



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  
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No.: No. NERPC/SE (O)/NETeST/2023/2625-2664

March 31, 2023

To

As per list attached

**Sub: Minutes of the 24<sup>th</sup> NETeST Coordination Committee Meeting**

Sir/Madam,

Please find enclosed herewith the minutes of the 24<sup>th</sup> NETeST Meeting held on 13<sup>th</sup> March, 2023 at "NERPC Conference Hall" NERPC Complex, Lapalang, Shillong for your kind information and necessary action. The minutes is also available on the website of NERPC: www.nerpc.gov.in.

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

Encl: As above

(एस. एम. आइमोल / S. M. Aimol)

निदेशक / Director

## **Distribution List:**

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18. Group GM, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
19. Vice President (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
20. ED, PGCIL/NERTS, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
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22. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi – 110066
23. Dy. COO, CTUIL, “Saudamini”, 1st Floor, Plot No. 2, Sector-29, Gurugram, Haryana – 122001
24. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
25. Chief Engineer, NPC Division, Central Electricity Authority, New Delhi – 110066
26. Head & VP, (R&C), ENICL, IndiGrid, Windsor Building, Kalina, Santacruz (East), Mumbai- 98
27. ED, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
28. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
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30. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
31. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
32. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
33. Head of SLDC, MSPCL, Imphal – 795001
34. Head of SLDC, MePTCL, Lumjingshai, Short Round Road, Shillong – 793 001
35. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
36. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
37. Head of SLDC, TSECL, Agartala – 799001
38. Chief Engineer (Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
39. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
40. Director, NETC, 2C, 3rdFloor, D21Corporate Park, DMRC Building Sector 21, Dwarka, Delhi-77.



(एस. एम. आइमोल / S. M. Aimol)

निदेशक / Director

## North Eastern Regional Power Committee

### **MINUTES OF THE 24<sup>th</sup> NER TELECOMMUNICATION, SCADA & TELEMETRY**

#### **(NE-TeST) COORDINATION**

#### **SUB-COMMITTEE MEETING**

**Date** : 13<sup>th</sup> March, 2023 (Monday)  
**Time** : 10:30 hrs  
**Venue** : “NERPC Conference Hall”, Shillong.

The List of Participants in the 24<sup>th</sup> NETeST Meeting is attached at **Annexure – I**

Shri K. B. Jagtap, Member Secretary, NERPC welcomed all the participants. He highlighted the following: -

(i) Ministry of Power has agreed to increase PSDF funding for reliable communication to 90:10 (Central: State) from earlier 50:50 for NER States as a special case. He requested to all the NER States to take maximum benefit out of this scheme offered by the central government to enhance the communication facility in power sector for NER states.

(ii) The DPR for upgradation of SCADA System in the SLDCs, Establishment of VSAT system for Remote Substations and deployment of RTUs for establishment of Station Connectivity has been received by PSDF Secretariat (i.e., NLDC) & a meeting has been scheduled soon under the technical appraisal committee, NPC Division, CEA for further discussion.

(iii) He highlighted the pending issues related to NERPSIP and Comprehensive scheme. He also informed the forum that progress of both the scheme will be monitored every month by NETeST subgroup and subsequently in NETeST meetings.

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

#### **A. CONFIRMATION OF MINUTES**

#### **CONFIRMATION OF MINUTES OF 23<sup>rd</sup> MEETING OF NETeST SUB-COMMITTEE OF NERPC.**

The minutes of the 23<sup>rd</sup> meeting of NETeST Sub-committee held on 22<sup>nd</sup> July, 2022 at Guwahati were circulated vide letter No. NERPC/SE (O)/NETeST/2021/3245-3282 dated 18<sup>th</sup> August, 2022.

***The Sub-committee confirmed the minutes of 23<sup>rd</sup> NETeST of NERPC as no comments/observations were received from any of the constituents.***

## **A. ITEMS FOR DISCUSSION**

### **A.1 Upgradation of SCADA/EMS of SLDCs:**

DPRs from all the states were submitted to NERPC in Jan'23 and the same had been sent to PSDF Secretariat (i.e., NLDC) by speed Post. NLDC has received the DPRs on 20<sup>th</sup> February 2023. All SLDCs are requested to follow-up with PSDF Secretariat for fast escalation of matter by PSDF secretariat towards approval of the same.

#### **Deliberation of the sub-Committee:**

Director, NERPC requested all SLDCs to kindly ask their Senior Officers to pursue with CE/MS of NPC Division, CEA for consideration of funding of SCADA upgradation from PSDF as a special consideration for NER.

***The Sub-Committee noted as above.***

***Action: All state utilities.***

### **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 CISOs meeting was conducted by Sh. M.A.K.P. Singh (CISO, Ministry of Power & Member-Hydro CEA) 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 Management Plan (CCMP), Cyber Management Team (CMT), patching of vulnerabilities and virus alerts from CERT-In/CERT-GO, 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***.

All state utilities highlighted the issue of manpower posted in SLDCs. DGM, SLDC Assam requested the forum that CISO should be at CE level officer in SLDCs.

After detailed deliberation Member Secretary, NERPC assured the forum that Manpower issue shall be taken up in the NERPC meeting and will request all States to post adequate number of officers in each SLDCs for better performance of SLDCs.

***The Sub-Committee noted as above.***

***Action: all state utilities & NERLDC.***

### **A.3 Issues of SLDCs in SCADA AMC:**

#### **Assam SLDC:**

##### **(a) Non- Acceptance of LOA by M/S GE for 2 (two) years extension of AMC:**

LoA for extension of C-AMC of SCADA/EMS has been issued to M/S GE T&D Ind. Ltd. on 17.12.2022 by SLDC, AEGCL. As per the minutes of the special meeting among NERPC, NERLDC, POWERGRID, M/S GE T&D Ind. Ltd. and constituents of NER dated 13.02.2023, SLDC Assam/SLDCs will take up the matter of firewall obsolescence with CERT-GO & CISO-MOP for clarification and guidance on the issue and further deliberation on the issue will be taken in NETeST or special meeting. In the said meeting, as agreed by all the members including M/S GE T&D Ind. Ltd., M/S GE T&D Ind. Ltd. shall accept the conditional LOA for extension of AMC of SCADA/EMS system for 2 years with existing terms & conditions. But, surprisingly M/S GE T&D Ind. Ltd. has responded to the LoA incorporating few points which are deviation from the minutes of the special meeting dated 13.02.2023.

##### **Deliberation of the sub-Committee:**

M/s GE T&D Ind. Ltd. representative stated that M/s GE is committed to provide best services to their clients in NER and is ready to assist and continue to provide services to NER States in future also. He stated that M/s GE is ready to accept the extension of AMC with existing terms and conditions, however, they have concern related to cyber security aspect. M/s GE representative highlighted that due to non-availability support from OEM (firewall obsolescence) for Internal FW (Fortinet), system is prone to vulnerability and recommended that Internal Firewall (Fortinet) system should be upgraded. He further mentioned that any breach due to this should not be on GE account after expiry of existing AMC contract.

Member Secretary, NERPC stated that as discussed in previous special meeting(s), all SLDCs should take up and follow up the matter with CERT-GO & CISO-MOP for clarification and guidance regarding internal firewall issue. Assam SLDC informed that they have already written to CERT-GO & CISO-MOP on this issue, however, no response has been received yet.

All representatives of SLDCs present in the meeting stated that firewall installation/configuration and maintenance should remain within the scope of AMC.

