



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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Website: www.nerpc.nic.in

No. NERPC/SE (O)/NETeST/2021/ **3245-3282**

Dated: August 18, 2022

To,

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Distribution), Me. ECL, Lumjingshai, Short Round Road, Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
9. Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
10. Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
11. Chief Engineer (WE Zone),Department of Power ,Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (EE Zone),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Chief Engineer (TP&MZ),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
14. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
15. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
16. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
17. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
18. ED, NERTS, PGCIL, Dongtiah-Lower Nongrah, Lapalang, Shillong -793 006
19. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
21. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
22. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
23. GM, NERLDC, Dongtiah, Lower Nongrah, Lapalang, Shillong -793 006
24. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer (NPC), NRPC Complex, Katwaria Sarai, SJSS Marg., New Delhi - 110016

Sub: Minutes of 23rd NETeST Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 23rd NETeST Meeting held at “Hotel Nandan, Guwahati” on the **22nd July, 2022** for your kind information and necessary action. The minute is also available on the website of NERPC, **www.nerpc.nic.in**.

Any comments/observations may kindly be communicated to NERPC Secretariat at the earliest.

Encl: As above

Yours faithfully,

(S.Mukherjee)

Dy. Director

Copy to:

1. CGM, AEGCL, Bijuli Bhavan, Guwahati - 781001
2. CGM, APGCL, Bijuli Bhavan, Guwahati - 781001
3. CGM, DISCOM, Bijuli Bhavan, Guwahati - 781001
4. Head of SLDC, Me.ECL, Lumjingshai, Short Round Road, Umjarain, Shillong – 793 022
5. Head of SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
6. Head of SLDC, Department of Power, Dimapur, Nagaland
7. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
8. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl – 796 001
9. Head of SLDC, TSECL, Agartala – 799 001
10. Chief Engineer(Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
11. Addl. GM (EED), NTPC Ltd., Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
12. DGM (C&M), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110019.



(S.Mukherjee)

Dy. Director

North Eastern Regional Power Committee

MINUTES OF 23rd NETeST SUB-COMMITTEE MEETING OF NERPC

Time of meeting : 10:00 Hrs.

Date of meeting : 22nd July, 2022 (Friday)

Venue : “Hotel Nandan”, Guwahati.

The List of Participants in the 23rd NETeST Meeting is attached at **Annexure – I**

Shri B. Lyngkhai, Member Secretary, NERPC welcomed all the participants. He Noted the following:

- (i) VSAT System in Arunachal Pradesh has been commissioned for 7 out of the total 8 stations. He congratulated DoP Ar. Pradesh especially SLDC Arunachal Pradesh for completing the Project and improving the data availability of the stations.
- (ii) Upgradation of SCADA System in the SLDCs/NERLDC, Establishment of VSAT system for Remote Substations and Deployment of RTUs for Establishment of Station Connectivity has been approved in the 22nd TCC/RPC meeting. Subsequently in the Special Meeting on PSDF held on 29th June’2022 it has been agreed for 100% funding of the SCADA upgradation project. He requested all the State utilities to ratify and sign the DPR. At present Mizoram and Nagaland have submitted signed copy of the DPR. He requested the other states to follow suit. Referring to the DPR of Kerala for Upgradation of SCADA System he requested the SLDCs to exert due diligence i.r.o. AMC clause, IT/OT Systems upgradation especially.
- (iii) For OPGW links which have completed their stipulated service life(15years) but are still healthy and operational, the fibers have to be handed over to the state utilities. He hoped the forum would resolve the issue during its deliberation.
- (iv) Dikshi HEP is expected to start reporting to SLDC/NERLDC. He requested SLDC Arunachal Pradesh to extend full co-operation in this regard.

Thereafter, Member Secretary requested Dy. Director, NERPC to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 22nd MEETING OF NETeST SUB-COMMITTEE OF NERPC.

The minutes of 22nd meeting of NETeST Sub-committee held on 17th March, 2022 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2020/3052-3089 dated 11th April, 2022.

The Sub-committee may confirm the minutes of 22nd NETeST of NERPC with the above modifications as no other comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

CATEGORY A: CONTROL CENTER RELATED ITEMS

A.1 Upgradation of SCADA/EMS of SLDCs:

As per CERC Regulations the useful life of SCADA/EMS is 7 years. Considering the same all NER SLDCs/ NERLDC have to upgraded by 2023-24 timeframe. In 22nd TCC/RPC meeting it was decided to upgrade with funding from PSDF.

State-wise DPRs for SCADA-EMS upgradation projects with a cost-estimate of around 44 crores (incl. AMC charges) has been shared with SLDCs for signing and subsequently submitting it to NERPC so that it can be sent to NLDC in a consolidated manner. The tendering activities can be taken up later in a consolidated manner as per MoU signed by SLDCs with POSOCO in order to same time, avoid integration issues, achieving uniform technical quality of products and get economy of scale benefits.

The status of MoU signing among SLDCs and NERLDC has been completed as per details given in table below.

S. N	Description	Remarks
1	Meghalaya SLDC (on behalf of MePTCL)	Signed on 28 th October 2021.
2	Mizoram SLDC (on behalf of P&ED-Mizoram)	Signed on 01 st November'21.
3	Assam	Signed on 06 th January'22.
4	Nagaland	Signed on 01 st March 2022.
5	Tripura	Signed on 20 th May 2022.
6	Manipur	Signed on 11 th June 2022.
7	Arunachal Pradesh	Signed on 07 th July 2022.

All state-utilities are requested to sign the DPRs (with necessary modifications, if required) and share with NERPC on priority so that it can be submitted to NLDC at the earliest.

Deliberation of the sub-Committee:

Member Secretary, NERPC informed to the forum that in special meeting held by CEA on 29th June 2022, the request of SLDCs for 100% PSDF funding (incl. AMC charges) has been approved for upgradation of SCADA/EMS systems under ULDC Phase-III. Further, it was requested in the forum that all state-utilities should sign the DPRs (with necessary modifications, if required) and share with NERPC on priority so that it can be submitted to NLDC in consolidated manner for PSDF funding at the earliest as decided during 22nd TCC/NERPC meeting. He also informed the forum that Mizoram and Nagaland have submitted the DPR for upgradation of SCADA/EMS Systems under ULDC Phase-III.

The Sub-Committee noted as above.

Action: all state utilities, NERLDC & NERPC.

A.2 Cyber Security aspects in SCADA/IT systems at Load Despatch Centres in North Eastern Region:

State-Utilities may update the status with respect to CII Status by NCIIPC, ISO 27001:2013 implementation, VA-PT twice a year, Cyber Crisis Management Plan (CCMP), Cyber Management Team (CMT), patching of vulnerabilities and virus alerts from CERT-In/CERT-GO, etc, participation in various trainings and workshops on Cyber Security being conducted by CEA, Ministry of Power and POSOCO, etc. A summary of the state wise status of CII, CCMP etc., is attached as ***Annexure-A.2***.

A CISOs meeting was conducted by Sh. MAKP Singh (CISO, Ministry of Power) in presence of NCIIPC representatives, CERT-GO and CERT-Hydro at NERLDC premises on 11th June 2022 in which wide participation from all CISOs of NER utilities was registered. It was emphasized that Cyber Security guidelines laid down by CEA needs to be adhered with all stakeholders in power-sector and any difficulty being faced shall be reported to MoP/NCIIPC at the earliest.

Deliberation of the sub-Committee:

NERLDC projected the status of cyber security related activities to the forum. Member Secretary, NERPC took a note of all the pending activities with respect to CII Status by NCIIPC, ISO 27001:2013 implementation, VA-PT twice a year, Cyber Crisis

Minutes of 23rd NETeST Sub - Committee Meeting held on 22nd July, 2022
Management Plan (CCMP), Cyber Management Team (CMT), patching of vulnerabilities and virus alerts from CERT-In/CERT-GO, etc, participation in various trainings and workshops on Cyber Security being conducted by CEA, Ministry of Power and POSOCO, etc. and requested the state-utilities to complete it at the earliest. A summary of the state wise status of CII, CCMP etc., is attached as ***Annexure A.2.***

It was also deliberated that a CISOs meeting was conducted by Sh. M. A. K. P. Singh (CISO, Ministry of Power) in presence of NCIIPC representatives, CERT-GO, and CERT-Hydro at NERLDC premises on 11th June 2022 in which wide participation from all CISOs of NER utilities was registered. It was emphasized that Cyber Security guidelines laid down by CEA needs to be adhered with all stakeholders in power-sector and any difficulty being faced shall be reported to MoP/NCIIPC at the earliest. The forum took note of the above.

The Sub-Committee noted as above.

Action: NERLDC.

A.3 Issues of SLDCs in SCADA AMC:

EMS: Net model Database to be modified/rectified by the SLDCs with the assistance of M/s GE. Thereafter EMS will be commissioned.

State Estimator: Net model Database to be modified/rectified by the SLDCs with the assistance of M/s GE. Thereafter State Estimator will be commissioned.

Deliberation of the sub-Committee:

Status of Commissioning of EMS/State Estimator

Name of the SLDC	Status of EMS	Status of State Estimator
Arunachal Pradesh	Functional and in service.	Reported to be working not verified
Assam	Functional and in service.**	Not working**
Manipur	Functional and in service.	Not working
Meghalaya	Functional and in service.	Working partially
Mizoram	Functional and in service.	Not working
Nagaland	Functional and in service.	Reported to be working not verified
Tripura	Functional and in service.	Working partially

****DGM, SLDC, Assam** informed about the issues related to erroneous EMS database at its end for which several requests have been raised to M/s GE but the same has not been completely rectified yet. Representative of M/s GE assured that the database correction and validation is under progress and will get completed within 2 weeks.

The Sub-Committee noted as above.

Action: all SLDCs/NERLDC, M/s GE.

Battery Bank/UPS: In 22nd NETeST meeting M/s GE informed about the difficulties in replacement of faulty battery bank at SLDC Assam. However, M/s GE assured that maintenance would be carried out to improve performance.

Summary of activities carried out by M/s GE/SLDC Assam:

- Battery Bank-1 charged using different charger after isolation
- Discharge test of Battery Bank-1

Deliberation of the sub-Committee:

DGM, SLDC, AEGCL informed to the forum that the faulty battery-cells are not getting replaced by M/s GE even after repetitive reminders, thus at present the battery backup is not more than one and a half hour. M/s GE Representative stated that the cells have been damaged due to environmental conditions as Air-Conditioned Environment has not been provided by SLDC Assam.

Sr.GM, CTU and Sr.GM(ULDC), NERTS opined that for VRLA Battery Bank AC Environment has to be provided. Sr.GM(SL), NERLDC stated that in the 22nd NETeST meeting M/s GE was instructed to replace the battery bank so the discussion on environmental factors is futile at this stage.

The forum noted the relevant clause under which the batteries are covered under Comprehensive-AMC and it was also highlighted that this aspect was raised by M/s GE during pre-bid meeting of ULDC Phase-II and subsequently withdrawn and hence, M/s GE must replace the faulty battery bank at the earliest failing which SLDC Assam may initiate action as per provisions of contract.

After detailed discussion Member Secretary, NERPC stated that the batteries are covered under Comprehensive-AMC therefore it should be replaced by M/s GE at the earliest. Representative of M/s GE informed that they will be discussing the matter with their senior management and will revert back ASAP.

The Sub-Committee noted as above.

Action: SLDC Assam, GE.

Deployment of manpower: Relevant experience as per contract: SCADA/EMS project was awarded to M/s GE T & D Limited in the year 2014 and ToC extended during January 2017. Since then, the SCADA/EMS system is under Comprehensive-AMC with M/s GE T&D Limited. As per the contractual terms and conditions, two (02) manpower with “5 years of working experience in delivered SCADA/EMS system” has to be deployed at each SLDC of North-Eastern region.

It has been observed that manpower deployed at various SLDCs are not as per the provision of the contract and due to this many-a-times, technical support through remote desktop needs to be extended from NERLDC. As a result, various works are getting hampered and delayed.

Deliberation of the sub-Committee:

All states raised the concern of inadequately trained manpower being deployed by M/s GE at SLDCs of NER. It was stated that current manpower deployed at SLDCs are many-a-times not able to resolve even basic issues and unable to carry out routine activities also.

Sr.GM(SL), NERLDC stated that regular maintenance activities of SCADA at the SLDCs is carried out over Remote Desktop from NERLDC Shillong by M/s GE personnel. The forum in view of the Cyber Security Risks directed NERLDC/SLDCs to disable the Remote Desktop Connections immediately and strongly discourage M/s GE from using similar methods in the future.

