead market for that day, failing which the generating company, shall offer, the un-requisitioned surplus power including the power available against the declared capacity of the unit under shut down, in the power exchange, subject to the limitation of ramping and start up capability as specified by the Appropriate Commission:
Provided that if the power so offered by the generating company is not cleared in Day-Ahead Market, it shall be offered in other market segments, including the Real Time Market, in the power exchange:"

Unquote

In view of the above, it is requested to please advise all the state embedded generating stations to get registered on the National Open Access Registry (NOAR) portal (https://noar.in) at the earliest, so that they can participate in the power market.

Contd…

A line of confirmation in this regard may be given to NERLDC by respective SLDCs.

Thank You,

Yours faithfully

अमरेश

(Amaresh Mallick)
Executive Director, NERLDC

Copt to:

a) Additional Secretary, MOP
b) Chairman and Managing Director, Grid-India
c) Director (System Operation), Grid-India
d) Executive Director, NLDC

Distribution List:

1. Head of SLDC, SLDC Arunachal Pradesh, Itanagar - 791111
2. Head of SLDC, SLDC Assam, Guwahati - 781019
3. Head of SLDC, SLDC, Manipur, Imphal - 795001
4. Head of SLDC, SLDC Meghalaya, Shillong - 793022
5. Head of SLDC, SLDC Mizoram, Aizawl – 796001
6. Head of SLDC,SLDC Nagaland, Dimapur-797112
7. Head of SLDC, SLDC Tripura, Agartala – 799006

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
{Formerly Power System Operation Corporation Ltd. (POSOCO)
उत्तर पूर्वी क्षेत्रीय भार प्रेषण केंद्र/North Eastern Regional Load Despatch Centre
कार्यालय: लोअर नोंगराह, लापालांग, शिलांग- 793006(मेघालय)
Office: Lower Nongrah, Lapalang, Shillong- 793006 (Meghalaya)
CIN:U40105DL2009GOI188682, Website: www.nerldc.in, E-mail: nerldc@grid-india.in,Tel:0364-2537470/427,Fax:03642537486

संदर्भ/Ref. No: NERLDC/MO/1/6771 **दिनांक/ Date: 03/10/2024**

To,

As per Distribution List

Subject: Registration of state embedded generators in NOAR for facilitating sale of URS in the Power Market reg.

Reference: i. Grid-India letter dated 3rd June 2024 regarding procedure for implementation of LPSC Rules 2022 and amendment thereof

ii. NERLDC letter Ref. No: NERLDC/MO/1/6457 dated 15/07/2024 regarding registration of state embedded generators in NOAR for facilitating sale of URS in the Power Market reg.

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Provided that if the power so offered by the generating company is not cleared in Day-Ahead Market, it shall be offered in other market segments, including the Real Time Market, in the power exchange:"

Unquote

Contd…

In view of the above, it is requested to please advise all the state embedded generating stations to get registered on the National Open Access Registry (NOAR) portal (https://noar.in) at the earliest, so that they can participate in the power market.

A line of confirmation in this regard may be given to NERLDC by respective SLDCs.

Thank You,

Yours faithfully

अमरेश

(Amaresh Mallick)
Executive Director, NERLDC

Distribution List:

1. Head of SLDC, SLDC Arunachal Pradesh, Itanagar - 791111
2. Head of SLDC, SLDC Assam, Guwahati - 781019
3. Head of SLDC, SLDC, Manipur, Imphal - 795001
4. Head of SLDC, SLDC Meghalaya, Shillong - 793022
5. Head of SLDC, SLDC Mizoram, Aizawl – 796001
6. Head of SLDC, SLDC Nagaland, Dimapur-797112
7. Head of SLDC, SLDC Tripura, Agartala – 799006

Copy to:

1. Chairman and Managing Director, Grid-India
2. Director (System Operation), Grid-India
3. Chief General Manager (I/C), NLDC

Annexure-5.6.2

List of Intra-state Gas based plants

Name of Power Station	Name of the State	Installed Capacity (MW)	Developer	Registration on NOAR
LAKWA GT	ASSAM	97.2	Assam Power	No
LAKWA REPLACEMENT	ASSAM	69.8	Assam Power	No
NAMRUP CCPP	ASSAM	139.4	Assam Power	No
BARAMURA GT	TRIPURA	42	Tripura Power	No
ROKHIA GT	TRIPURA	63	Tripura Power	No

List of Intra-state Hydro based plants

Utilities/Stations	State/UT	Capacity (MW)	Developer	Registration on NOAR
Karbi Langpi	Assam	100	Assam Power Generation Corporation	No
Kyrdemkulai	Meghalaya	60	Meghalaya Power Generation Corporation	No
Umiam St. I	Meghalaya	36	Meghalaya Power Generation Corporation	No
New Umtru	Meghalaya	40	Meghalaya Power Generation Corporation	No
Umiam St. IV	Meghalaya	60	Meghalaya Power Generation Corporation	No
Myntdu St-I	Meghalaya	126	Meghalaya Power Generation Corporation	No