After detailed deliberation, the following points were decided:

- (i) M/s GE shall accept the LOA for AMC extension from SLDC Assam with the existing terms & conditions. However, the above concern raised by M/s GE in respect of Internal Firewall is noted by the forum. In case of specific issue arising out of the matter related to internal firewall, both SLDC Assam and M/s GE shall discuss and resolve within the spirit of the discussion of this meeting (ie, 24<sup>th</sup> NETeST meeting).
- (ii) SLDC Assam/SLDCs of NER States shall take up/pursue the matter of firewall obsolescence further with CERT-GO & CISCO-MOP and relevant authorities for clarification and guidance on the issue. Further deliberation on the issue (ie internal firewall) will be held and reviewed in subsequent NeTeST or special meetings. After firewall issue is resolved, specific amendment in LOA may be made as per requirement.

***The Sub-Committee noted as above.***

***Action: SLDC Assam, M/s GE and All SLDCs of NER States***

**(b) EMS and other SCADA related issues:**

1. The EMS issue has been discussed in 22<sup>nd</sup> and 23<sup>rd</sup> NeTeST meeting. Till now M/S GE T&D Ind. Ltd. has not implemented the EMS feature of SCADA/EMS.
2. Battery bank has not been supplied as agreed by M/S GE T&D Ind. Ltd. in the meeting dated 29.12.2022.
3. OS Upgradation: Keeping in view the cyber security aspect, upgradation of Operating System (OS) of the SCADA/EMS is of paramount. Being the OEM of SCADA, installation and commissioning of the system has been done by M/S GE T&D Ind. Ltd. As such work order has been offered to M/S GE T&D Ind. Ltd. for the upgradation of OS of the consoles of SCADA/EMS as per the quotation received from M/S GE T&D Ind. Ltd. As per the minutes of the special meeting among NERPC, NERLDC, POWERGRID, M/S GE T&D Ind. Ltd. and constituents of NER dated

13.02.2023, SLDC, AEGCL has further modified the order. But M/S GE T&D Ind. Ltd. has declined to start the work till signing of the LoA for extension of C-AMC.

4. Integration of SCADA with IT system: Architecture has been shared with M/S GE T&D Ind. Ltd. for integration of SCADA with IT. Till date no response has been received from M/S GE T&D Ind. Ltd. in this regard.

5. Other Critical issues: Some issues related to SCADA such as erroneous reporting of historical data over reporting tool, Database issue (Limit values does not change after changing MVA in Database), remote connection with the FE servers could not been established, have been shared with M/S GE T&D Ind. Ltd. Till now the issues has not been resolved.

**Deliberation of the sub-Committee:**

Point wise detailed deliberation in the meeting is as follows:

1. DGM, SLDC Assam informed the forum that from last week, EMS is now running and he requested forum to kindly arrange a training program on this module. In this regard Sr. GM, NERLDC informed the forum that NERLDC will provide the training on this module.

2. M/s GE T&D Ind. Ltd. representative assured the forum that battery bank will be replaced within 2/3 months after acceptance of C-AMC LoA.

3. M/s GE T&D Ind. Ltd. representative assured the forum that OS upgradation work will be done after acceptance of C-AMC LoA.

4. M/s GE T&D Ind. Ltd. representative informed the forum that in this regard they have already initiated action and communicated with Assam. After brief discussion, Member Secretary, NERPC requested M/s GE and Assam to resolve the issue bilaterally. He also requested M/s GE to take up all grievances of Assam SLDC expeditiously.

5. M/s GE T&D Ind. Ltd. representative assured the forum that all the issues will be resolved shortly.

***The Sub-Committee noted as above.***

***Action: SLDC Assam & M/s GE.***

**(c) IT & OT Integration under SAMAST:** Several intimation/communications have been made with M/S GE T&D Ind. Ltd. for integration of SCADA with SAMAST. Till now the SCADA has not been integrated with SAMAST.

**Deliberation of the sub-Committee:**

Forum requested M/s GE and Assam to resolve the issue bilaterally.

***The Sub-Committee noted as above.***

***Action: SLDC Assam & M/s GE.***

**(d) Latest Status of SCADA Upgradation:** SCADA was upgraded in 2015 with 7 years warranty which has already expired. Hence, as per CEA regulations, existing SCADA needs upgradation. For this upgradation, MOU has already been signed with POSOCO presently known as Grid Controller of India Limited (Grid-India) for no cost consultancy on 06.01.2022. DPR has already been shared with NERPC in September, 2022.

**Deliberation of the sub-Committee:**

Discussed in Agenda item A.1

**Meghalaya & other SLDCs:**

**(a) Degraded performance of the UPS battery banks:**

During the 2<sup>nd</sup> Special meeting to discuss issues related to SCADA-EMS system and related Extension of AMC on 30.11.2022, GE had agreed to ensure a minimum of three and a half hours' backup of the battery banks. A request had been made to GE to depute a site engineer for a joint checking of the backup status of both UPS battery banks since it was detected during the last Preventive Maintenance visit that some battery cells had become defective and back up was not sufficient. However, GE informed that both battery banks are giving good backup (without ascertaining the backup time) and advised that in the event of a power failure, both the battery banks should not be utilized for more than half an hour and for which, the DG set should be operated. This shows a lackadaisical approach by GE which questions its sincerity in maintaining the battery banks as per existing AMC.

GE is, therefore, requested to depute a site engineer to correctly ascertain the backup status of both the battery banks. During the last meeting on the 13<sup>th</sup> February 2023, GE had assured that the matter would be taken up within 15 days. GE is requested to update on the action plan.

**Deliberation of the sub-Committee:**

M/s GE T&D Ind. Ltd. representative informed the forum that a Preventive Maintenance visit is scheduled on 22.03.2023 at SLDC Meghalaya.

Sr. Manager, SLDC Tripura also raised the issue of performance of battery bank. She informed the forum that some cells are defective due to which battery bank backup is not sufficient. M/s GE T&D Ind. Ltd. representative indicated that sometimes due to



want of proper environmental condition, performance of battery bank is degraded. He informed that M/s GE's service engineer will be visiting to SLDC Tripura to attend to this issue and if required, the defective cells will be replaced so as to ensure adequate battery bank backup performance.

After detailed deliberation, M/s GE T&D Ind. Ltd. was requested to resolve Battery Bank related issues of all States at the earliest. M/s GE assured the forum that all Battery Bank issues will be resolved shortly.

***The Sub-Committee noted as above.***

***Action: SLDC Meghalaya, SLDC Tripura & M/s GE.***

**(b) Spares for VPS:**

During the 2<sup>nd</sup> Special meeting to discuss issues related to SCADA-EMS system and related Extension of AMC on 30.11.2022, GE had proposed to use supplied spares in case of any requirement. As Meghalaya SLDC does not have any VPS spares, the methodology for supplying spares *vis-à-vis* GE's proposal for exclusion of VPS from the Extended AMC may please be elaborated by M/s GE. This was also discussed during the Special meeting on 13.02.2023.

**Deliberation of the sub-Committee:**

SE, SLDC Meghalaya informed the forum that Meghalaya SLDC does not have VPS spares.

M/s GE stated that they will ascertain whether Spares were supplied to Meghalaya or was it a case of non-replenishment of spares.

After detailed deliberation, it was decided that M/s GE T&D Ind. Ltd. and SLDC Meghalaya will verify about the status of spares and also discuss modalities for replacement of spares bilaterally.