It was also discussed in the forum that many Projects such as NERPSIP, Comprehensive Arunachal, State-sector projects, etc. are near to its completion stages and necessary integration in SCADA/ICCP/CFE/RTU level will be required from M/s GE side for which SLDCs require experience manpower from GE's side. In addition to it, the regular works like compliances of various norms by cyber security organization, establishment of IT-OT connection at control centers etc. also requires experienced and trained manpower.

Representatives from M/s GE assured to the forum that all issues related to manpower will be resolved before next NETeST meeting.

After detailed deliberation Member Secretary, NERPC requested M/s GE not to take this matter lightly and fulfill the requirements as per the provision of the contract which quotes that service engineer with minimum 5 years of working experience in delivered SCADA/EMS system should be deployed at all control centers.

The Sub-Committee noted as above.

Action: all SLDCs, GE.

Replacement of anti-virus installed in OT system of LDCs in NER: M/s GE T&D India Limited has provided Microsoft System Center Endpoint Protection (SCEP) 2012 as antivirus solution for the SCADA system during the project implementation phase. The aforementioned anti-virus installed has been declared end-of-life by the OEM i.e., Microsoft from 12-July-2022 onwards which means that all associated definitions, engine and platform updates will not be available now.

Non-availability of antivirus is a critical cyber security vulnerability to the system. Therefore, M/s GE T&D India Limited has to replace and maintain an updated antivirus solution in SCADA system at all LDCs of NER. Further, all SLDCs have to follow up with M/s GE T&D India Limited regarding implementation of the same on priority basis.

Deliberation of the sub-Committee:

Representative of M/s GE informed that the anti-virus solution provided by M/s GE in SCADA-EMS system of NERLDC and NER-SLDCs has been declared end-of-support by its OEM i.e., Microsoft and the same needs to be replaced. Representative of M/s GE T&D India Limited informed the forum that they will replace all the obsolete anti-virus by a new eSCAN anti-virus solution till 10th August 2022 at NERLDC as well as NER-SLDCs.

The Sub-Committee noted as above.

Action: all SLDCs, NERLDC & GE.

CATEGORY B: STATION LEVEL REPORTING

B.1 Deployment of new RTUs in selected sub-stations of NER:

As per deliberations and Minutes-of-Meeting of 22ndTCC/NERPC Board meeting held in March 2022, it was agreed that SLDCs in NER will explore the possibility of PSDF funding for its RTUs related projects with help of NERPC and NERLDC. State-wise DPRs for RTUs projects with associated cost-estimate has been shared with SLDCs for signing and subsequently submitting it to NERPC so that it can be sent to NLDC in a consolidated manner. The tendering activities can be taken up later in a consolidated manner in order to same time and get economy of scale benefits.

- **DoP-Arunachal Pradesh:** 43 RTUs i.e. □ **11,86,31,152 (incl. GST)**
- **Assam:** 33 RTUs i.e. □ **9,10,42,512 (incl. GST)**
- **Manipur:** 3 RTUs i.e. □ **82,76,592 (incl. GST)**
- **Meghalaya:** 20 RTUs i.e. □ **5,51,77,280 (incl. GST)**
- **P&ED-Mizoram:** 14 RTUs i.e. □ **3,86,24,096 (incl. GST)**
- **DoP-Nagaland:** 42 RTUs i.e. □ **11,58,72,288 (incl. GST)**

All state-utilities are requested to sign the DPRs (with necessary modifications, if required) and share with NERPC on priority so that it can be submitted to NLDC at the earliest.

Deliberation of the sub-Committee:

Member Secretary, NERPC advised the state-utilities to sign the DPRs (with necessary modifications including but not limited to RTUs for Stations under UFR scheme) and share with NERPC on priority so that it can be submitted to NLDC in consolidated manner at the earliest as decided during 22nd TCC/NERPC meeting. He also informed the forum that Mizoram and Nagaland have submitted the DPR for Deployment of new RTUs in selected Sub-stations of NER.

The Sub-Committee noted as above.

Action: DoP Ar. Pradesh, AEGCL, MSPCL, TSECL.

B.2 Delay in execution of real-time data availability works of OTPC station:

OTPC was requested to provide LV side data, RGMO, FGMO status and master trip signal data of all units in 20thNETeST meeting in which OTPC had given target of October-2021 to complete the works. The target date was revised twice in subsequent NETeST meetings i.e., April-22 in 21stNETeST (during Nov'21) and 22ndNETeST (during Apr'22). Email request shared with OTPC is attached as Annexure-1. OTPC is requested to update the status.

Deliberation of the sub-Committee:

Sr. Manager, OTPC informed the forum that all the above works will be completed by October 2022 and provided some e-mails id as an escalation matrix to NERLDC for communication purposes in case the issues are not getting resolved within time.

The Sub-Committee noted as above.

Action: OTPC.

B.3 Non-availability of telemetry data of 132kV Mohanpur S/S under NERPSIP:

Tripura owned 132kV Mohanpur s/s was charged on August-2021 without availability of any real-time data, voice communication and related integrations with the SCADA system of SLDC.

The station was charged by LILO of 132kV Agartala-Dhalabil circuit at 132kV Mohanpur S/s, during which OPGW portion was also removed and not yet restored by implementing agency. This has caused non-availability of data of 132 kV Dhalabil S/s.

As NERPSIP project also includes the communication system i.e., Fiber Optics, SDH, PDH, etc. readiness of the communication system, availability of the telemetry data, voice communication, etc. has to be ensured.

Deliberation of the sub-Committee:

Manager, NERPSIP informed the forum that SAS system is yet to be installed at sub-station and expected date of commissioning is 10th August 2022. Further, OPGW LILO work is completed and FOTE will be installed by September 2022. The forum directed NERPSIP-POWERGRID to complete the works at the earliest.

Member Secretary, NERPC stated that for all NERPSIP/Comprehensive Elements SLDCs are to give FTC as per discussions in 190th OCC meeting. The forum requested the SLDCs to ensure that charging clearance of any new elements is given after ensuring the availability of telemetry and associated redundant communication system for it.

The Sub-Committee noted as above.

Action: all state utilities, NERPSIP.

B.4 Non-availability of telemetry data of 132kV Chiephobozou S/S under State project in Nagaland:

DoP Nagaland owned 132kV Chiephobozou s/s was charged on 03rd July 2022 without availability of real-time data, voice communication and related integrations with SCADA system. The substation was charged by LILO of 132kV Kohima-Wokha line. During LILO work, the existing OPGW cable was also removed but not restored afterwards. This has impacted the communication link as well as telemetry data of 132kV Wokha s/s.

Deliberation of the sub-Committee:

EE, SLDC, DoP, Nagaland informed the forum that RTU for 132 kV Chiephobozou is proposed under project “New RTUs installation in NER” and LILO of OPGW is proposed under Reliable Communication Project of Nagaland. He requested for early PSDF approval so that the works may be completed.

The Sub-Committee noted as above.

Action: DOP, Nagaland.

B.5 Connectivity of 132kV Ambassa S/S upto 132kV PKBari(TSECL) S/S:

The LILO of 132 kV PK Bari – Ambassa at PK Bari (Indigrid) was carried out by M/s Sterlite during the project implementation phase. During this period, OPGW was laid from Ambassa to PK Bari (Indigrid) and PK Bari (Indigrid) to PK Bari (TSECL). As Ambassa S/s is connected directly with an ISTS station, the real-time data of same is important for grid monitoring and drawl calculation. Further, OPGW infrastructure is available, using which 132 kV Ambassa S/s can report till SLDC Tripura. The TSECL and Indigrid may submit the plan along with timeline to complete the work, if feasible.

Deliberation of the sub-Committee:

GM, TSECL informed the forum that OPGW between 132kV Ambassa sub-station and 132kV PK Bari (TSECL) sub-station was laid by NERPSIP-POWERGRID. This link was later LILO to PK Bari (Indigrid), the OPGW from LILO point to PK Bari (Indigrid) was laid by M/s Sterlite. He further informed that FOTE at Ambassa sub-station and PK Bari (TSECL) sub-station needs to be installed by NERPSIP. Manager, NERPSIP informed the forum that FOTE will be installed by September 2022.

The Sub-Committee noted as above.

Action: TSECL, POWERGRID.

B.6 Restoration of real –time data of 132kV Umrangso S/S:

During special meeting for extending the power to Umrangso by connecting it directly with 132kV Khliehriat s/s, it was decided that real-time data of 132kV Umrangso will be restored using the following communication links i.e., 132kV Umrangso to 132kV Halfong(PG) on PLCC, further to SLDC Assam over OPGW.

Deliberation of the sub-Committee:

Asst. Manager, NERLDC informed the forum that Real-time data of 132 kV Umrangso sub-station had been restored on 21st July 2022.

The Sub-Committee noted as above.

CATEGORY C: COMMUNICATION MEDIUM RELATED ITEMS

C.1 Establishment of VSAT Communication in selected remote locations for state:

As per deliberations and Minutes-of-Meeting of 22nd TCC/NERPC Board meeting held in March 2022, it was agreed that SLDCs in NER will explore the possibility of PSDF funding for its VSAT communication related projects with help of NERPC and NERLDC. State-wise DPRs for VSAT projects with associated cost-estimate has been shared with SLDCs for signing and subsequently submitting it to NERPC so that it can be sent to NLDC in a consolidated manner. The tendering activities can be taken up later in a consolidated manner in order to same time and get economy of scale benefits.

- **DoP-Arunachal Pradesh:** 42 stations plus VSAT at SLDC i.e. □ **2,22,02,549 (incl. GST)**
- **Assam:** 18 stations plus VSAT at SLDC i.e. □ **95,15,378 (incl. GST)**
- **Manipur:** 8 stations plus VSAT at SLDC i.e. □ **42,29,057 (incl. GST)**
- **Meghalaya:** 6 stations plus VSAT at SLDC i.e. □ **31,71,792 (incl. GST)**
- **P&ED-Mizoram:** 17 stations plus VSAT at SLDC i.e. □ **89,86,746 (incl. GST)**
- **DoP-Nagaland:** 51 stations plus VSAT at SLDC i.e. □ **2,69,60,238 (incl. GST)**
- **TSECL:** 15 stations plus VSAT at SLDC i.e. □ **79,29,482 (incl. GST)**

All state-utilities are requested to sign the DPRs (with necessary modifications, if required) and share with NERPC on priority so that it can be submitted to NLDC at the earliest.

Deliberation of the sub-Committee:

Member Secretary, NERPC requested state-utilities to sign the associated DPRs (with necessary modifications, if required) and share with NERPC on priority so that it can be submitted to NLDC in consolidated manner at the earliest for 100% PSDF funding as decided during 22nd TCC/NERPC meeting. He also informed the forum that Mizoram and Nagaland have been submitted the DPR to NERPC.

The Sub-Committee noted as above.

Action: all state utilities, NERLDC, NERPC.

C.2 Establishment of second communication channel to telemeter data and voice from INDIGRID stations to NERLDC Shillong:

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During the project commissioning phase of 400kV SM Nagar and 400kV PK Bari S/s, second communication channel was provided by M/s Sterlite Ltd. over Airtel MPLS point-to-point link. But in November 2021, the said link was discontinued resulting in only one communication link catering Voice communication, SCADA data and PMU data to NERLDC.

In 22nd NETeST meeting, Indigrid informed that second communication channel to telemeter data and voice from Indigrid stations will be provided using Powertel network. Indigrid was also requested to install firewall at all ends (including NERLDC) for the Powertel link.

Deliberation of the sub-Committee:

Representative of M/s INDIGRID informed the forum that they have already provided the second communication channel to telemeter data and voice from 400/132kV Surjamaninagar, 400/132kV PKBari using POWERTEL network. The forum requested NERLDC/NERPC to plan to shift the same to ULDC network at the earliest.

The Sub-Committee noted as above.

Action: INDIGRID.

C.3 OPGW on 400kV Silchar-Azara and 400kV Bongaigaon - Azara:

Presently Protection and Station communication is via PLCC. As it is very important 400kV corridor, it is proposed for OPGW on 400kV Silchar – Azara and 400kV Bongaigaon – Azara with terminal equipments and upgradation of Protection Coupler.