ग्रिड-इंडिया
GRID-INDIA

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]
राष्ट्रीय भार प्रेषण केन्द्र / National Load Despatch Centre

आज़ादी का अमृत महोत्सव

कार्यालय : बी-9, प्रथम एवं द्वितीय तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016
Office : 1st and 2nd Floor, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi -110016
CIN : U40105DL2009GOI188682, Website : www.grid-india.in, E-mail : gridindiacc@grid-india.in, Tel.: 011- 42785855

Ref: Grid India/NLDC/SO/Jul 24/87 **Date: 03rd Jul 2024**

To,
MD/CEO
Transmission Licensees
(As per the distribution list)

Sub: Ensuring harmonic content in the All India electricity grid within the safe limits and statutory provisions

Madam/Sir,

A reliable power system operation requires that apart from the grid frequency and voltages within the statutory limits prescribed, the harmonics in the system shall be contained within the safe statutory limits in the Central Electricity Authority (CEA) Standards & Central Electricity Regulatory Commission (CERC) Regulations. If the harmonics are uncontrolled, it could lead to equipment damage and/or protective system mis-operations which could have a large impact on the grid.

Please refer to the Central Electricity Authority (Technical Standards for Connectivity to the Grid), Regulations, 2007 wherein Section B1, Part II, pertaining to 'Connectivity Standard applicable to the generating stations' mandates 'Requirements with respect to Harmonics, Direct Current (DC) Injection and Flicker' applicable to the wind generating stations, generating stations using inverters, wind - solar photo voltaic hybrid systems and energy storage systems. This clause mentions that *"Measurement of harmonic content, DC injection and flicker shall be done at least once in a year in presence of the parties concerned and the indicative date for the same shall be mentioned in the connection agreement; Provided that in addition to annual measurement, if distribution licensee or transmission licensee or the generating company, as the case may be, desires to measure harmonic content or DC-injection or flicker, it shall inform the other party in writing and the measurement shall be carried out within 5 working days."*

Grid India is taking up with respective generators for compliance of the above mentioned provisions of CEA (Technical Standards for Connectivity to the Grid), Regulations, 2007. The measuring and metering of harmonics shall be a continuous process and the periodic assessment of power quality by all stakeholders is required to devise remedial measures. The generating stations using inverters which are applying connectivity are submitting the compliance based on simulation to the above-mentioned provision of CEA (Technical Standards for Connectivity to the Grid), Regulations, 2007. The recent harmonic data and harmonic study report of 'interconnection point' could help these new

पंजीकृत कार्यालय : प्रथम तल, बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016
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generators in assessment of power quality. Therefore, the necessary equipment for harmonic assessment as per relevant IEEE/IEC standards shall be installed at 'interconnection point', if not done already. CEA (Grid Standards) Regulations, 2010, Para-3, Standards for Operation and Maintenance of Transmission Lines mandates that

Quote

"The transmission licensee shall ensure that the voltage wave-form quality is maintained at all points in the Grid by observing the limits given in Table

S. No.	System Voltage (kV rms)	Total Harmonic Distortion (%)	Individual Harmonic of any particular Frequency (%)
1.	765	1.5	1.0
2.	400	2.0	1.5
3.	220	2.5	2.0
4.	33 to 132	5.0	3.0

Unquote

The compliance of above mentioned provision requires periodic assessment of power quality by transmission licensees at HVAC stations belonging to voltage range of 33 kV (RMS) to 765 kV (RMS). Grid-India is sure that all Transmission Licensees would be carrying out periodic assessments of power quality as a part of prudent utility practices in compliance to CEA Regulations. The detailed report of power quality assessment tests, carried out in line with IEEE/IEC standards would also be available alongwith major findings and suggested remedial measures.

It is kindly requested that aforementioned harmonic measurement test report from your respective sub-station shall be shared with Grid-India and Central Transmission Utility of India (CTUIL). In case the tests are yet to be done, kindly advise all concerned to carry out the tests at the earliest under intimation to us and afterward share a copy of the report with Grid-India and CTUIL. The frequency of carrying out the power quality assessment may be kept like or higher than that recommended for generating stations and distribution licensees for the sake of uniformity.

Thanking you,

Yours faithfully,

03/07

(R. K. Porwal)
Director (System Operation)

Encl.: As above.