***The Sub-Committee noted as above.***

***Action: Meghalaya SLDC & M/s GE.***

**(c) Support for Fortinet Firewall during Extended AMC:**

M/s GE had mentioned during the Special Meeting on Firewall issues for SLDCs of NER and NERLDC on 03.01.2023 that after expiry of the existing C-AMC period, the licenses of Firewalls will also get expired from Fortinet side and only certain basic functionalities will be available in Firewall. GE had mentioned that the detailed list will be shared with NER-SLDCs and NERLDC. GE is requested to intimate on the status.

During the Special meeting on 13.02.2023, M/s GE had mentioned that the financial involvement for supply and installation / configuration of the internal firewall would be around Rs. 60 lakhs. Considering the huge amount which will be difficult for NER constituents to obtain approval for the same, M/s GE is once again requested to kindly scale down on the cost or assist in procurement of the latest NGFWs which would then be maintained by GE during the Extended AMC of SCADA-EMS system.

As this issue is very critical to the security of the SCADA-EMS system, it is requested that the house deliberate again on the same.

**Deliberation of the sub-Committee:**

Discussed at item A.3 (a). Further, forum decided to review/follow up for resolving issue of firewall in the subsequent NETeST/Special meetings.

M/s GE and all concerned utilities agreed on the same.

***The Sub-Committee noted as above.***

***Action: All concerned utilities & M/s GE.***

**(d) GST related amendment in AMC of the SCADA-EMS system:**

Since the Contract was originally prepared by POWERGRID and signed by individual states with ALSTOM / GE, the matter relating to the amendment in GST and calculations thereof was requested during meeting dtd 29.12.2022 to POWERGRID. Accordingly, the same may please be elaborated upon by POWERGRID so that future payments can be streamlined. Accordingly, it is felt prudent that an Amendment be made by POWERGRID in the existing Contract incorporating the same. POWERGRID is requested to kindly expedite amendment of the Contract so that payments can be made accordingly. Till date, no response is forthcoming from POWERGRID. The house may once again resolve to impress upon POWERGRID to submit the amended document.

**Deliberation of the sub-Committee:**

Sr. GM, NERTS informed the forum that the matter related to GST amendment of AMC are under process in various departments of NERTS. Once finalized, the same will be shared with all constituents within 10 days. However, the amendment is to be processed and effected separately by the States.

M/s GE T&D Ind. Ltd. representative informed the forum about their pending bills in all SLDCs (INR 1.46 Cr.) and requested to release the payment as soon as possible.

After detailed deliberation, it was decided that as soon as NERTS/POWERGRID submits the revised rate/calculation, all the SLDCs & M/s GE will amend the contract accordingly. The amended contract/AMC extension will be applicable for all invoice raised for the period/quarter after Nov'22 as decided in the special meeting held on 29<sup>th</sup> Dec 2022.

***The Sub-Committee noted as above.***

***Action: All State utilities, M/s GE & NERTS.***

**(e) 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 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.

In 23<sup>rd</sup> NETeST meeting, M/s GE informed the forum that they will replace all the obsolete antivirus by a new eSCAN anti-virus solution till 10<sup>th</sup> August 2022 at NERLDC as well as NER-SLDCs.

**Deliberation of the sub-Committee:**

Sr. GM, NERLDC informed the forum that antivirus have already been installed in OT system of LDCs in NER but are not functioning properly.

M/s GE T&D Ind. Ltd. representative requested all SLDCs to inform this issue to the site engineer and M/s GE will resolve it expeditiously.

***The Sub-Committee noted as above.***

***Action: All state utilities, M/s GE & NERLDC.***

**(f) Deployment of Suitable Manpower at LDCs in NER for AMC by M/s GE T&D India Limited:**

SCADA/EMS project was awarded to M/s GE T & D Limited in the year 2014 and T&C 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.

In 23<sup>rd</sup> NETeST meeting, M/s GE assured to the forum that all issues related to manpower will be resolved before next NETeST meeting. It was deliberated that M/s GE should not take this matter lightly and fulfil 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.

**Deliberation of the sub-Committee:**

Sr. GM, NERLDC informed the forum 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 which is not at all safe considering the cyber threat in the SCADA system.

M/s GE T&D Ind. Ltd. representatives informed the forum that they have taken various steps to enhance and upgrade the skill set of site personnel deployed. This includes upskill training and monthly online training of manpower deployed at site. M/s GE T&D Ind. Ltd representative informed that they will be sending experts from back office on quarterly basis to each SLDC, for resolving state issues as well as training each personnel deployed there. Further, online training will also be provided to all their deployed personnel. He assured the forum that man-power related issue at all SLDCs will be resolved by April 2023.

***The Sub-Committee noted as above.***

***Action: M/s GE.***

**(g) Non-functioning of “Historian” system services at Mizoram SLDC and Arunachal Pradesh SLDC:**

The historian system services in SCADA/EMS system of Mizoram SLDC and Arunachal Pradesh SLDC are not functioning since its inception. NERLDC requested the SLDC counterpart executive for real time SCADA data but they are not able to do so since EDNA was not working. Since, all NER constituents are getting the required

data from NERLDC through ICCP so they do not even realize the problem. As historian is an important part of SCADA/EMS which caters to the archival and retrieval of stored data; hence, it is a critical issue to be resolved at the earliest.

**Deliberation of the sub-Committee:**

NERLDC informed the forum that Historian system service at these control centers are not working since long, which are not even flagged by M/s GE site person while carrying out the PM activity at site. Hence, he suggested M/s GE & concern NER constituents to carry out the PM activity diligently so that such problems could be flagged well in time and subsequently, addressed.

M/s GE T&D Ind. Ltd. representative informed the forum that expert team is working on the issue, which will be resolved by 15<sup>th</sup> April 2023. NERLDC suggested concerned constituents to calculate the availability according to contract clause if the issues are not resolved by 15<sup>th</sup> April 2023.

States suggested M/s GE to depute an official as NER coordinator to be stationed physically in NER. M/s GE T&D Ind. Ltd. representative informed that it is not possible to depute an official in NER. However, he informed that **Mr. Vaibhav Agarwal** is the contact person for NER to resolve all technical issues concerning AMC of SCADA/EMS.

***The Sub-Committee noted as above.***

***Action: All state utilities & M/s GE.***

**(h) High utilization of RAM in Communication Front End (CFE) server at Nagaland SLDC, Mizoram SLDC and Arunachal Pradesh SLDC:**

It has been observed in the SCADA/EMS system of Mizoram SLDC and Arunachal Pradesh SLDC that CFE server has a high Random-Access-Memory (RAM) utilisation since more than 4 months. This leads to system lagging/hang and also could result in stopping of data flow in the SCADA system.

**Deliberation of the sub-Committee:**

NERLDC informed the forum that issue of High utilization of RAM in Communication Front End (CFE) server at these control centers are being faced since long, which are not even flagged by M/s GE site person while carrying out the PM activity at site. Hence, he suggested M/s GE & concern NER constituents to carry out the PM activity diligently so that such problems could be flagged well in time and subsequently, addressed.

M/s GE T&D Ind. Ltd. representative informed the forum that expert team is working on the issue, which will be resolved by 31<sup>st</sup> March 2023. NERLDC suggested concerned constituents to calculate the availability according to contract clause if the issues are not resolved by 31<sup>st</sup> March 2023.