Deliberation of the sub-Committee:

AGM(Communication), AEGCL intimated that at present Protection and Station level communication has been implemented via alternate path of Assam network. After detailed deliberation the forum noted the following:

- As per approved schemes there is no direct FO connectivity between Silchar and Azara; between Bongaigaon and Azara
- However after completion of the following links FO based direct connectivity between the stations shall be established:

Name of the line on which OPGW	Connectivity length(km)	Name of the Scheme	Approved in

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link to be established			
400kV Silchar-Byrnihat	217	Additional Communication – Central Sector	17 th TCC/RPC held on 04 th /05 th Oct'2016
400kV Byrnihat - Bongaigaon	200	Additional Communication –Central Sector	17 th TCC/RPC held on 04 th /05 th Oct'2016
Byrnihat to Azara (no T/L existing)	47.208	NER-FO Expansion	18 th TCC/RPC on 10 th /11 th Oct'2017

The forum requested NERTS-POWERGRID to implement (in matching schedule) the above links alongwith FOTE and DPC at the earliest.

The Sub-Committee noted as above.

Action: NERTS

C.4 Long outage of ULDC links in Mizoram:

Various ULDC links in Mizoram were down since 20th May2022. The outage was intimated to NERTS-ULDC team, however the same is yet to be restored. Due to this outage, several state-owned stations real-time data are not reporting to SLDC as well as NERLDC. The ULDC link is also being used as redundant ICCP communication link between NERLDC and Mizoram SLDC.

Deliberation of the sub-Committee:

EE, SLDC, P&ED Mizoram informed the forum that at present connectivity between Zuangtui and SLDC Mizoram is via AIRTEL Fiber link which is terminated in FIBCOM panel at SLDC Mizoram. Further, he intimated that the link was restored without the associated works at FIBCOM panel. Sr.GM(ULDC), NERTS informed the forum that team of M/s FIBCOM is working on site and all links are expected to restore by 24th July 2022.

The Sub-Committee noted as above.

Action: NERTS.

C.5 Allocation of fibers on existing links for Guwahati Islanding Scheme:

As per Special Meeting on 13.05.2022 it was decided that single pair of fiber would be dedicated for Guwahati Islanding Scheme. Amongst the following links the dedicated fiber has to allotted for the scheme:

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Sl. No	Name of the link	Owner Utility	Total no. of pairs	Utilized quantity(ULDC) fiber	Utilized quantity (Commercial) fiber
1	BgTPP – Bongaigaon(PG)	POWERGRID	24	6	18
2	BgTPP – Bongaigaon(AS)	POWERGRID	24	6	18
3	Kahilipara - Umtru	POWERGRID	12	6	6
4	Umtru – Umiam Stg-3	POWERGRID	12	6	6
5	Umiam Stg-3 to Umiam Stg-1	POWERGRID	12	6	6
6	Umiam Stg-1 to NEHU	POWERGRID	12	6	6
7	Misa- Samaguri	POWERGRID	24	6	18
8	Khliehriat - Khliehriat	POWERGRID	12	6	6
9	Misa – Kopili	POWERGRID	24	6	18
10	Kopili – Khandong	POWERGRID	24	6	18
11	Khandong – Khliehriat	POWERGRID	24	6	18
12	Khliehriat(PG) - NERLDC	POWERGRID	24	6	18
13	Bongaigaon(AS) - Agia	AEGCL	24	6	18
14	Agia - Sarusajai	AEGCL	24	6	18
15	Sarusajai - Kahilipara	AEGCL	24	6	18
16	Samaguri - Sarusajai	AEGCL	12	6	6
17	Sarusajai- Kahilipara	AEGCL	12	6	6
18	Kahilipara - SLDC	AEGCL	12	6	6
19	Azara - Mirza	AEGCL	24	6	18 (Already considered by AEGCL)
20	Sarusajai - Mirza	AEGCL	12	6	6
21	Mirza - Boko	AEGCL	12	6	6
22	Boko - Agia	AEGCL	12	6	6
23	Bongaigaon(AS) – Dhaligaon	AEGCL	24	6	18
24	Dhaligaon – Bornagar	AEGCL	24	6	18
25	Bornagar – Rangia	AEGCL	24	6	18
26	Rangia – Sisugram	AEGCL	12	6	6
27	Sisugram - Kahilipara	AEGCL	12	6	6
29	Samaguri - Sonabil	AEGCL	24	6	18
30	Sonabil – Depota	AEGCL	24	6	18
31	Depota – Rowta	AEGCL	24	6	18
32	Rowta – Sipajhar	AEGCL	24	6	18
33	Sipajhar - Rangia	AEGCL	24	6	18

Deliberation of the sub-Committee:

DD, NERPC stated that in the Special Meeting on 13th May'2022 it was decided that dedicated Fiber would be provided by AEGCL and POWERGRID for the IS.

Sr.GM(ULDC), NERTS intimated that views of POWERGRID in the Special Meeting on 13th May'2022 is not admissible due to improper representation from POWERGRID. Further he stated that at present spare fiber is not available in the above links and E1 can only be spared for the Islanding Scheme and any dark fiber requirement will need a review and approval from the competent authority of POWERGRID.

AGM(Communication), AEGCL stated that single pair fiber on OPGW links was decided in the Special Meeting on 13th May'2022 and is thus being taken up for approval.

DD, NERPC informed that for Mumbai Islanding Schemes dedicated fiber has been used for all communication purpose and as such there is a precedent. Further, with dedicated fiber only Islanding Scheme related traffic would be allowed thus reducing threats of Cyber Attack inspite of severe under utilization.

CGM, CTU stated that usually E1 is sufficient to cater to the requirements of any Special Schemes such as SPS, Islanding Scheme etc. and if there is no specific requirement for dedicated fiber then E1 may be utilized for the scheme.

DD, NERPC opined that with E1 Cyber Security Aspects must be considered in miniscule detail and the responsible utility (AEGCL/POWERGRID) must cater to all Audits and compliance in future at own cost.

After detailed deliberation the forum decided the following:

1. For the above links as many E1s as required shall be spared for the Guwahati Islanding Scheme by AEGCL/POWERGRID
2. Any upgradation of Terminal Equipment shall be considered as part of the IS DPR.
3. Firewall will be included in the DPR
4. Future upgradations, Cyber Security compliance, Audit and maintenance of the equipments/systems installed under the Islanding Scheme shall be carried out by the respective utility.

In the meeting it was discussed that since AEGCL has a ring type network from SLDC to Salakati, the telecom panels under ULDC and SCADA of AEGCL may be upgraded to cater the physical ports and bandwidth for interfacing both ULDC, SCADA data as well as upcoming Guwahati Islanding Scheme. The list of equipment/sites to be replaced has been detailed below.

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SN	Site Name for replacement with STM 16	Existing Equipment	Remarks
1.	SLDC	Keymile (STM1), ECI(STM4)	RING 1
2.	Sisugram	Keymile (STM1)	
3.	Rangia	Keymile(STM1)	
4.	Barnagar	Keymile(STM1)	
5.	Dhaligaon	Keymile(STM1)	
6.	Salakati	Keymile(STM1)	

SI No	Site Name for replacement with STM 16	Existing Equipment	Remarks
1.	SLDC	Keymile (STM1), ECI(STM4)	RING 2
2.	Sarusajai	ECI(STM4)	
3.	Boko	ECI(STM4)	
4.	Agia	ECI(STM4)	
5.	Salakati	ECI(STM4)	

SI No	Site Name for replacement with STM 16	Existing Equipment	Remarks
1.	SLDC	Keymile (STM1), ECI(STM4)	RING3 via Rangia to Slakati
2.	Sarusajai	Keymile (STM1)	
3.	Samaguri	Keymile(STM1), ECI(STM4)	
4.	Sonabil	Keymile (STM1)	
5.	Depota	Keymile (STM1)	
6.	Rowta	Keymile (STM1)	
7.	Sipajhar	Keymile (STM1)	
8.	Rangia	Keymile (STM1)	

The Sub-Committee noted as above.

Action: AEGCL, NERTS.

C.6 Allocation of fibers on upcoming links for Guwahati Islanding Scheme:

Sl. No	Name of the link	Owner Utility	Total no. of fiber	Name of the Scheme	Target
1	Bongaigaon(PG) - Balipara	POWERGRID	48	Reliable Communication	2023
2	Balipara - Misa	POWERGRID	48	Reliable Communication	2023
3	NEHU – NERLDC	POWERGRID	48	Reliable Communication	2023
4	Bongaigaon(AS) – Salakati(PG)	POWERGRID	48	NER-FO	2023
5	Khliehriat(ME) - NEHU	MePTCL	48	NERPSIP	2022

Respective utilities may please provide the confirmation of fiber allotment as and when the link is commissioned and also intimate the exact commissioning schedule.

Deliberation of the sub-Committee:

Pls refer to discussion in **item No.C.5**

The Sub-Committee noted as above.

Action: NERTS.

C.7 New OPGW links required for Guwahati Islanding Scheme:

The following lines are having no OFC connectivity and it is proposed for laying of OPGW (with terminal equipments, accessories) for the Islanding Scheme:

Sl. No	Name of the line/line section	Owner Utility	Proposed Total no. of fiber	Remarks
1	220kV Bongaigaon (PG) – Salakati(PG)	POWERGRID	48	Proposed for 24F only
2	220kV Sarusajai – Samaguri LILO at Jawaharnagar(LILO portion only)	AEGCL	48	
3	220kV Sarusajai – Samaguri LILO at Sonapur(LILO portion only)	AEGCL	48	
4	220kV Karbi Langpi - Sarusajai	AEGCL	48	
5	132kV Kamakhya - Sishugram	AEGCL	48	
6	132kV Kamakhya - Sausajai	AEGCL	48	
7	132kV Dispur - Kahilipara	AEGCL	48	
8	132kV Dispur - Chandrapur	AEGCL	48	
9	132kV Chandrapur - Sonapur	AEGCL	48	
10	132kV Narengi – Kahilipara	AEGCL	48	

Deliberation of the sub-Committee:

After detailed deliberation the forum approved the above list and to be included in the Guwahati IS DPR alongwith telecom equipment of STM 16.

The Sub-Committee noted as above.

Action: NERTS/ AEGCL.

ADDITIONAL AGENDA FROM MePTCL:

C.8 Laying of OPGW and handing over of fiber of 132kV NEHU - NEIGRIHMS:

AEE(Communication), MePTCL informed that on the 22nd June, 2022, the transmission tower at location No. 9 for 132kV NEHU-NEIGRIHMS line got twisted and the OPGW laid across this line is found to be broken.

However, after the same has been confirmed from the AEE Carrier & Communication Sub-Division that during the incident none of the power system related data traffic was affected, this was further confirmed from SLDC except Internet Leased Line of SLDC leased via Powertel and VOIP connectivity between NERLDC and SLDC NEHU. Moreover, as per available Drum Schedule of OPGW under NERFO scheme, 24 fibers are supposed to be laid and commissioned in 132kV NEHU-NEIGRIHMS transmission line and subsequently handover to our esteemed organization upon completion. However, as per discussion with the project implementing agency (M/s PGCIL) it was informed that only one pair of fiber can be spared for end-to-end MePTCL connectivity utilization.

Therefore, in view of the above, NERPC is requested for kind intervention in seeking clarification on the ownership of the said OPGW via-a-vis its utilization.

Deliberation of the sub-Committee:

It was clarified by the forum that NERTS-POWERGRID is laying the OPGW with terminal equipments under NER-FO scheme (State Sector). Thus, after completion of the same the 6 pair will be kept for ULDC and rest handed over to MePTCL.

Sr.GM(ULDC), NERTS informed that information regarding “one pair of fiber” being handed over was communicated incorrectly by the executing party engaged by POWERGRID and fibers would be handed over as per deliberation in 15th TCC/RPC meeting.

The Sub-Committee noted as above.

Action: NERTS.

D. ITEMS FOR STATUS

D.1. Status of U-NMS:

In 20th TCC/NERPC meeting U-NMS was approved for the region under tariff mechanism with the following (not exclusive) features:

- U-NMS shall acquire data directly from existing NMS and also from nodes not integrated with existing NMS for all ISTS and all other Utility communication links. The U-NMS will acquire information of communication network of ISTS, State Utility and cross border communication system. The UNMS application shall facilitate for controlling, managing, operation, fault detection, restoration, and maintenance of ISTS and State communication system
- U-NMS configuration proposed at Regional and National levels shall provide graphical representation of topology of nodes and links, discovery of Network Elements and sub-systems, Facility of end to end provisioning of bandwidth centrally, Fast fault resolution and reduced restoration times, Proactive maintenance and Customer support and working out channel availability etc., apart from analytics for predictive maintenance etc
- U-NMS Project is conceived to facilitate Centralized Supervision for ISTS Communication in compliance to CERC Regulation for Communication System notified in May'17 as present NMSs do not have visibility of entire network and are not capable to support the requirements envisaged for ISTS Communication Minutes of 20th TCC & 20th NERPC Meeting held on 12th September, 2019 at Guwahati 34 in CERC Regulation. Proposed U-NMS configuration at regional level shall also consider integration of NMSs of State Communication Network to facilitate STUs monitor and maintain their network with the help of Work Station provided at their location having direct access of Regional Server.