Copy to:

1. Chairperson-CEA, New Delhi
2. Member (GO & D), CEA
3. Member Secretary, NRPC/ERPC/WRPC/SRPC/NERPC
4. COO(CTU) -POWERGRID, Gurugram
5. ED- NRLDC/ERLDC/NERLDC/SRLDC/WRLDC/NLDC

Distribution List

ISTS Transmission Licensees

S.No.	Name of the Transmission Licensee
1	Powergrid Corporation Of India Ltd
2	Adani Transmission (India) Limited
3	Chhattisgarh-WR Transmission Limited.
4	Raipur Rajnandgaon-WR Transmission Limited.
5	Sipat Transmission Limited.
6	Western Transmission Gujarat Limited
7	Western Transco Power Limited
8	Alipurduar Transmission Limited
9	Fatehgarh-Bhadla Transmission Ltd.
10	North Karanpura Transco Limited
11	Bikaner-Khetri Transmission Limited
12	Jam Khambaliya Transco Limited
13	Lakadia-Banaskantha Transmission Limited
14	WRSS XXI (A) Transco Limited
15	Karur Transmission Limited
16	Khavda-Bhuj Transmission Limited
17	Aravali Power Company Private Limited
18	Essar Power Transmission Company Limited
19	Essar Transco Limited
20	Jindal Power Limited
21	Kudgi Transmission Limited
22	Parbati Koldam Transmission Company Limited

ISTS Transmission Licensees

23	Bhopal Dhule Transmission Company Ltd.
24	East North Interconnection Company Limited
25	Gurgaon Palwal Transmission Limited
26	Jabalpur Transmission Company Limited
27	Maheshwaram Transmission Limited
28	Khargone Transmission Company Ltd.
29	Goa Tamnar Transmission Projects Limited
30	Mumbai Urja Marg Limited
31	Lakadia Vadodara Transmission Company Limited
32	NRSS-XXIX Transmission Limited
33	Odisha Generation Phase-II Transmission Limited
34	Patran Transmission Company Limited
35	Purulia & Kharagpur Transmission Company Limited
36	Rapp Transmission Company Limited
37	NER-II Transmission Limited
38	Teestavalley Power Transmission Limited

ISTS Transmission Licensees

39	Torrent Power Grid Limited
40	Darbhanga-Motihari Transmission Company Limited
41	NRSS XXXI (B) Transmission Limited
42	A D Hydro Power Limited
43	Powergrid Himachal Transmission Ltd (Jaypee Powergrid Limited)
44	Kohima Mariani Transmission Limited
45	Raichur Sholapur Transmission Company Private Limited
46	Koppal-Narendra Transmission Limited
47	Damodar Valley Corporation
48	Powerlinks Transmission Limited
49	NRSS XXXVI Transmission Limited
50	Warora-Kurnool Transmission Limited
51	Rajgarh Transmission Limited
52	Powergrid Vizag Transmission Limited
53	Powergrid NM Transmission Limited

ISTS Transmission Licensees

54	Powergrid Unchahar Transmission Limited
55	Powergrid Parli Transmission Limited
56	Powergrid Kala Amb Transmission Limited
57	Powergrid Southern Interconnector Transmission System Limited
58	Powergrid Jabalpur Transmission Limited
59	Powergrid Warora Transmission Limited
60	Powergrid Medinipur Jeerat Transmission Limited
61	Powergrid Mithilanchal Transmission Limited
62	Powergrid Ajmer Phagi Transmission Limited
63	Powergrid Varanasi Transmissoin System Limited
64	Powergrid Fatehgarh Transmission Limited
65	Powergrid Khetri Transmission System Ltd.
66	Powergrid Bhuj Transmission Limited
67	Powergrid Bikaner Transmission System Limited
68	Powergrid Ramgarh Transmission Limited
69	Powergrid Neemuch Transmission System Limited
70	North East Transmission Company Limited
71	Transmission Corporation Of Andhra Pradesh (APTRANSCO)
72	Madhya Pradesh Power Transmision Co. Ltd.
73	Karnataka Power Transmission Corporation Limited
74	Delhi Transco Limited

ISTS Transmission Licensees

75	Power Transmission Corporation Of Uttarakhand Ltd
76	Rajasthan Rajya Vidhyut Prasaran Nigam Ltd.
77	Tamilnadu Transmission Corporation Limited
78	Chhattisgarh State Power Transmission Company Ltd
79	Himachal Pradesh Power Transmission Corporation Ltd
80	Odisha Power Transmission Corporation Limited
81	Uttarpradesh Power Transmission Corporation Limited
82	Power Development Department, Jammu & Kashmir
83	Gujarat Energy Transmission Corporation Limited
84	Maharashtra State Electricity Transmission Company Ltd
85	West Bengal State Electricity Transmission Company Ltd
86	Haryana Vidyut Prasaran Nigam Limited
87	Assam Electricity Grid Corporation Limited
88	Meghalaya Power Transmission Corporation Limited
89	Kerala State Electricity Board