***The Sub-Committee noted as above.***

***Action: All State utilities & M/s GE.***

**A.4 Annual Maintenance Contract for ADMS:**

The “Go Live” dates in ADMS implementation for NER states is as below:

Sl.No.	Name of SLDC	System "Go Live"
1	Meghalaya SLDC	04.09.2020
2	Manipur SLDC	24.11.2020
3	Nagaland SLDC	01.12.2020
4	Arunachal Pradesh SLDC	01.02.2021
5	Mizoram SLDC	01.03.2021
6	Assam SLDC	10.03.2021
7	Tripura SLDC	16.03.2021

It may be mentioned that ADMS scheme is having a three (3) year Warranty Period following which, there is a provision for an Annual Maintenance Contract after the Warranty Period. Given the regulatory mandate for compliance of ADMS and the benefits of its continued operation, it becomes imperative for a collective Annual Maintenance Contract which among other things would bring about a reduction in the financial involvement vis-à-vis higher rates with separate / individual AMCs. Since the timelines mentioned are spread over a few months only, the SLDCs may deliberate on a collective Annual Maintenance Contract which can be approved (with same terms and conditions immediately on expiry of individual Warranty Periods) given the collective reduced charges and lack of expertise in maintaining the system.

**Deliberation of the sub-Committee:**

All state utilities suggested to go for a collective Annual Maintenance Contract and matter was referred to next OCC meeting for detailed discussion.

***The Sub-Committee noted as above.***

***Action: All state utilities.***

### **A.5 Implementation of Guwahati Islanding Scheme:**

In the 190<sup>th</sup> OCCM, DD, NERPC stated that in the Special Meeting on 13<sup>th</sup> May'22 it was decided that dedicated fiber is required in order to ensure Cyber Security. AEGCL intimated that Dedicated Fiber is available in the link SLDC – Sarusajai – Mirza – Boko – Agia – BTPS – BgTPP and offered the same for the Islanding Scheme. The forum requested NERTS to explore the availability of dedicated fiber. Member Secretary, NERPC stated that after budgetary offer is received from at least two vendors the DPR will be finalized.

In 195<sup>th</sup> OCCM, Member Secretary, NERPC informed the forum that the budgetary offer from M/s GE has been received. He added that the DPR for the Guwahati Islanding Scheme shall be finalized by Oct, 2022. In 196<sup>th</sup> OCCM, Member Secretary NERPC updated that the finalized DPR was discussed in 23<sup>rd</sup> NERPC meeting and issue of high cost was flagged. So, re-estimation of project cost will be done at the earliest. In the 198<sup>th</sup> OCCM, AEGCL was requested to re-examine the cost estimates in the DPR and intimate the subcommittee.

#### **Deliberation of the sub-Committee:**

Dy. Manager, AEGCL informed the forum that as the cost estimation is given by M/s GE, it is not possible for them to re-examine the cost.

Director, NERPC informed that in the 199<sup>th</sup> OCCM, it was suggested that the existing fiber optic links, wherever present may be used on bandwidth sharing basis in order to reduce cost. However, AEGCL informed that there are no OPGW links on these lines.

DD, NERPC requested Assam to include the laying of OPGW in the existing line under Guwahati Islanding scheme in state reliable communication scheme as it has 90:10 funding from PSDF so that the cost associated to that part can be reduced.

After detailed deliberation, it was decided that the issue will be discussed by the empowered committee members of Guwahati Islanding scheme.

***The Sub-Committee noted as above.***

***Action: All state utilities, NERTS, NERLDC, AEGCL & NERPC.***

### **A.6 Deployment of new RTUs in selected sub-stations of NER:**

All state-utilities had signed and submitted DPRs to NERPC, which had consolidated and sent it to PSDF secretariat (i.e., NLDC) by-post. The copies of DPRs got delivered at NLDC on 20<sup>th</sup> February 2023. All SLDCs are requested to follow-up with PSDF

Secretariat for fast escalation of matter by PSDF secretariat towards approval of the same.

A template for preparation of Bill of Quantity (BoQ) was shared among all SLDCs and till date responses from Meghalaya-SLDC (submitted on 20<sup>th</sup> May 2022), Manipur-SLDC (submitted on 07<sup>th</sup> November 2022), Nagaland-SLDC (submitted on 10<sup>th</sup> November 2022) and Mizoram-SLDC (submitted on 14<sup>th</sup> November 2022) have been received. All other SLDCs are requested to furnish the required data.

**Deliberation of the sub-Committee:**

Director, NERPC requested all SLDCs to pursue with CE/MS of NPC Division, CEA for consideration of funding of RTUs from PSDF as a special consideration for NER.

Ar. Pradesh, Assam & Tripura SLDCs were requested to furnish requisite data as per the template for preparation of BoQ, shared by NERLDC.

***The Sub-Committee noted as above.***

***Action: All concerned state utilities, NERLDC & NERPC.***

**A.7 Non-availability of real-time data pertaining to POWERGRID-owned bays installed at AEGCL-owned stations:**

It has been observed that the real-time data of POWERGRID-owned bays installed at AEGCL stations are not reporting to NERLDC. These bays have been identified as follows –

- a. Nirjuli bay installed at Gohpur station since 16<sup>th</sup> Dec-2022
- b. Silchar bays installed at Srikona station isolator data since 28<sup>th</sup> November - 2022

All these bays are ISTS elements, thus data availability is important for real-time drawl calculation and monitoring of ISTS element. AEGCL and POWERGRID are requested to look into the matter and resolve such issues at the earliest.

**Deliberation of the sub-Committee:**

After detailed deliberation it was decided that NERTS (PGCIL) and AEGCL will jointly work to resolve the matter bilaterally at the earliest.

***The Sub-Committee noted as above.***

***Action: SLDC Assam & NERTS.***



**A.8 Non-availability of telemetry data of 132kV Chiephobozou S/S under State project in Nagaland:**

132kV Chiephobozou s/s under ownership of DoP-Nagaland was charged on 03<sup>rd</sup> July 2022 without availability of real-time data, voice communication and related integrations with SCADA system. The substation was charged by LILO of 132 kV 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 132 kV Wokha s/s.

In 23<sup>rd</sup> NETeST meeting, DoP-Nagaland informed 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. DoP-Nagaland requested for early PSDF approval so that the works may be completed.

**Deliberation of the sub-Committee:**

DoP Nagaland informed that DPR of Reliable Communication Project of Nagaland has been prepared and proposal is being put up to State government for approval.

***The Sub-Committee noted as above.***

***Action: DoP, Nagaland.***

**A.9 Connectivity of 132kV Ambassa S/S upto 132kV PK Bari(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.

In 23<sup>rd</sup> NETeST, TSECL informed that OPGW between 132kV Ambassa sub-station and 132kV P.K. Bari (TSECL) sub-station was laid by NERPSIP-POWERGRID. This link was later LILO to P.K. Bari (Indigrid), the OPGW from LILO point to P.K. Bari (Indigrid) was laid by M/s Sterlite. TSECL also informed that FOTE at Ambassa sub-station and PK Bari (TSECL) sub-station needs to be installed by NERPSIP. NERPSIP informed the forum that FOTE will be installed by September 2022.

**Deliberation of the sub-Committee:**

Manager, NERPSIP informed the forum that 132 kV Ambassa – PK Bari (Indigrid) is getting LILoed at 132 kV Manu S/s and OPGW stringing is also completed. FOTE installation along with DCPS is pending for the said line. The expected date for completion of link is April 2023.