NERTS-POWERGRID may please update the present status and confirm whether in event of one of the State-NMS being down, the links reporting to the State-NMS shall continue to report to the U-NMS.

Deliberation of the sub-Committee:

Manager, NERTS informed the forum that currently development is being done in the development server and communication with individual NMS vendor is being carried out. If the state NMS is down, links will not report to Main and Backup UNMS.

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However, provision can be done to monitor from main & backup UNMS via central NMS of individual vendors. The same will be discussed with M/s Sterlite for the same.

The Sub-Committee noted as above.

Action: NERTS.

D.2. Project status of NERPSIP and Arunachal Pradesh Comprehensive Scheme:

In the 23rd NETeST Meeting held on 22.07.2022 the detailed status as intimated by NERPSIP is given below:

Status of Communication works i.r.o. Assam under NERPSIP

Sl No	Line details		OPGW stringing	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2 status	Commissioning	Remarks
I	ASSAM STATE								
1	Samuguri SS (Ex)	Sankardev Nagar (Ex)	Stringing completed	Supplied but not installed. Target Date: Oct-22	Supplied but not installed. Target Date: Oct-22	Will be completed by Nov-22	Will be completed by Nov-22	Nov-22	FOTE is stored at Godown of AEGCL at Samuguri.
2	132kV Sonabil (Ex)	132kV Balipara (Ex)	Stringing completed	Installed & Commissioned in the month of June-22	Installed and commissioned in the month of June-22	Installed	DCPS installation under progress	Link established. But local patching in Balipara will be completed by Aug-22	Local patching in Balipara is pending. The same will be completed by Aug 2022.
3	132kV Rangia (Ex)	132kV Rowta (Ex)	Feb-23	Supplied but not installed. Target Date: Dec-22	Supplied but not installed. Target Date: Dec-22	Battery bank Supply will be done in Jan-	Battery bank Supply will be done in Jan-	Feb-23	Tower schedule to be obtained from AEGCL. Survey is under progress

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						23.	23.		jointly by POWER GRID and Schenze n.
4	132kV Tinsuki a (Ex)	132kV Rupai (Ex)	Jan-23	Supplied but not installed. Target Date: Dec- 22	Supplie d but not installe d. Target Date: Dec-22	Batter y bank Suppl y will be done in Dec- 22	Batte ry bank Suppl y will be done in Dec- 22	Jan-23	
5	132kV N Lakhim pur (Ex)	132kV Dhemaji (Ex)	Stringing completed	Installed and commissi oned. SAT is pending.	Installe d and commi ssioned . SAT is pendin g.	DCPS suppl y will be done in Sept- 22	Comp leted	Commi ssionin g done. DCPS has suppli ed at Site, Howev er, erectio n to be done. DCPS will be install ed by Sep-22	
6	132kV Gohpur (Ex)	132kV N Lakhimp ur (Ex)	Stringing completed	Installed and commissi oned. SAT is pending.	Installe d and commi ssioned . SAT is pendin g.	DCPS suppl y will be done in Sept- 22	DCPS suppl y will be done in Sept- 22	Commi ssionin g done, Howev er DCPS to be install ed at SS and SAT to be comple ted. DCPS will be install ed by Sep-22	

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7	132kV Mariani (Ex)	132kV Golaghat (Ex)	Stringing completed	Supplied but not installed. Target Date: Nov-22	Supplied but not installed. Target Date: Sept-22	Will be completed by Nov-22	Will be completed by Nov-22	Nov-22	Mariani Location to be finalised . AEGCL to conform the space for erecting the FOTE panels inside Mariani.
8	132kV Golaghat (Ex)	132kV Bokajan (Ex)	Stringing completed	Supplied but not installed. Target Date: Sept-22	Supplied but not installed. Target Date: Oct-22	Supply and installation will be completed by Nov-22	Supply and installation will be completed by Nov-22.	Nov-22	
9	132kV Jorhat (Ex)	132kV Mariani(e x)	Sep-22	Supplied but not installed. Target Date: Oct-22	Supplied but not installed. Target Date: Nov-22	Supply and installation will be completed by Nov-22.	Supply and installation will be completed by Nov-22.	Nov-22	
10	132kV Nazira (Ex)	132kV Jorhat (Ex)	Stringing completed	Supplied but not installed. Target Date: Nov-22	Supplied. Installation by Oct-22	Nov-22	Nov-22	Nov-22	
11	LILO of Rangia-Kahilipara at Kamakhya Line		Aug-22	Supplied but not installed. Target Date: Jan-23	Supplied but not installed. Target Date:	Supply and installation will be completed	Supply and installation will be comp	Jan-23	

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				Jan-23	by Jan-23.	leted by Jan-23.		
12	LILO of Rangia-Kahilipara at Kamalpur Line	Aug-22	Supplied but not installed. Target Date: Jan-23	Supplied but not installed. Target Date: Jan-23	Supply and installation will be completed by Jan-23.	Supply and installation will be completed by Jan-23.	Feb-23	
13	SLDC		Supplied and installed	Not applicable	DCPS will be supplied and installed by Oct-22	Not applicable	SDH/PDH will be commissioned by end of Oct-22.	

Further in the meeting it was decided that AEGCL & POWERGRID would carry out a survey for the port availability at MUX level for integration with existing network of AEGCL/ULDC respectively.

NERPSIP may please update along with the status of the other states.

Deliberation of the sub-Committee:

Manager, NERPSIP stated that the detailed status (in above tabular format) for all states shall be submitted by 16th August'2022. Member Secretary, NERPC requested NERPSIP-POWERGRID to assign an official (for each state) related to Telemetry & Communication Works under NERPSIP. He also stated that NERPC will take monthly review meeting for these projects.

The Sub-Committee noted as above.

Action: all state utilities, NERPSIP-POWERGRID, Comprehensive-POWERGRID& NERPC.

D.3. Status of FO works under different projects:

S. No.	Link name	Utilities to respond	As per 23 rd NETeST
I. Fiber Optic Expansion Projects			
Tripura State Sector			
1	132kV Rokhia (GBPP) - Surjamani Nagar (TSECL)	TSECL	<ul style="list-style-type: none">TSECL informed that links are recommended in NER Reliable communication scheme which will be executed by state. For which TSECL has submitted DPR for PSDF funding on 07th July 2022.Thus, these links will not be monitored under NER FO Expansion project
2	132kV Surjamani Nagar (TSECL) - Monarchak (NEEPCO)		
Meghalaya State Sector			
3	132kV NEHU - NEIGRIMS	POWERGRID-NERTS	<ul style="list-style-type: none">POWERGRID-NERTS informed that link is completed by splicing one pair of fiber at both ends. Rest fibers will also be spliced by POWERGRID-NERTS by July'22.
Central Sector			
4	400kV Bongaigaon (PG) - 220kV Salakati - 220kV BTPS	POWERGRID-NERTS	<ul style="list-style-type: none">POWERGRID-NERTS informed that RoW issue has been resolved and gangs are mobilised recently to sites after reduction in rain. Team for Mirza-Byrnihat to be deployed in August 2022.Target date for both links: November 2022
5	400kV Mirza (Azara) – Byrnihat		
6	400kV Silchar – Pallatana		<ul style="list-style-type: none">Stringing for 210km out of 248km has been completed.Due to heavy rain, teams were not able to work at sites. However, teams are again mobilised to site.Target date is November 2022.
7	132kV Pare – Chimpu		<ul style="list-style-type: none">Stringing for 4 km out of 31 km has been completed.Due to heavy rain, teams were not able to work at sites. However, teams will again be mobilised to site

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			<p>by 01st August 2022. Intimation letter already sent to DOP AP dtd 20.07.2022.</p> <ul style="list-style-type: none"> Target date is October 2022.
Manipur State Sector			
8	132kV Imphal (State) – Karong	MSPCL and POWERGRID	<ul style="list-style-type: none"> MSPCL informed that diversion work is not completed due to RoW issue in the line. MSPCL requested NERTS to lay the OPGW on the existing line and gave permission to carry out the work. NERTS informed that work has been already completed upto the diversion portion. Target date for completion of link is January-2023.
Mizoram State Sector			
9	Aizawl – Luangmual	PE &D and POWERGRID-NERTS	<ul style="list-style-type: none"> NERTS informed that Stringing of the link has been Completed but commissioning of link is still pending. Target date for completion of link is August 2022.

The Sub-Committee noted as above.

Action: TSECL, MSPCL & NERTS.

D.4. Status and details of OPGW projects approved in 17th TCC/RPC meeting:

- A. **Additional Communication Scheme:** Status as per 22nd NETeST meeting attached as Annexure-D.4(a)

Sl. No.	Lines	Target date	OPGW Stringing	Equipment Installation
1.	132 kV Silchar - Hailakandi (Part of line)	September 2022	Stringing Completed. Approach cable laid.	Material Delivered
2.	132 kV Roing – Pasighat	January 2023	44/103 km completed.	Material Delivered

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3.	132 kV Roing – Tezu	January 2023	Stringing of 29/73 km is completed	Material Delivered
4.	132 kV Tezu – Namsai	January 2023	Stringing of 82/96 km is completed	Material Delivered
5.	132 kV Tuirial – Kolasib	January 2023	--	Material Delivered
6.	400 kV Balipara – Kameng	October 2022	Completed	Installed. DCPS to be installed by Oct'22. However, it is decided that DC power to FOTE will be extended using station DCPS on temporary basis. NEEPCO confirmed that same will be done after checking the feasibility at Kameng Plant.
7.	400 kV Bongaigoan – Killing (Byrnihat)	September 2022	Stringing of 200/202 km. Remaining 2km stringing will be completed subject to approval of shutdown.	Material Delivered
8.	400 kV Silchar – Killing (Byrnihat)	December 2022.	Stringing of 56/216 km is completed	Material Delivered

The Sub-Committee noted as above.

Action: NERTS.

B. Reliable Communication Scheme:

- a. POWERGRID has informed that addition of 132kV Longlak-Mokokchung, 132kV Umiam Stg-I –Stg-II, 132kV Umiam Stg-III to Umiam Stg-IV, 132kV Khliehriat –Mustem, 132kV NEHU- Mawlyndep and 132kV EPIP – Killing will be put up in 22nd NERPC/TCC agenda for approval.

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POWERGRID-NERTS is requested to provide updated list of links which
will be coming under the project after inclusion of new links.

List of links are attached as **Annexure-D.4(b)**.

Deliberation of the sub-Committee:

Asst. Manager, NERLDC stated that the OPGW connectivity is required for the following links:

- (a) 132kV Longlak - Mokokchung, (b)132kV Umiam Stg-I –Stg-II, (c) 132kV Umiam Stg-III to Umiam Stg-IV, (d)132kV Khliehriat – Mustem, (e) 132kV NEHU- Mawlyndep and (f) 132kV EPIP – Killing.

Manager, NERPSIP stated that OPGW has been laid from LILO point to 132kV Longnak alongwith terminal equipment at 132/33kV Longnak. EE, SLDC, DoP Nagaland requested 132kV Longnak – Mokokchung to be included under Reliable Communications Scheme. The forum concurred.

AEE, MePTCL stated that OPGW connectivity for 132kV Umiam Stg-I –Stg-II, 132kV Umiam Stg-III to Umiam Stg-IV, 132kV Khliehriat –Mustem, 132kV NEHU- Mawlyndep and 132kV EPIP – Killing will be done by MePTCL.

The Sub-Committee noted as above.

Action: all state utilities, NERTS.

D.5. Selected cases of Sub-stations for rectification of corresponding data/communication related issues:

Utility	Station	Requirement	Remarks
NEEPCO	Ranganadi HEP	<ul style="list-style-type: none"> Second Channel via Pare-Chimpu 	BNC-Ranganadi link is also now available as per latest development. Thus, this link can also be used for second channel of RHEP. NEEPCO and NERTS agreed to extend the second channel using BNC-Ranganadi link.
		<ul style="list-style-type: none"> Unit side (LV of GT) data needs to telemeter from site. 	Requirement completed.

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Utility	Station	Requirement	Remarks
	Doyang	<ul style="list-style-type: none"> After changing/upgradation work of Current Transformer (CT) of all feeders, the real-time SCADA data is reporting wrong. The same modification is required in transducer of RTU. Unit side (LV of GT) data needs to be telemetered. 	Requirement completed.
OTPC	Palatana	<ul style="list-style-type: none"> Unit side (LV of GT) data needs to be telemetered. 	OTPC intimated that all works will be completed by October'2022.