***The Sub-Committee noted as above.***

***Action: NERPSIP-Powergrid, Indigrid & SLDC Tripura.***

**A.10 LV side data of Generator Transformers (GTs) installed at Kathalguri station:**

NERLDC is requesting Kathalguri since 04-August-2021 for LV side data of GTs installed at Kathalguri as per attached **Annexure A.10**. It has been observed that Kathalguri needs shutdown of GTs/Units to integrate the data; hence, we request NEEPCO to plan the shut-down and apply for the same in OCC for early integration of data.

**Deliberation of the sub-Committee:**

Sr. GM, NERLDC informed the forum that all the works pertaining to LV side data of Kathalguri were completed on 07<sup>th</sup> March 2023. He informed that the agenda item may be dropped.

***The Sub-Committee noted as above.***

**A.11 Connectivity of 132 kV Khupi S/s with ULDC network:**

132 kV Khupi S/s will be connecting to Kameng HEP over 132 kV line. Thus, it is requested to connect 132 kV Khupi S/s with ULDC network by installing OPGW and associated end equipment.

In 22<sup>nd</sup> NETeST meeting, it was decided that OPGW as well as its associated end equipment will be laid by Comprehensive, which will be integrated with ULDC network at Kameng end before the charging of 132 kV Khupi – Kameng line

**Deliberation of the sub-Committee:**

GM (T&C), Comprehensive-PGCIL informed the forum that OPGW stringing is completed in 132 kV Khupi-Kameng (Kimi) line, FOTE installation is under progress which will be completed by 15<sup>th</sup> April 2023.

***The Sub-Committee noted as above.***

***Action: Comprehensive-POWERGRID.***

**A.12 Establishment of VSAT Communication in selected remote locations for state:**

All state-utilities had signed and submitted DPRs to NERPC which had consolidated and sent it to PSDF secretariat (i.e., NLDC) by-post. The copies of DPRs got delivered at NLDC on 20<sup>th</sup> February 2023. All SLDCs are requested to follow-up with PSDF Secretariat for fast escalation of matter by PSDF secretariat towards approval of the same.

**Deliberation of the sub-Committee:**

NERPC requested to all SLDCs to pursue the matter with technical appraisal committee, NPC Division, CEA for consideration of funding of VSAT from PSDF as a special consideration for NER.

***The Sub-Committee noted as above.***

***Action: all state utilities, NERLDC & NERPC.***

**A.13 Establishment of second communication channel to telemeter data and voice from INDIGRID stations to NERLDC Shillong:**

In 23<sup>rd</sup> NETeST meeting, Indigrid informed that second communication channel to telemeter data and voice from 400/132kV Surjamaninagar to 400/132kV PKBari is done by using POWERTEL network. Execution plan for having connectivity through ULDC network by Indigrid is attached in **Annexure A.13**.

NEEPCO and TSECL are requested to extend necessary support for integration to ULDC network at the earliest.

**Deliberation of the sub-Committee:**

After detailed deliberation it was decided that following activities will be carried out:

- TSECL will provide one pair of fiber on existing OPGW link 132kV PK Bari (Indigrid) – PK Bari (TSECL).
- ULDC-POWERGRID will provide SFP for ULDC equipment at RC Nagar (AGTCPP) node.
- Indigrid will integrate link: PK Bari (Indigrid) – PK Bari (TSECL) – RC Nagar (NEEPCO) over GE equipment. Further, SFP for GE equipment will be provided by Indigrid and it will be integrated with ULDC equipment. Also, if the patch-cords of extra long length is required (more than 5 mtr), the same will be provided by Indigrid. All the said works will be completed by 31<sup>st</sup> March 2023. Indigrid will coordinate with ULDC-POWERGRID for necessary configuration.

***The Sub-Committee noted as above.***

***Action: SLDC Tripura, NERTS & Indigrid.***

**A.14 Voice Communication issue at 400kV Palatana (OTPC) station:**

It was observed that the VOIP phone installed at 400kV Palatana station is frequently interrupted and highly un-reliable. Therefore, OTPC is requested to re-install a new VOIP phone in main control-room over ULDC network.

**Deliberation of the sub-Committee:**

OTPC representatives were not present in the meeting. NERLDC was requested to communicate through e-mail to OTPC to take necessary action, with copy to NERPC.

***The Sub-Committee noted as above.***

***Action: OTPC & NERLDC.***

**A.15 Establishment of redundant fibre path between NERLDC and NEHU for reliability of power system communication link:**

On 05-01-2023 and 06-01-2023, there were two incidents of fibre cut between NERLDC and NEHU, during the incident all communications links, such as internet, all ULDC links of ICCP, URTDSM, VOIP, RTUs and all POWERTEL links catering the functionality of NERLDC real time system were affected. Consequently, NERLDC control room was not having any data of grid station which led RLDC to operate grid blindly. Due to outage of this link SLDC and NLDC were also not able to receive data from NERLDC. This 24-core fibre currently runs partially as OPGW on 132 kV NEHU-Kheliriat line and partially as UGFO cable. The fibre is under the ownership of POWERTEL & ULDC has been allotted some pair of fibres from it.

Considering the critical functions of LDCs, it is requested to ULDC-POWERGRID to lay 24 core FIBRE between NERLDC Shillong and NEHU, which should be in physically different path to that of POWERTEL fibre and complete ownership of new fibre should be with ULDC-POWERGRID.

**Deliberation of the sub-Committee:**

Sr. GM, NERTS informed the forum that survey has already been carried out for a redundant path via UGFO from 132 kV Nehu-Khlierihat-1 circuit. The forum requested NERTS to include this link in the reliable communication project as this is a very important link in the ULDC network. Sr GM, NERTS further clarified that the link could be taken up under central sector if the same was approved by NERPC as this was for the common benefit of all the constituents.

Member Secretary, NERPC suggested the forum to carry out a separate meeting between MePTCL, POWERGRID-ULDC, POWERTEL, NERLDC and NERPC to discuss the issues raised by MePTCL regarding Powertel link.

***The Sub-Committee noted as above.***

***Action: MePTCL, NERTS, NERLDC, Powertel & NERPC.***

**A.16 Redundant communication path for Kathalguri generation plant by using AEGCL network in NER:**

CTU has studied the existing ISTS communication system based on the input and feedback received from POSOCO and other constituents. Thereafter, the second ISTS Communication Planning meeting for NER was convened by CTUIL on 29.07.2022 and subject agenda was deliberated. The same was deliberated in 23<sup>rd</sup> TCC/NERPC meeting and it was approved by NERPC and recommended for implementation after NCT approval.

However, redundant paths under implementation for Kathalguri node with their completion time frame, cost estimate and implementation time frame for the proposed scheme was not deliberated in the held TCC and NERPC meeting. Hence, the scheme with cost estimate, implementation time frame (**Attached as Annexure A.16**) put up for constituent's consent.

**Deliberation of the sub-Committee:**

DD, NERPC informed the forum that Fiber connectivity between Kathalguri-Tinsukia is already under the project of Comprehensive Scheme of Arunachal Pradesh, thus new project may not be proposed for the said OPGW link.

GM(T&C), Comprehensive-PGCIL informed the forum that OPGW is already laid and FOTE is also commissioned. However, approach cable is yet to be laid between gantry and FODB. The link will be completed by 15<sup>th</sup> April 2023.

***The Sub-Committee noted as above.***

***Action: Comprehensive-PGCIL & NERTS.***

**A.17 Providing separate gateway for 132kV Bays at North Lakhimpur at AEGCL: M/s Sterlite (MUML):**

M/S AEGCL is requesting M/S MUML to place a separate gateway for communication pertaining to the 132kV Bays placed at its North Lakhimpur SS.

There is no requirement of any additional gateway as in all other substations using same gateway for different utilities, such as in our recent project of NER-II no separate gateway provided in any substations of DoP, PGCIL etc. Letter written by AEGCL to NERLDC and Minutes of Meeting between AEGCL and MUML is attached herewith as (**Annexure-A.17**).

In the 199<sup>th</sup> OCC meeting regarding the communication gateway at N. Lakhimpur substation, M/s Sterlite updated that a meeting with AEGCL was organized on 16<sup>th</sup> Feb, in which report of NERLDC was also discussed. In the meeting it was mutually agreed by the concerned parties to use a common gateway for communication of the two new bays at the substation. AEGCL updated that it will allow the use of common gateway, but the issue should be discussed in the NeTEST meeting first.

The forum referred the matter for further discussion to the upcoming NeTEST meeting.

**Deliberation of the sub-Committee:**

DGM, SLDC Assam informed the forum that it was already agreed in a meeting between AEGCL and M/s Sterlite (MUML) to integrate the two new bays in the existing SCADA system. Forum decided to drop the agenda item.

***The Sub-Committee noted as above.***

**A.18 Related to commissioning of 220 KV downstream transmission line of DOP Nagaland at New Kohima (400/220kV) SS Concerns of KMTL:**

1. OPGW wire for 220 KV downstream Transmission line has not been installed so it is very difficult to achieve the protection of 220 KV transmission line by using line differential relay. As line length is 10 KM (Approx.) for 220 KV Transmission line therefore Line differential Relay has been considered for both the end.

2. PLCC & SDH panel has not been installed at 400/220 KV GIS substation, New Kohima till date.

3. 220 KV downstream transmission line conductor parameters yet to receive from DOP, Nagaland for Relay setting at 400/220 KV GIS substation, New Kohima. In 196<sup>th</sup> OCCM, Manager, KMTL requested the forum to ensure installation of OPGW, LDP, PLCC, SDH equipments in the 220kV downstream line. He also requested for providing parameters to KMTL for finalization of settings. Member Secretary, NERPC requested POWERGRID to include OPGW for the 220kV New Kohima – Zhadima D/C under regional scheme – State Sector and proceed for early implementation as the line is in final stage of commissioning. NERTS agreed to the same.

In the 198<sup>th</sup> OCC meeting DGM (AM), NERTS updated the forum that quantity margin of OPGW is available under reliable communication scheme. However, prior approval of RPC forum is required to install OPGW on intra state lines. After detailed deliberation the forum decided to discuss the matter in the next NeTEST meeting.

**Deliberation of the sub-Committee:**

Forum suggested to DoP, Nagaland to include the link under Reliable communication scheme of Nagaland as this scheme is covered under 90:10 funding from PSDF. DoP, Nagaland informed the forum that as DPR is already sent to PSDF, it will be difficult to amend the DPR for inclusion of this link.

Forum also requested ULDC-POWERGRID to check the possibility to include the link under ongoing project. Sr. GM, NERTS informed the forum that he will check the possibility and update accordingly.

***The Sub-Committee noted as above.***

***Action: DoP, Nagaland & NERTS.***

**A.19 Delayed in integration of real-time data of elements charges under NERPSIP & Comprehensive Scheme:**

NERPSIP and Comprehensive scheme projects are in full swing with rapid FTCs every now and then. However, it has been observed even after repeated requests from NERPC forums and NERLDC, states are issuing FTC clearance to implementing agency without making sure of data availability and data validation of concern element at SLDCs as well as NERLDC. A consolidated list is attached for your reference as **Annexure A.19**.

It is requested from PGCIL and NER states to streamline the process so that FTC should be done only after data availability and data validation.

**Deliberation of the sub-Committee:**

Member Secretary, NERPC stated that a committee comprising of one member from each SLDCs, NERPSIP, Comprehensive Scheme, NERLDC and NERPC has been formed in the 198<sup>th</sup> & 199<sup>th</sup> OCC Meetings. This committee will review the status on monthly basis the progress of real-time data integration, communication links integration of projects etc.

The nominated members are as given below:

Assam: Sh. Pranab Saha and Sh. Arup Sarmah (nominated in the 24<sup>th</sup> NETeST)

Arunachal Pradesh: Sh. Purik Buchi

Meghalaya: Sh. D J Lyngdoh & Sh. C W Chen (both nominated in the 24<sup>th</sup> NETeST)

Manipur: Sh. N. Arun Singh. (nominated in the 24<sup>th</sup> NETeST)

Mizoram- Sh. J H Malsawma

Nagaland: Yet to be nominated.

Tripura: Smt. Smapa Sen

NERLDC: Sh. Sakaldeep

NERPC: Sh. Sadiq & Sh. Rajib Das

NERPSIP: Sh. Abhilash A. A.

Comprehensive: Sh. H. Talukdar & Prasanta Das.(both nominated in the 24<sup>th</sup> NETeST)

***The Sub-Committee noted as above.***

***Action: All state utilities, NERPSIP, Comprehensive, NERLDC & NERPC.***

**A.20 Others issues by SLDC Assam:**

1. UNMS integration and sharing of bid documents and contract agreement.
2. Redundancy of ICCP link of SLDC Assam
3. Introduction of DTPC for 400 kV Kukurmara- Silchar and Kukurmara- Bongaigaon
4. Replacement of OPGW under ULDC phase I (Year 2003)

**Deliberation of the sub-Committee:**

1. Discussed in Agenda item B.1
2. NERLDC informed the forum that redundancy is present in the ICCP link.
3. Assam was advised to put up in the OCC forum.
4. AEGCL will write a letter to NERTS(PGCIL) for clarification on the issue.

***The Sub-Committee noted as above.***

***Action: NERTS & AEGCL.***

**A.21 Training for SCADA, EMS and Cyber Security:**

**Deliberation of the sub-Committee:**

All major NER SLDCs namely Assam, Arunachal Pradesh, Tripura, Nagaland & Meghalaya were of the opinion that a training by NERLDC executives would be very much essential for capacity building of NER SLDCs as a whole considering recent development of cyber threat in IT & OT systems. Aforementioned NER SLDCs have requested the NETeST forum to advise NERLDC for imparting 2 – 3 days training programs at NER SLDCs premises itself to make training program effective.

NETeST forum agreed the request of NER SLDCs and requested NERLDC to plan the training program as discussed at the earliest.

NERLDC informed that they will discuss the matter with higher authorities and plan accordingly.

***The Sub-Committee noted as above.***

***Action: NERLDC & all SLDCs.***



**A.22 Changing of Model for Virtualization Server by SAMAST vendor:**

The SAMAST vendor has informed NERPC that the Virtualization Server of Dell model R740 is mentioned in the tender document. However, Dell has migrated to Dell model R750 and the older version Dell R740 is no more available. They also informed that Dell has migrated from second generation Intel Xeon Gold 5220 Processor offered in the tender, to third generation intel Xeon Processor. They requested the consent of the states to go ahead with the newer version of servers. They also informed that NMS server has been upgraded from R540 to R550.