The Sub-Committee noted as above.

Action: NEEPCO, OTPC.

D.6 VSAT established at Roing, Tezu and Namsai stations in Arunachal Pradesh:

POWERGRID-NERTS mentioned that the issue of non-reporting of data in Namsai station was due to software and gateway issue in SCADA Gateway at site which was expected to be resolved by March 2022. The present status of data availability from afore-mentioned stations is stated in table below

Sl. No.	Name of Station	Communication link	Telemetry status
1	Roing	Healthy	Intermittent due to gateway issue at site.
2	Tezu	Healthy	Healthy.
3	Namsai	Healthy	Rectified.

Deliberation of the sub-Committee:

NERTS informed the forum that for Roing sub-station, after thoroughly checking of the link, it seems that the issue is in router installed at site. In this regard, a docket has been raised to NELCO helpdesk and NELCO is planning to replace the router at 132 kV sub-station by July -2022. For Namsai sub-station, the link is working fine.

The Sub-Committee noted as above.

Action: NERTS.

D.7 Integration of Dikshi HEP real time data and pending Voice communication:

M/s Devi Energies informed that due to bandwidth and some technical limitations in VSAT link availed by it, the alternate arrangement for PLCC system has been made which will have provision for speech/data/protection. It was mentioned that installation and commissioning of PLCC will be completed by May 2021.

As per 21st NETeST meeting, NERPC informed the forum that M/s Devi Energies has committed via mail that they will complete the work by January-2022. Further, the forum decided that if M/s Devi Energies are not able to complete the work by January-2022, DoP, Arunachal Pradesh should take strong action against M/s Devi Energies which may include restricting their generation till work is completed.

As per 22nd NETeST meeting, M/s Devi Energies intimated to the forum through mail that all associated works will be completed by June 2022.

Deliberation of the sub-Committee:

AE, SLDC DoP Ar. Pradesh informed that PLCC panel at Khupi for the erstwhile 132kV Balipara – Khupi will be shifted to Tenga and out of the two new panels at Tenga one will be shifted to Khupi. Thereafter PLCC for 132kV Balipara-Tenga and 132kV Tenga-Khupi shall be operational. He assured that the above works alongwith SCADA reporting shall be completed by Aug'22.

The Sub-Committee noted as above.

Action: DoP, Arunachal Pradesh, M/s DEVI Energies Pvt. Ltd.

D.8 Automatic Generation Control (AGC) in Indian Grid:

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Station Name	Background	Status as per 23rd NETeST Meeting
BgTPP	Unit-2 needs to be integrated.	Configuration done in all the units.
AGBPP (Kathalguri)	<p>OEM visits was envisaged as per following –</p> <ul style="list-style-type: none"> • Some units are of Mitsubishi make which require team from Japan to visit plant. • Other units are of GE-make and BHEL-make 	<ul style="list-style-type: none"> • NEEPCO informed the forum that Mitsubishi has submitted the offer for necessary works. NEEPCO has also issued LC to M/s Mitsubishi, which is yet to confirm the same. Once Mitsubishi confirms the same, they will visit plant to carry out the work. Thus, target date for 04 nos. of Mitsubishi make GTGs is December 2022. • NEEPCO informed the forum that proposal for AGC implementation in 02 nos. of BHEL&GE make GTS is approved by NEEPCO board. However, BHEL & GE officials are yet to submit quotation for the implementation. Thus, target date for 2 GTGs will be conveyed in later stage.
Kopili	NEEPCO may update the status	Plant is under R&M, and AGC package is considered under R&M also which is expected to be completed by 2023.
Kopili II	NEEPCO may update the status	Plant is under R&M, and AGC package is considered under R&M also which is expected to be completed along with Khandong R&M completion. Thus, forum requested NEEPCO to go ahead with AGC implementation without waiting further.
Doyang	NEEPCO may update the status	NEEPCO raised the concerned that R&M of DHEP will increase the tariff of plant as it is a relay-based plant. NEEPCO is still under internal discussion and will update the status in next NeTEST meeting.
Khandong	NEEPCO may update the status	Plant will undergo R&M in 2024, and AGC package is considered under R&M also which is expected to be completed by 2024.

The Sub-Committee noted as above.

Action: NEEPCO, NTPC.

D.9 RGMO/FGMO status:

It was discussed that stations may give target dates for respective plants as the requirements are long pending and COVID restriction are relaxed across the nation. Thus, the discussion is tabulated below:

Station name	RGMO status	FGMO status
Kopili Extension (1 unit)	RGMO signals were extended to NERLDC, however after flash flood incident Kopili Ex is under R&M and once R&M is completed RGMO signal will be available to NERLDC.	FGMO signals were extended to NERLDC, however after flash flood incident Kopili Ex is under R&M and once R&M is completed FGMO signal will be available to NERLDC.
Ranganadi (3 units)	Requirement completed.	Requirement completed.
OTPC (4 units)	OTPC intimated that all works will be completed by October'2022.	OTPC intimated that all works will be completed by October'2022.
DHEP	Requirement completed.	Requirement completed.

The NERLDC has shared Input-Output (I/O) list related to RGMO and FGMO points to all power plants as and when the utilities are ready to provide the status.

The Sub-Committee noted as above.

Action: OTPC, NEEPCO.

D.10 Pending issues of State Utilities of NER:

The utility-wise discussion is tabulated below:

Utility	Pending issues	Status as updated in the 23 rd NETeST meeting
Assam	SAS upgradation related works may be updated.	<ul style="list-style-type: none"> AEGCL informed that the project is expected to be completed by September 2022. AEGCL informed that LOA has been placed and Drawing has been also approved. AEGCL will submit the status of all station under SAS upgradation to NERLDC and NERPC by July'22.
Tripura	Dhalabil	<ul style="list-style-type: none"> Dhalabil FO is under diversion due to LILO works which is yet to completed by NERPSIP. FOTE at Ambassa is yet to be
	Ambassa	
	Sabroom, Satchand	
	13 stations not covered	

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	under NER-FO expansion project	installed by NERPSIP. • Sabroom and Satchand is restored over GPRS.
Meghalaya	Procurement of DI card from PSDF is pending.	• MePTCL will propose procurement of new RTUs under DPR.
Manipur	Churachandpur, Kongba and Kakching	Work will be completed by August 2022
	Elangkhampokpi, Thanlon, 132kV Thoubal	Board approval is required for DPR preparation
Nagaland	Meluri	DoP, Nagaland proposed procurement of RTU under PSDF fund.
	Kiphire	Meluri-Kohima line is still under diversion due to road construction work. PLCC will be restored once line is restored over new towers.
	LHEP	DoP, Nagaland informed that VSAT is proposed for LHEP.
Mizoram	Luangmual	Luangmual will made through via OPGW once 132 kV Aizawl – Lungmual (Zemabwak-II).
	Zuangtui	<ul style="list-style-type: none"> • PE&D Mizoram informed that all isolators are manually operated and there is no auxiliary contacts available for isolators. • NERPC informed that all such isolators should have been replaced in R&U project which is PSDF funded. • PE&D Mizoram is requested to take necessary actions to replace such isolators.
	Kolasib	• PE&D Mizoram informed that all isolators are manually operated and there is not auxiliary contacts available for isolators.

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		<ul style="list-style-type: none"> NERPC informed that all such isolators should have been replaced in R&U project which is PSDF funded. PE&D Mizoram is requested to take necessary actions to replace such isolators.
	Saitual, Khawzawl, Champhai, Serchhip, Lunglei	<ul style="list-style-type: none"> RTUs are proposed in DPR for new RTU project and VSAT are proposed for these locations.
Arunachal Pradesh	VSAT installation	<ul style="list-style-type: none"> DoP, Arunachal Pradesh informed that VSAT has been commissioned at 7 out of 8 stations. NERLDC emphasized that maintenance and availability of VSAT link should be taken care of by DoP, Arunachal Pradesh. DoP, Arunachal Pradesh informed that joint visit with M/s GE is required at 132 kV Daprijo S.s to investigate the extent of damage to RTU after fire incident. M/s GE and DoP, Arunachal Pradesh agreed to visit by 29th July 2022.

The Sub-Committee noted as above.

Action: all state utilities.

D.11 Feasibility to connect Lekhi Substation over Fiber-Optic Network:

NERTS requested the forum to divert the material of 132kV Surjamani Nagar (TSECL) - Monarchak (NEEPCO) or 132kV Rokhia (GBPP) - Surjamani Nagar (TSECL) to Lekhi S/S, but NERPC informed that proposal may be kept on hold as NERPC will take up the matter with TSECL for completion of the above-mentioned links.

As per 22nd NETeST meeting, it was decided that due to delay in line construction of 132kV SM Nagar-Rokhia D/C and 132kV SM Nagar – Monarchak, the OPGW laying activities will be deleted from NER-FO Expansion project scope and will be included in NER Reliable communication scheme after getting request-in-writing from TSECL. Thus, end equipment (FOTE) of 132kV Rokhia station (TSECL) will be diverted to 132kV Lekhi S/s for terminating the fiber-optic at 132kV Lekhi station subject to confirmation of NERPSIP as equipment are under its ownership.

Deliberation of the sub-Committee:

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GM, TSECL informed the forum that FOTE installed, during NER FO expansion, at 132 kV Rokhia is being used for Rokhia – Udaipur direction. Thus, FOTE installed at Rokhia cannot be shifted. NERLDC affirmed that FOTE installed, during NER FO expansion, is not being used yet and can be shifted to Lekhi sub-station. As new FOTE will be installed during NER reliable communication scheme project. GM, TSECL informed that they will confirm the shifting of Monarchak FOTE to forum by July'22.

The Sub-Committee noted as above.

Action: TSECL, POWERGRID.

D.12 Wrong status of Isolators and CB status at 132kV SM Nagar S/S:

TSECL requested NERTS to rectify the issue of CMR for the 132 kV SM Nagar – Comilla Line 1 and 2; 132 kV Palatana – SM Nagar line in SM Nagar station as the above lines are maintained by NERTS itself. TSECL will rectify the issue of all other bays in coordination with GE. A summary is tabulated below:

Sl. No.	Name of the bay	Status as updated in the 23rd NETeST meeting
1.	Comilla Bay - 1	Rectified
2.	Comilla Bay - 2	Rectified
3.	Palatana Line	Rectified
4.	Bus Coupler	Rectified
5.	SM Nagar (Indigrid) Line	Rectified
6.	BJ Nagar Line	Rectified
7.	Agartala Line-1	Rectified
8.	Agartala Line-2	Rectified
9.	132/33 kV ICT - 1	ICT is not at site.
10.	132/33 kV ICT - 1	Rectified

The Sub-Committee noted as above.

Action: TSECL, NERTS.

D.13 Integration of STERLITE owned OPGW with ULDC network:

Under NER Strengthening scheme, Indigrid (erstwhile Sterlite) has constructed following lines along with OPGW:

1.132 kV R C Nagar – PK Bari (TSECL) D/c: Will provide additional path between Agartala and PK Bari.

2.400 kV Silchar – Misa D/c: Will provide additional link between south NER and North NER.

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 3.132 kV BNC-Chimpu D/c: Will provide additional path between Arunachal Pradesh and rest of NER.

4.132 kV PK Bari (TSECL) - PK Bari (IGT): Will provide secondary path for Indigrid Stations.

Feasibility to connect the above links with existing ULDC network needs to be explored for which it was requested to POWERGRID-NERTS and Indigrid to explore the possibility of utilization of the link as alternate path.

The status as per 23rd NETeST meeting is given below:

Sl. No.	Description	As per 23 rd NETeST Meeting
1.	132 kV RC Nagar – PK Bari (TSECL)	<ul style="list-style-type: none"> CTU recommended that FOTE installed by M/s Indigrid and ULDC should be inter-patched at fiber level. NERTS-ULDC and Indigrid will investigate the possibility of the same. NERTS informed the forum that Fibers still not handed over to NERTS ULDC.
2.	400 kV Silchar-Misa D/C	<ul style="list-style-type: none"> CTU recommended that FOTE installed by M/s Indigrid and ULDC should be inter-patched at fiber level. NERTS-ULDC and Indigrid will investigate the possibility of the same. NERTS informed the forum that presently the link is down due to tower collapse. 2nos. of direct fibers will be taken and utilized for ULDC purpose after rectification of the same.
3.	132 kV BNC – Chimpu D/C	The link is integrated with existing network of ULDC. For the time being, only 2 fibers have been utilized.
4.	132 kV PK Bari (TSECL) - PK Bari (IGT)	<ul style="list-style-type: none"> CTU recommended that FOTE installed by M/s Indigrid and ULDC should be inter-patched at fiber level. NERTS-ULDC and Indigrid will investigate the possibility of the same.

Deliberation of the sub-Committee:

DD, NERPC stated that the above links were not commissioned at time of ToC and the stations were made reporting via other links in ULDC network. However, since the tariff for the entire asset (line portion + communication portion) is being booked under tariff from date of ToC the delay is unjustified. After detailed deliberation the forum requested NERLDC to include patching of OPGW links (coming with line) in

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its FTC procedure such that only after successful data reporting via the OPGW link
(with the line) ToC is granted by NERLDC.

The Sub-Committee noted as above.

Action: TSECL, POWERGRID, NERLDC.

D.14 Non-reporting of telemetry data of APGCL owned generating stations:

The status of telemetry data of generating stations owned by Assam Power Generation Corporation Limited is summarized in the table given below:

Sl. No.	Name of Generating Station	Status of Telemetry data	Target date
1.	LRPP (Lakwa Replacement Power Project)	<ul style="list-style-type: none"> All digital data are reporting wrong. 132/11 ICT 2 LV side data re not reporting. Unit 6 data is not reporting. 	September 2022 /Completed.
2.	LTPS (Lakwa Thermal Power Station)	<ul style="list-style-type: none"> All CB are reporting wrong status. All Isolators are not reporting. All HV side data of GTs are not reporting. 	Details are attached at Annexure D.14.
3.	NRPP (Namrup Replacement Power Project)	<ul style="list-style-type: none"> All digital and analog data are not reporting for GTG. 	For GTG all digital and analog data are not reporting because of the BCU (Bay Control Unit) of GTG bay is not functioning. It would be attended in next cool shutdown of GTG. Procurement of a new BCU for GTG Bay has already been initiated. Expected completion on December 2022.
4.	NTPS (Namrup Thermal Power Station)	CB of unit 3 is reporting wrong status.	Rectified.

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Sl. No.	Name of Generating Station	Status of Telemetry data	Target date
		All Isolators are not reporting.	Work will be completed on February 2023.
		Analog data of Unit 6 is not reporting.	Unit is under s/d from 22/06/2022. Hence analog data is not reporting
5.	Langpi Hydro Station	<ul style="list-style-type: none"> All digital data associated with units are not reporting. Analog data of transmission lines are not reporting. 	Procurement of RTU is under process. Work will be completed on December 2022.

In 22nd NETeST meeting, SLDC-Assam informed that APGCL is restoring the analog data in phase-1 and will restore digital data in next phase.

The Sub-Committee noted as above.

Action: APGCL.

Date & Venue of next OCC meeting:

It is proposed to hold the 24th NETeST meeting of NERPC on second week of October, 2022. However, exact date and venue will be intimated in due course.

Annexure-I**List of Participants in the 23rd NETeST Meeting held on 22.07.2022**

SN	Name & Designation	Organization	Contact No.
1	Sh. Purik Buchi , AE, SLDC	Ar. Pradesh	09366118384
2	Sh. Pranab Saha, AGM (SLDC)	Assam	09435561717
3	Sh. Ashutosh Bhattacharya, DGM	Assam	09954106916
4	Sh. Pankaj Bikash Sarmah, APGCL ,AGM	Assam	09435358402
5	Sh. Uday S. Nath, AEGCL,DGM(IT)	Assam	09864126346
6	Sh. Arup Sarmah, AEGCL,AGM	Assam	09707854367
7	Sh. Huidrom R. Meetei, Manager	Manipur	08792153086
8	Sh. N.N. Sarma, MePTCL, SE	Meghalaya	08638048997
9	Sh. Y.Iakai, AEE, SLDC	Meghalaya	09402133552
10	Sh. S.W.Khyriem, AEE (CSD)	Meghalaya	08787346704
11	Sh. C.W.Chen, AEE (C&C)	Meghalaya	09863093311
12	Sh. H. Lalruatkima, Sr. E.E, SLDC	Mizoram	09862925462
13	Sh. V.Lalhminglana, JE	Mizoram	09612763052
14	Sh. Rokobeito Iralu , SDO (T)	Nagaland	09436832020
15	Sh.S.I.Asangba Tikhir, EE (T)	Nagaland	07085508502
16	Sh. R.Deb Barman, GM	Tripura	09436122643
17	Sh. Anil Debbarma, DGM (SLDC)	Tripura	09612589250
18	Sh. Joypal Roy, GM (E/M)	NEEPCO	08837200069
19	Sh. Manas Pratim Sharma, Manager	NEEPCO	08729901871
20	Sh. Akhil Singhal, Ch. Manager	NERLDC	09650598187
21	Sh. S.P.Barnwal, GM	NERLDC	09433041812
22	Sh. Sakal Deep, Engineer	NERLDC	09774528218
23	Sh. Ashutosh Kumar, POSOCO, Asst. Manager	NERLDC	07005375868
24	Sh. Rajendra Dubey, Sr.GM (ULDC)	PGCIL	08275039218
25	Sh.Kamlesh Baishya, Asst.Mgr (ULDC)	PGCIL	09859723132
26	Sh. Pankaj Kr. Das, Sr.GM (NERPSIP)	PGCIL	09910378130
27	Sh. Abhilash A.A, AM (NERPSIP)	PGCIL	09600160276
28	Sh. Narendra Gupta, Sr. Manager (O)	OTPC	09774233426
29	Sh. Shiv Kr. Gupta, DGM	CTU	07007496879
30	Sh. Dinesh Kr. Karma, GM	CTU	09971399118
31	Sh. H.S.Kaushal, Sr. GM	CTU	09599291535
32	Sh. Tamal Bhattacharya, Service Spec.	GENUS	08436062436
33	Sh. Surender Mehra, Manager	GENUS	09958095163
34	Sh. Vivek Karthikeyan, Sr.Mgr	INDIGRID	08966903034
35	Sh. Lokendra Singh Ranawat, Head	INDIGRID	09311279183

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	(Regulatory)		
36	Sh. B. Lyngkhai, Member Secretary	NERPC	09436163419
37	Sh. S.M.Aimol, Director	NERPC	08974002106
38	Sh. S.Mukherjee, Dy.Director	NERPC	08794277306
39	Sh. Vikash Shankar, AD-I	NERPC	09455331756
40	Sh.Dinesh Kr.Singh, AD-I	NERPC	07042118261

CYBER SECURITY MEASURES IMPLEMENTATION STATUS FOR NER SLDCs (AS ON 20.07.2022)

SN	Cyber Security Measures	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
1	Preparation and approval of Cyber Crisis Management Plan (CCMP) for SLDCs	Revised CCMP submitted to CERT-GO on 19.07.22 after incorporation of comments from CERT-GO and based on new template.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.
2	Implementation status of Information Security Management System (ISMS) i.e., ISO 27001 and certification audit for ISO-27001	Under Process	Assam SLDC has received certification for ISMS (ISO 27001: 2013) on 09.07.22.	LOA issued to CDAC, Hyderabad on 3rd Nov'21 for Implementation of ISMS (ISO-27001). Work is going on for implementation of ISMS	Meghalaya SLDC has received certification for ISMS (ISO 27001: 2013) on 09.07.22.	Budgetary offers had been collected from various CERT-IN empanelled vendors and were processed for approval of Management. They have asked for resubmission of the proposal. Now, DPR has been prepared and proposal has been submitted to Management for approving C-DAC on nomination basis. Approval awaited.	Work Order placed. M/S AKS visited SLDC, Nagaland on 24th -25th May 2022 . Some policies and recommendation are to be followed for ISMS implementation.	LOA has been placed for Developing ISO 27001:2013 compliant ISMS policy, Certification and VAPT of IT Infrastructures at Tripura SLDC with CDAC on 02.05.2022 for unconditional acceptance. Following this, CDAC has visited Tripura SLDC on 01.06.2022 for face-to-face discussion. Revised LOA is under process.
3	Status of VA-PT on OT systems	Done once for FY 21-22 as part of SCADA Contract in Jan'22.	Done for FY 21-22 as a part of the AMC of SCADA/EMS project awarded to M/s GE T&D India Ltd. SLDC will be going for ISMS and VA-PT jointly for AEGCL. VA-PT of SCADA for the FY 21-22 has been done during 11/01/2022 - 17/01/2022.	Phase -1 of VAPT Audit for IT and OT systems of SLDC, Manipur was conducted by CDAC-Hyderabad from 21.12.2021 to 24.12.2021. VAPT for OT systems of SLDC by ASK Technology Services (part of GE Scada) from 12-15 Jan 2022. The VAPT was completed and the final report was generated on 6th April 2022.	Mandatory Cyber Audit by GE has been completed for URTDSM system and SCADA system in Aug'21 and Jan'22 respectively. The Audit for OT and IT systems by C-DAC has been completed on April 2022.	Done twice for FY 21-22 as part of SCADA Contract on Apr'21 & Jan'22.	(1) Done once for FY 21-22 as part of SCADA Contract by OEM in Jan'22. (2) Work Order placed. M/s AKS Information Technology Services Pvt. Ltd, Noida will carry out the VA-PT on OT System.	Done twice for FY 21-22 as part of SCADA Contract on Apr'21 & Jan'22.
4	Status of VA-PT on IT systems	Under Process	Preliminary VA of the IT systems has been done in May 2022. Reports are awaited.	Phase -1 of Cyber Security Audit for IT systems of SLDC, Manipur was conducted from 21.12.2021 to 24.12.2021 by CDAC-Hyderabad.	LOA issued to CDAC. Phase-1 of Cyber Security Audit by C-DAC has been completed in April 2022.	Budgetary offers had been collected from various CERT-IN empanelled vendors and were processed for approval of Management. They have asked for resubmission of the proposal. Now, DPR has been prepared and proposal has been submitted to Management for approving C-DAC on nomination basis. Approval awaited.	M/s AKS Information Technology Services Pvt. Ltd, Noida will carry out the VA-PT on IT systems as and when some policies are in place.	LOA has been placed for Developing ISO 27001:2013 compliant ISMS policy, Certification and VAPT of IT Infrastructures at Tripura SLDC with CDAC on 02.05.2022 for unconditional acceptance. Following this, CDAC has visited Tripura SLDC on 01.06.2022 for face-to-face discussion. Revised LOA is processing.

CYBER SECURITY MEASURES IMPLEMENTATION STATUS FOR NER SLDCs (AS ON 20.07.2022)

SN	Cyber Security Measures	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
5	Notification of IT & OT systems at SLDCs as Critical Information Infrastructure (CII)	<p>CII documents had been submitted to NCIIPC on 12/04/2022. Comments received from NCIIPC on 22.04.2022.</p> <p>Joint meeting involving SLDC, NCIIPC & NERLDC was carried out on 02.06.2022.</p> <p>Arunachal Pradesh SLDC has submitted the revised CII documents to NCIIPC on 23.06.2022.</p>	<p>Identified Systems of SLDC, Assam have been declared as CII by NCIIPC. Notification of CII as Protected Systems shall be issued by State Govt.</p>	<p>CII documents submitted to NCIIPC on 18/08/21. 1st Review meeting with East Zone held on 23/08/21.</p> <p>Last meeting held on 13/04/2022. Revised documents submitted on 23rd Mar'22.</p> <p>Comments received from NCIIPC on 22nd Apr'22. Joint meeting involving SLDC, NCIIPC & NERLDC was carried out on 02.06.2022. Final revised document shall be submitted soon.</p>	<p>Identified Systems of SLDC, Meghalaya have been declared as CII by NCIIPC. Notification of CII as Protected Systems has been issued by State Govt. on 18.04.2022.</p>	<p>CII documents submitted to NCIIPC for review on 09.11.21 email id coord.power@nciipc.gov.in. Email forwarded to us for record.</p> <p>Comments received from NCIIPC on 17th May'22.</p> <p>Joint meeting involving SLDC, NCIIPC & NERLDC was carried out on 02.06.2022.</p> <p>The revised CII documents have been submitted to NCIIPC on 06.06.2022.</p>	<p>Identified Systems of SLDC, Nagaland have been declared as CII by NCIIPC. Notification of CII as Protected Systems shall be issued by State Govt.</p>	<p>CII documents submitted to NCIIPC on 06/04/21. Has been resent to the email id coord.power@nciipc.gov.in on 19.07.21. First round of Review Meetings was carried out on 11th & 12th Aug'21. As advised modified CII document has been sent from official email ID of CISO-SLDC, TSECL (gm-transmission@tsecl.in), on 08.06.2022.</p> <p>However, NCIIPC has asked for resubmission after modifications.</p>
6	Compliance of advisories from CERT-In, NCIIPC & other statutory agencies.		Being complied	Being complied	Being complied	Being complied	Being complied	Being complied
i	To be updated in Portal for monthly compliance by 10th of every month.	Not updated in the portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal	Being Updated in Portal
ii	Compliance of advisories from Cyber Swachhta Kendra (CSK)	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.	Being Resolved. No new alerts.
7	Status of Nomination of CISO:	Done	Done	Done	Done	Done	Done	Done
	Alternate CISO (if any):	Yes	Yes	Yes	Yes	Yes	In the process	Yes
8	Cyber Security Certification:	No	No	No	No	No	No	No
9	IT - OT Integration:	Not present	Not present	Not present	Not present	Not present	Not present	Not present