**Deliberation of the sub-Committee:**

All the States/SLDCs present in the meeting agreed for the newer version of the Virtualization Server available.

***The Sub-Committee noted as above.***

***Action: All SLDCs & PWC.***

**A.23 OPGW link required for implementation of Line Differential Protection in 132kV DHEP – Sanis Line:**

**Deliberation of the sub-Committee:**

NEEPCO informed the forum that for implementation of Line Differential Protection in 132kV DHEP – Sanis Line, OPGW link is required between 132kV DHEP – Sanis Line.

Sr. GM, NERTS informed the forum that a few E1 may be allotted from the ULDC network for implementing LDP.

***The Sub-Committee noted as above.***

***Action: NEEPCO, DoP Nagaland & NERTS.***

**B. ITEMS FOR STATUS**

**B.1 UNMS System Installation:**

In addition to main and back-up centres at POWERGRID Guwahati office and POWERGRID RHQ Shillong, remote terminal servers along with associated accessories are to be installed at all the 07 states. However, due to issues at few SLDC's, material dispatch clearance is yet to be given to the party.

**Deliberation of the sub-Committee:**

Sr GM, NERTS informed the forum that all the material of UNMS for Main/back-up centres and all the SLDC's have been made ready by M/s Sterlite and the same are either dispatched to respective sites or available for dispatch at their Guwahati stores. He requested the three states, viz. Assam, Arunachal Pradesh and Tripura to receive the material at the earliest.

DGM, SLDC Assam informed the forum that they do not have any bid documents and contract agreement of UNMS project. Therefore, they do not the scope of work exactly. Sr. Manager, SLDC Tripura also raised the same concern.

Sr. GM, NERTS informed the forum that he has already sent the bid documents and contract agreement to all states. The forum requested NERTS to share all the relevant documents to all the states once again.

Representative from M/s Sterlite Technologies made ppt presentation (**PPT attached as Annexure B.1**) on the progress of the project, benefit of this project. Various queries raised by the States in the meeting were clarified by Sterlite and NERTS.

After detailed deliberation, it was decided that NERTS shall send the bid documents and contract agreement once again to all the states to enable them to understand the scope of this project. Any further queries or concern raised by the States should be clarified by PGCIL. PGCIL was requested to have physical meetings with concerned States and resolve the issue bilaterally. States were also requested to officially communicate to PGCIL in case of any issues or concerns so that PGCIL can take remedial action wherever necessary.

***The Sub-Committee noted as above.***

***Action: All state utilities & NERTS.***

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

State wise issues raised by NERPSIP are tabulated below:

S. No.	State	Issues
1	<b>Assam</b>	Connectivity of STM4 nodes under NERPSIP to SLDC through existing STM1 network.
		Connectivity of Mariani and Tinsukia nodes to SLDC
		Connectivity of Kamalpur - Amingaon link, Amingaon - Sishugram link, Amingaon - Kamakhya link
		Space constraints in PK Bari Substation to install DCPS

2	<b>Tripura</b>	Gokul Nagar link commissioning	LILO of SM Nagar - Rokhia at Gokul nagar - The lilo portion has completed by POWERGRID. OPGW connection between SM Nagar to Rokhia is to be completed by state for establishing Gokulnagar link
		RTU augmentation work	POWERGRID has to lay cables from CRP panels to RTU in the existing substation to integrate the extension bays to RTU. Necessary I/O modules and required augmentation of RTU shall be done by state.
3	<b>Nagaland</b>	33kV Mokokchung - Mariani link - non availability of existing poles	Total 7kM portion of 33kV Mokokchung – Mariani existing line is required to be restored (existing 7kM portion is collapsed) by state utility. Due to this, 33kV Mokokchung- Longtho; 33kV longtho – Longnak; 33kV Longnak – Mariani links are affected. OPGW/ADSS laying will be done after completion of said existing line.
4	<b>Manipur</b>	AC Power supply issues in DMS stations.	6 DMS stations (Porompet, Sanjenbam, Thangal, Top-khongnangkhang, Keithelmanbi, Tuilaphai) are new SS constructed under NERPSIP and handed over to state. At present, due to lack of operational manpower, state utility has kept out of service these stations. FOTE equipment could not power on at these locations, due to non-availability of AC power supply.
		RTU augmentation work	POWERGRID has to lay cables from CRP panels to RTU in the existing substation to integrate the extension bays to RTU. Necessary I/O modules and required augmentation of RTU shall be done by state.
		Poles missing in 2 number of existing lines. Zemabak - West	Due to non-availability of towers (poles are used in few locations) in 2 no. existing links (West Pheileng-Zemabak & Lungsen – Lunglei), OPGW laying are unable to complete.

5	<b>Mizoram</b>	Pheilang Line & Lunglei - Lungsen line	OPGW laying of 45/51km has completed at West pheileng – Zemabak link and 26/27km has completed at Lunglei – Lungsen line. Connectivity of Optical fiber is not possible at these locations due to the above reasons.
		Zuangtui - Zaitual - Khwazawl link	Necessary required FOTE to be provided by State utility as per Minutes of CEA Meeting.
6	<b>Meghalaya</b>	Severe ROW issues in new lines	Due to severe ROW issues, new EHV lines (Killing – Mawngap - New Shillong) erection is getting delayed. State strong intervention is required in this regard.

**Deliberation of the sub-Committee:**

State wise detailed status as intimated by NERPSIP & Comprehensive as Attached as Annexure B.2 (a to f) and Annexure B.2g respectively.

Member Secretary, NERPC stated that a committee comprising of one member from each SLDCs, NERPSIP, Comprehensive Scheme, NERLDC and NERPC has been formed in the 198<sup>th</sup> & 199<sup>th</sup> OCC Meetings. This committee will review the status on monthly basis the progress of real-time data integration, communication links integration of projects etc.

**The nominated members are as given below:**

Assam: Sh. Pranab Saha and Sh. Arup Sarmah (nominated in the 24<sup>th</sup> NETeST)

Arunachal Pradesh: Sh. Purik Buchi

Meghalaya: Sh. D J Lyngdoh & Sh. C W Chen (both nominated in the 24<sup>th</sup> NETeST)

Manipur: Sh. N. Arun Singh (nominated in the 24<sup>th</sup> NETeST)

Mizoram: Sh. J H Malsawma

Nagland: Yet to be nominated.

Tripura: Smt. Smapa Sen

NERLDC: Sh. Sakaldeep

NERPC: Sh. Sadiq & Sh. Rajib Das

NERPSIP: Sh. Abhilash A. A.