Sl. No.	Name of the link	Length of OPGW	Status as in 17th RPC/TCC	Status as in 18th RPC/TCC	Status in 18th NETeST Meeting	Status in 19th NETeST Meeting	Status as in 21st NETeST Meeting		Status as in 22nd NETeST Meeting	
							OPGW Status	End Equipment Status	OPGW Status	End Equipment Status
1	132 kV Silchar - Hailakandi (Part of line)	17 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Stringing work is under progress.	Work under progress	Stringing work is completed except approach cable laying	Equipment supplied and delivered at site except DCPS system.
2	132 kV Roing – Pasighat	103 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Material is delivered in the month of November 2021. OPGW stringing is yet to be started.	Material is delivered in the month of November 2021. Installation is yet to be started.	Stringing work is under progress.	Equipment supplied and delivered at site except DCPS system.
3	132 kV Roing – Tezu	73 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Material is delivered in the month of November 2021. OPGW stringing is yet to be started.	Material is delivered in the month of November 2021. Installation is yet to be started.	Stringing work is under progress.	Equipment supplied and delivered at site except DCPS system.
4	132 kV Tezu – Namsai	96 KM	NA	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Material is delivered in the month of November 2021. OPGW stringing is yet to be started.	Material is delivered in the month of November 2021. Installation is yet to be started.	Stringing work is under progress.	Equipment supplied and delivered at site except DCPS system.
5	132 kV Tuirial – Kolasib	70 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Material is delivered in the month of November 2021. OPGW stringing is yet to be started.	Material is delivered in the month of November 2021. Installation is yet to be started.	Stringing work is yet to start.	Equipment supplied and delivered at site except DCPS system.
6	400 kV Balipara – Kameng	75 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Completed.	SDH/PDH installed but DCPS (DC Power Supply) is yet to deliver.	Completed.	Equipment supplied and delivered at site except DCPS system.
7	400 kV Bongaigoan – Killing (Brynihat)	200 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Stringing work is completed except a small portion in which line is under diversion due to upcoming railway line. POWERGRID-NERTS will complete the stringing after diversion work is completed.	Material is delivered in the month of November 2021. Installation is yet to be started.	Stringing work is completed for 198kms/202 kms, except a small portion in which line is under diversion due to upcoming railway line. POWERGRID-NERTS will complete the stringing after diversion work is completed.	Material is delivered in the month of November 2021. Installation is yet to be started.
8	400 kV Silchar – Killing (Brynihat)	217 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. Target date: December'21	Material is delivered in the month of November 2021. OPGW stringing is yet to be started.	Material is delivered in the month of November 2021. Installation is yet to be started.	Stringing work is completed for 43 kms/216 kms	Material is delivered in the month of November 2021. Installation is yet to be started.

List of Links to be implemented for replacement of old FO under Reliable Communication Scheme in NER region

SN	FROM	TO	KM	18th RPC	18th NeTEST	19th NeTEST	20th NeTEST	21st NeTEST	22nd NeTEST
1	NEHU	Shillong UNDER GROUND FO	6.23	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
2	Khliehriat(MESEB)	Khliehriat(PGCIL)	7.791	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
3	Khliehriat	Khandong(PGCIL)	40.99	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
4	Khandong(PGCIL)	Kopliili(PGCIL)	11.191	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
5	Misa(PGCIL)	Kopliili(PGCIL)	73.186	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
6	Misa(PGCIL)	Balipara(PGCIL)	94.046	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
7	Misa(PGCIL)	Dimapur(PGCIL)	119.192	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
8	Badarpur(PGCIL)	Khliehriat(PGCIL)	73.183	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
9	Badarpur(PGCIL)	Kumarghat(PGCIL)	117.519	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
10	Agartala Gas(PGCIL)	Kumarghat(PGCIL)	99.817	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
11	Agartala(PGCIL)	Agartala Gas(PGCIL)	7.416	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
12	Dimapur (PGCIL)	Kohima(PGCIL)	59.8	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
13	Kohima(PGCIL)	Imphal(PGCIL)	105.64	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
Sub Total SC&C			816						

List of Links to be implemented new under Reliable Communication Scheme in NER region

S No	Name of Link	From	To	Voltage in KV	Length in Kms 17th TCC	Length in 18th TCC	Remarks	18th RPC	18th NeTEST	19th NeTEST	20th NeTEST		22nd NeTEST
1	Mariani (new)- Misa II	Mariani (new)	Misa	400	223	223	No fibre	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
2	Bongaigaon III (quad)-Balipara	Bongaigaon	Balipara	400	309	309	Redundant path for reliable communication as line have Four ckts and Telecom fibre in ckt-I only.	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
3	Silchar - P. k. Bari	Silchar	P. k. Bari	400	127	0	Administrative Issue for Laying OPGW over Silchar-PK Bari. Connectivity achieved through Silchar-Palatana repeater at PK Bari	—	—	—	—	—	—
4	Misa - Kopli	Misa	kopli	220	73	73	Redundant path for reliable communication as Line have three ckts and OPGW in only one ckt.	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
5	Jiribam - Haflong	Jiribam	Haflong	132	101	101	Redundant path for reliable communication	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
6	Biswanath Chariali - Biswanath Chariali(Pavoi)	Biswanath Chariali	Pavoi	132	13	13	No fiber. Double ckt line	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
7	Tezu-Namsai	Tezu	Namsai	132	96	0	Shifted to Add Communication	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
8	Silchar - Byrnihat	Sichar	Byrnihat	132	217	0	Shifted to Add Communication	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
9	Balipara -Bongaigaon-1	Balipara	Bongaigaon	400	0	290	No ULDC fiber	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
10	Kopili Khandong-other circuit	kopili	khandong	132	0	12	redundant path	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
11	Khandong Khliehriat other circuit	khandong	khliehriat	132	0	43	redundant path	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
12	Other Line Future	CS1	CS2	400/220/132	0	95	Provision Kept for CS or redunadnat link as required for ring formation	Project Approved	Tender is yet to be awarded	Tender is yet to be awarded	Tender is yet to be awarded	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months	Tender awarded on 12-November-2021 to M/s Apar Industries with completion target of 24 Months
					Total	1158	1158						

Report on telemetry Status of LTPS (Phase-II) ANNEXURE-A as on 27-07-2022

Sl No	Equipment	Make/Type	Specifications	Requirements to make Telemetry Compliant
1	11 kV Generator circuit breaker of GT#5	Siemens	12 kV VCB, indoor circuit breaker, type-3AF, 2000 Amps, 31.5 kAmps	completed at LTPS end. OK at SLDC
2	11 kV Generator circuit breaker of GT#6	Siemens	12 kV VCB, indoor circuit breaker, type-3AF, 2000 Amps, 31.5 kAmps	completed at LTPS end. Suspect at SLDC
3	11 kV Generator circuit breaker of GT#7	Siemens	12 kV VCB, indoor circuit breaker, type-3AF, 2000 Amps, 31.5 kAmps	completed at LTPS end. Suspect at SLDC
4	Generating transformer of unit#5 132 kV breaker	Crompton Greaves	Type- 120 -SFM-32A, 145 kV, 31.5 kA, SF-6, operating mechanism- pneumatic mechanism	completed at LTPS end. Suspect at SLDC
5	Generating transformer of unit#6 132 kV breaker	Crompton Greaves	Type- 120 -SFM-32A, 145 kV, 31.5 kA, SF-6, operating mechanism- pneumatic mechanism	completed at LTPS end. OK at SLDC
6	Generating transformer of unit#7 132 kV breaker	Crompton Greaves	Type- 120 -SFM-32A, 145 kV, 31.5 kA, SF-6, operating mechanism- pneumatic mechanism	completed at LTPS end. OK at SLDC
7	Station transformer of unit#1 132 kV Circuit breaker	Crompton Greaves	Type- 120 -SFM-32A, 145 kV, 31.5 kA, SF-6, operating mechanism- pneumatic mechanism	completed at LTPS end Not OK at SLDC.
8	Station transformer of unit#2 132 kV Circuit breaker	Crompton Greaves	Type- 120 -SFM-32A, 145 kV, 31.5 kA, SF-6, operating mechanism- pneumatic mechanism	completed at LTPS end. OK at SLDC
9	MFV of GT unit #5 (LV)	rishab	Rish Master 3430 MFV class: 1.0, input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS control room.OK at SLDC
10	MFV of GT unit #6 (LV)	rishab	Rish Master 3430 MFV class: 1.0, input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS control room. But Showing reading of #7 .To be interchange with GT-7
11	MFV of GT unit #7 (LV)	rishab	Rish Master 3430 MFV class: 1.0, input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS control room. But Showing reading of #7 .To be interchange with GT-6

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LTPS, APGCL, Chaudhary
 Asst. General Manager (REG)
 27/07/2022

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12	MFM of 30 MVA Generating transformer of unit #5	rishab	Rish Master 3430 MFM class: 1.0 , input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS end . To be discussed with AEGCL for further assistance to show status in SLDC.Suspect at SLDC
13	MFM of 30 MVA Generating transformer of unit #6	rishab	Rish Master 3430 MFM class: 1.0 , input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS end . To be discussed with AEGCL for further assistance to show status in SLDC.Suspect at SLDC
14	MFM of 30 MVA Generating transformer of unit #7	rishab	Rish Master 3430 MFM class: 1.0 , input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS end . To be discussed with AEGCL for further assistance to show status in SLDC.Suspect at SLDC
15	MFM of 7.5 MVA station Transformer-1 (132 kV side) HV	rishab	Rish Master 3430 MFM class: 1.0 , input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS end . To be discussed with AEGCL for further assistance to show status in SLDC.Suspect at SLDC
16	MFM of 7.5 MVA station Transformer-2 (132 kV side) HV	rishab	Rish Master 3430 MFM class: 1.0 , input 3 ph,100-600 V L-L, 5A/1 A with RS485	Installed at LTPS end . To be discussed with AEGCL for further assistance to show status in SLDC.Suspect at SLDC
17	Line isolator of GT unit#5 bay (132 kV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	Remote operating machanism is in damaged condition for a very long time , so alternative way for telemetry 'ON" " OFF" status of isolator mentioned will have to be arranged from isolator location to RTU in control room . The work will be required 60 days for all 10 no's of 132 KV line and Bus isolator.
18	Bus isolator of GT unit#5 bay (132 kV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	
19	Line isolator of GT unit#6 bay (132 kV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	

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Asst. General Manager (REG)
LTPS, APGCL, Chardaleo
23/07/2020

20	Bus isolator of GT unit#6 bay (132 kV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	Remote operating mechanism is in damaged condition for a very long time, so alternative way for telemetry 'ON' " OFF" status of isolator mentioned will have to be arrange from isolator location to RTU in control room
21	Line Isolator of GT unit#7 bay (132 KV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	
22	Bus isolator of GT unit#7 bay (132 kV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	
23	Line Isolator of ST#1 bay (132 KV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	
24	Bus isolator of ST#1 bay (132 kV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	
25	Line Isolator of ST#2 bay (132 KV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	
26	Bus isolator of ST#2 bay (132 kV side)	Eastland Switchgears pvt. Ltd. Calcutta	132 kV, 1250 A, single break turn, twist motor operated isolator without earthswitch	

***The Telemetry status of the Equipments are verified through telephonic conversation with SLDC at 14:34 Hr on 28/07/2022

Asst. General Manager (REG)
LTGS, APGCL, Maibelia
28/07/2022

Asst. General Manager
(EMD-1)
LTGS, APGCL, Maibelia
28/07/2022

Reports on Telemetry Status Of LTPS ,ANNEXURE-A (WHRP, LTPS) as on 26-07-2022

Sl. No.	Equipment	Make/Type	Specifications	Status / Requirements to make Telemetry Compliant
1	Circuit Breaker at Steam Turbine Generator Unit 8 HV 132 KV	Crompton Greaves	Gas Circuit Breaker, Type: 120-SFM-32B, U: 145 KV, Uw: 650 kVp, F: 50 Hz, In: 2000 A, Icu: 40 kA, Duration: 3 sec, Ict: 100 kA, Rated Operating Sequence: 0 - 0.3 sec - CO - 3 MIN - CO, Rated SF6 Gas Pressure: 7 kg/cm ² - g (At 20 deg C), Rated Coil Voltage: 220 V DC, Aux. Circuit Voltage: 1 Ph. 230 V AC	Completed.Suspect at SLDC
2	Circuit Breaker at WHRP Station Transformer LV 3.3 KV	BHEL	Vacuum Circuit Breaker, Type: VM12U: 3.6 KV, F: 50 Hz, In: 1600 A, Icu: 31.5 kA, Duration: 3 sec, Ict: 79 kA, P. F. withstand: 10 KV, Uw: 40 kVp, Rated Coil Voltage: 220 V, Interrupter: BEL VSI2014, IS: 13118	Completed.OK at SLDC
3	Circuit Breaker at WHRP Station Transformer HV 132 KV	Crompton Greaves	Gas Circuit Breaker, Type: 120-SFM-32B, U: 145 KV, Uw: 650 kVp, F: 50 Hz, In: 2000 A, Icu: 40 kA, Duration: 3 sec, Ict: 100 kA, Rated Operating Sequence: 0 - 0.3 sec - CO - 3 MIN - CO, Rated SF6 Gas Pressure: 7 kg/cm ² - g (At 20 deg C), Rated Coil Voltage: 220 V DC, Aux. Circuit Voltage: 1 Ph. 230 V AC	Completed.OK at SLDC
4	Isolator at Steam Turbine Generator Unit 8 HV 132 KV before Circuit breaker	G R Power Switchgear Ltd.	Type: HDB, U: 145 KV, In: 1250 A, Ui: 650 KV, P.F.: 275 KV rms, Ith: 31.5 KA rms, Duration: 3 sec, Operating Mechanism: 3 Phase 415 V AC, Control Voltage: 220 V DC	Hardware works completed. Awaiting for Communication Address from AEGCL. Estimated time of completion of remaining works within 31st Aug'22.
5	Isolator at Steam Turbine Generator Unit 8 HV 132 KV after Circuit breaker	G R Power Switchgear Ltd.	Type: HDB, U: 145 KV, In: 1250 A, Ui: 650 KV, P.F.: 275 KV rms, Ith: 31.5 KA rms, Duration: 3 sec, Operating Mechanism: 3 Phase 415 V AC, Control Voltage: 220 V DC	Hardware works completed. Awaiting for Communication Address from AEGCL. Estimated time of completion of remaining works within 31st Aug'22.
6	Isolator at WHRP Station Transformer HV 132 KV before Circuit breaker	G R Power Switchgear Ltd.	Type: HDB, U: 145 KV, In: 1250 A, Ui: 650 KV, P.F.: 275 KV rms, Ith: 31.5 KA rms, Duration: 3 sec, Operating Mechanism: 3 Phase 415 V AC, Control Voltage: 220 V DC	Hardware works completed. Awaiting for Communication Address from AEGCL. Estimated time of completion of remaining works within 31st Aug'22.
7	Isolator at WHRP Station Transformer HV 132 KV after Circuit breaker	G R Power Switchgear Ltd.	Type: HDB, U: 145 KV, In: 1250 A, Ui: 650 KV, P.F.: 275 KV rms, Ith: 31.5 KA rms, Duration: 3 sec, Operating Mechanism: 3 Phase 415 V AC, Control Voltage: 220 V DC	Hardware works completed. Awaiting for Communication Address from AEGCL. Estimated time of completion of remaining works within 31st Aug'22.
8	MFMI at Steam Turbine Generator Unit 8 LV 11 KV	Rishabh	Rish Master 3430, Class 1, Input: 3 Ph. 110 V L-L, 5A/1A, Auxiliary: 45-450 V AC/DC	Completed.OK at SLDC
9	MFMI at Steam Turbine Generator Unit 8 HV 132 KV	Rishabh	Rish Master 3430, Class 1, Input: 3 Ph. 110 V L-L, 5A/1A, Auxiliary: 45-450 V AC/DC	Completed.OK at SLDC

[Signature]
28/7/22
Asst. General Manager
WHRP, LTPS, Maibella

[Signature]
28/7/2022
Asst. General Manager (REG)
LTPS, APGCL, Charaldeo
Maibella

10	MFM at WHRP Station Transformer LV 3.3 KV			MFM not available. Procurement process is underway. Estimated time of completion of remaining works within 31st Oct'22.
11	MFM at WHRP Station Transformer HV 132 KV	Rishabh	Rish Master 3430, Class 1, Input: 3 Ph. 110 V L-L, 5A/1A, Auxiliary: 45-450 V AC/DC	Completed.OK at SLDC

***The Telemetry status of the Equipments are verified through telephonic conversation with SLDC at 14:34 Hr on 28/07/2022


28/07/2022
Asst. General Manager (REG)
LTPS, APGCL, Charaldeo
Maibella


28/07/2022
Asst. General Manager
WHRP, LTPS, Maibella

Report on Telemetry Status ANNEXURE-A LRPP As on 27-07-2022

Sl No	Equipment	Make/Type	Specifications	Requirements to make Telemetry Compliant
1	Gas Engine#1 MFM	Rishab	Class 1, Version 5.04 Input-3PH-110V L-L, 5A/1A, 45-66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC
2	Gas Engine#2 MFM	Rishab	Class 1, Input 3PH 100-600v L-L, 5A/1A, 45-66Hz with RS485, Auxillary 60..600V AC/DC	Ok at SLDC
3	Gas Engine#3 MFM	Rishab	Class 1, Version 5.04 Input-3PH-110V L-L, 5A/1A, 45-66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC
4	Gas Engine#4 MFM	Rishab	Class 1, Version 5.04 Input-3PH-110V L-L, 5A/1A, 45-66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC

[Signature]

Asst. General Manager (REG)
LTPS, APGCL, Charaldeo
Maibella

[Signature]
Asst. Gen. Manager (LRPP)
Latvra Thermal Power Station
APGCL Maibella-785000

5	Gas Engine#5 MFM	Rishab	Class 1, Version 5.04 Input- 3PH-110V L-L, 5A/1A, 45- 66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC
6	Gas Engine#6 MFM	Rishab	Class 1, Version 5.04 Input- 3PH-110V L-L, 5A/1A, 45- 66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC
7	Gas Engine#7 MFM	Rishab	Class 1, Version 5.04 Input- 3PH-110V L-L, 5A/1A, 45- 66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC
8	SUT1 LV MFM	Rishab	Class 1, Version 5.04 Input- 3PH-110V L-L, 5A/1A, 45- 66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC
9	SUT1 HV MFM	Rishab	Class 1, Version 5.04 Input- 3PH-110V L-L, 5A/1A, 45- 66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC

Asst. Thermal Power Station
Lakshmi Narayan
795610

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Asst. General Manager (REG)
LTPS, APGCL, Charamda

10	SUT2 LV MFM	Rishab	Class 1, Input 3PH 100-600v L-L, 5A/1A, 45-66Hz with RS485, Auxillary 60..600V AC/DC	Ok at SLDC
11	SUT2 HV MFM	Rishab	Class 1, Version 5.04 Input-3PH-110V L-L, 5A/1A, 45-66Hz with option RS485 output, Auxillary 45..450V AC/DC	Ok at SLDC

***The Telemetry status of the Equipments are verified through telephonic conversation with SLDC at 14:34 Hr on 28/07/2022

Asst. General Manager (REG)

Asst. General Manager (REG)
LTPS, APGCL, Charaldeo
Maibella

Asst. Gen. Manager (LRPP)
Lakwa Thermal Power Station
APGCL Maibella-785680


REPORT ON TELEMETRY STATUS, ANNEXURE-A LRPP as on 27-07-2022


SI No	Equipment	Make/Type	Specifications	Requirements to make Telemetry Compliant
1	GEG#1 Circuit Breaker	Siemens	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, Ic-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc
2	GEG#2 Circuit Breaker	Siemens	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, Ic-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc
3	GEG#3 Circuit Breaker	Siemens	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, Ic-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc
4	GEG#4 Circuit Breaker	Siemens	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, Ic-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc
5	GEG#5 Circuit Breaker	Siemens	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, Ic-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc
6	GEG#6 Circuit Breaker	Siemens	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, Ic-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc
7	GEG#7 Circuit Breaker	Siemens	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, Ic-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc

LT, Sd, APGCL, Chander
Asst. General Manager (R&E)
Maldaha

Asst. Gen. Manager (LRPP)
Lakshmi Thermal Power Station
APGCL, Maldaha-745001

8	SUT 1 LV Circuit breaker	SIEMENS	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, lc-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	Completed.OK at sldc
9	SUT 1 HV Circuit breaker	SIEMENS	Type 3AP1FG,U-145kV, Uw 650 kVp, Urw-275Kv, f-50Hz, In-3150A,Isc-45kA, Tth-3S, Id-10kA, Rated operating sequence: O-0.3s-CO-3min-CO, Rated pressure of SF6-6.0 bar, Control Voltage-220VDC, Operating mechanism voltage-240VAC, IEC-62271-100	Completed.Suspect at SLDC
10	SUT 2 LV Circuit breaker	SIEMENS	Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, lc-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-106	Completed.OK at sldc
11	SUT 2 HV Circuit breaker	SIEMENS	Type 3AP1FG,U-145kV, Uw 650 kVp, Urw-275Kv, f-50Hz, In-3150A,Isc-45kA, Tth-3S, Id-10kA, Rated operating sequence: O-0.3s-CO-3min-CO, Rated pressure of SF6-6.0 bar, Control Voltage-220VDC, Operating mechanism voltage-240VAC, IEC-62271-100	Completed.OK at sldc
	11 KV Bus Coupler		Type-3AK6532-C, Design code 3B, Ur-12kV, Fr-50Hz, Ir-1250A, Isc-44kA, DC Comp- 32%, tk-3s, Up-75kV, lc-25A, Rated operating sequence- 0-3min-C0-3min-C0, Classification E2,M2,C2, IEC-62271-100	To be completed till 31st July/2022
12	SUT 1 HV Isolator _1	GR Power Switchgear Ltd.	Un: 132 Kv In: 1250A Ui: 650 Kv peak Us: NA Pf: 275KV RMS Ith: 31.5 kA Duration : 3 sec Control voltage: 110VDC Operating mechanism: 0.5 HP 110Vdc motor	To be programmed by AEGCL in RTU till 31st Aug/2022


 Asst. General Manager (REG)
 LTPS, APGCL, Chaitanya


 Asst. Gen. Manager (LTPS)
 LTPS, APGCL, Chaitanya

Asst. Gen. Manager (LTPS)
 LTPS, APGCL, Chaitanya
 LTPS, APGCL, Chaitanya

13	SUT 1 HV Isolator_2	GR Power Switchgear Ltd.	<p>Type: HDB Un: 132 Kv In: 1250A Ui: 650 Kv peak Us: NA Pf: 275KV RMS Ith: 31.5 kA Duration : 3 sec Control voltage: 110VDC Operating mechanism: 0.5 HP 110Vdc motor</p>	To be programmed by AEGCL in RTU till 31st Aug/2022
14	SUT 2 HV Isolator_1	GR Power Switchgear Ltd.	<p>Type: HDB Un: 132 Kv In: 1250A Ui: 650 Kv peak Us: NA Pf: 275KV RMS Ith: 31.5 kA Duration : 3 sec Control voltage: 110VDC Operating mechanism: 0.5 HP 110Vdc motor</p>	To be programmed by AEGCL in RTU till 31st Aug/2022
15	SUT 2 HV Isolator_2	GR Power Switchgear Ltd.	<p>Type: HDB Un: 132 Kv In: 1250A Ui: 650 Kv peak Us: NA Pf: 275KV RMS Ith: 31.5 kA Duration : 3 sec Control voltage: 110VDC Operating mechanism: 0.5 HP 110Vdc motor</p>	To be programmed by AEGCL in RTU till 31st Aug/2022

***The Telemetry status of the Equipments are verified through telephonic conversation with SLDC at 14:34 Hr on 28/07/2022

28/07/2022
Asst. General Manager (REG)
LTPS, APGCL, Cheraldeo
Maballa

28/07/2022
Asst. Gen. Manager (LTPS)
Latwa Thermal Power Station
APGCL, Mahaballipuram