Comprehensive: Sh.H.Talukdar & Prasanta Das (both nominated in the 24<sup>th</sup> NETeST)

***The Sub-Committee noted as above.***

***Action: All state utilities, NERPSIP, Comprehensive, NERLDC & NERPC.***

**B.3 Status of FO works under different projects.**Status as updated in the 24<sup>th</sup> NETeST meeting:

S. No.	Link name	Utilities which may respond	As per 24 <sup>th</sup> NETeST
<b>I. Fiber Optic Expansion Projects</b>			
<b>Tripura State Sector</b>			
1	132kV Rokhia (GBPP) - Surjamani Nagar (TSECL)	TSECL	<ul style="list-style-type: none"> <li>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 07<sup>th</sup> July 2022. Thus, these links will not be monitored under NER Fiber-Optic expansion.</li> </ul>
2	132kV Surjamani Nagar (TSECL) - Monarchak (NEEPCO)		
<b>Meghalaya State Sector</b>			
3	132kV NEHU - NEIGRIMS	POWERGRID-NERTS	Link is completed by splicing one-pair of fiber at both ends and remaining fiber to be spliced by July 2022.
<b>Central Sector</b>			
4	400kV Bongaigaon (PG) - 220kV Salakati - 220kV BTPS	POWERGRID-NERTS	<p>Survey carried out on February for determining the configuration in which the OPGW is to be laid for 220 kV Bongaigaon-Salakati as there are four nos of power line crossings. Configuration to be finalized on 15.03.2023.</p> <p><b>Target:</b> By 31.03.2023 for 220 kV Bongaigaon-Salakati and April'23 for Mirza-Byrnihat.</p> <ul style="list-style-type: none"> <li>Stringing for 210 kms. out of 248 kms. completed.</li> <li>Status: WIP. (220/248) kM</li> <li>Target date is March 2023.</li> </ul>
5	400kV Mirza (Azara) - Byrnihat		
6	400kV Silchar - Palatana		

S. No.	Link name	Utilities which may respond	As per 24 <sup>th</sup> NETeST
7	132kV Pare – Chimpu		Completed.
<b>Manipur State Sector</b>			
8	132kV Imphal (State) – Karong	MSPCL and POWERGRID	<ul style="list-style-type: none"> <li>Target date for completion of link is March-2023.</li> </ul>
<b>Mizoram State Sector</b>			
9	Aizawl – Zemabawk II	P&ED-Mizoram & NERTS	<ul style="list-style-type: none"> <li>Link is completed.</li> </ul>

**The Sub-Committee noted as above.**

**Action: TSECL, MSPCL & NERTS.**

#### **B.4 Status and details of OPGW projects approved in 17<sup>th</sup> TCC/RPC meeting:**

**A. Additional Communication Scheme:** Status as per 24<sup>th</sup> NETeST meeting.

Sl. No.	Lines	Target date	OPGW Stringing	Equipment Installation
1	132 kV Silchar - Hailakandi (Part of line)	September 2022.	Stringing Completed.	Material Delivered
2	132 kV Roing – Pasighat	January 2023.	Completed till pile foundation location.	Material Delivered
3	132 kV Roing – Tezu	January 2023.	Completed. (73/73) kM	Material Delivered
4	132 kV Tezu – Namsai	January 2023.	Stringing of 96/96 kM is completed	Material Delivered
5	132 kV Tuirial – Kolasib	January 2023	Target: April'23. Mizoram to provide tower profile detail.	Material Delivered
6	400 kV Balipara –	October	Completed	Installed. However, it is

	Kameng	2022		decided that DC power to FOTE will be extended using station DCPS on temporary basis. NEEPCO & NERTS to resolve the issue together.
7	400 kV Bongaigoan – Killing (Byrnihat)	September 2022	Stringing of 202/202 km completed.	Material Delivered
8	400 kV Silchar – Killing (Byrnihat)	December 2022.	Stringing of 80/216 kM is completed. WIP	Material Delivered

Sr. GM, NERTS informed the forum that there is a challenge in delivery of battery bank under DCPS in all the links, which will be delivered in later stages. NERTS requested all constituents to allow power supply connection from existing substation power supply.

***The Sub-Committee noted as above.***

***Action: NERTS.***

**B. Reliable Communication Scheme:**

a. NERTS informed that OPGW for 132kV Longnak-Mokokchung has been laid from LILO point to 132kV Longnak along with terminal equipment at 132/33kV Longnak S/s. As per requested by DOP-Nagaland, 132kV Longnak-Mokokchung to be included under Reliable Communication Scheme.

b. MePTCL informed that OPGW 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.

MePTCL is requested to provide update on the mentioned links.

**Deliberation of the sub-Committee:**

a. The updated status is attached in **Annexure B.4b**.

b. All these links will be done by MePTCL under PSDF funding.

***The Sub-Committee noted as above.***

***Action: NERTS.***



**B.5 Selected cases of Sub-stations for rectification of corresponding data/communication related issues:****Deliberation of the sub-Committee:**

Status as per 24<sup>th</sup> NETeST.

Utility	Station	Requirement	Status as per 24 <sup>th</sup> NETeST
NEEPCO	Rangana di HEP	Second Channel via Pare-Chimpu	Manager, NERTS informed the forum that 132 kV Pare-Chimpu OPGW link is completed. NERLDC will put a request mail for NERTS for configuration of communication channel.
OTPC	Palatana	Unit side (LV of GT) data needs to be telemetered.	Necessary work is completed.

***The Sub-Committee noted as above.***

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

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	Healthy
2	Tezu	Healthy	Healthy
3	Namsai	Healthy	Healthy

**Deliberation of the sub-Committee:**

Sr. GM, NERLDC informed the forum that necessary work has been completed.

***The Sub-Committee noted as above.***

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

M/s Devi Energies had earlier 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 21<sup>st</sup> NETeST meeting, NERPC informed the forum that M/s Devi Energies has committed vide e-mail that it will complete the associated works by January-2022. Further, the forum decided that if M/s Devi Energies are not able to complete the work by January-2022, then DoP-Arunachal Pradesh should take strong action against M/s Devi Energies which may include restricting their generation till works are completed.

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

As per 23<sup>rd</sup> NETeST meeting, DoP-Arunachal Pradesh informed that PLCC panel at Khupi for the erstwhile 132kV Balipara – Khupi will be shifted to Tenga and one (1) out of the two (2) new panels at Tenga will be shifted to Khupi. Thereafter, PLCC for 132kV Balipara-Tenga and 132kV Tenga-Khupi shall be operational. It was assured that the above works along with data reporting to respective SCADA system shall be completed by Aug'22.

**Deliberation of the sub-Committee:**

After detailed deliberation the forum requested DoP, Ar. Pradesh to take up the issue with M/s Devi energy and resolve at the earliest as this is very long pending issue.

***The Sub-Committee noted as above.***

***Action: DoP AP & M/s Devi Energies.***

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

**Deliberation of the sub-Committee:**

<b>Station Name</b>	<b>Background</b>	<b>Status as per 24<sup>th</sup> NETeST Meeting</b>
BgTPP	Unit-2 needs to be integrated.	Configuration done in all units. NPTC were not present.

Minutes of 24<sup>th</sup> NETeST Meeting held on 13<sup>th</sup> March, 2023

<p>AGBPP (Kathalguri)</p>	<p>OEM visits was envisaged as per following –</p> <ul style="list-style-type: none"> <li>• Some units are of Mitsubishi make which require team from Japan to visit plant.</li> <li>• Other units are of GE-make and BHEL-make</li> </ul>	<ul style="list-style-type: none"> <li>• 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. The proposal is submitted to NEEPCO board, which is yet to be approved by competent authority.</li> <li>• NEEPCO informed the forum that proposal for AGC implementation in 02 nos. of BHEL&amp;GE make GTS is approved by NEEPCO board. Procurement of required materials is under process.</li> </ul>
<p>Kopili</p>	<p>NEEPCO may update the status.</p>	<ul style="list-style-type: none"> <li>▪ Plant is under R&amp;M, and AGC package is considered under R&amp;M also which is expected to be completed by 2023.</li> <li>▪ Agenda to be dropped till plant is under R&amp;M.</li> </ul>
<p>Kopili II</p>	<p>NEEPCO may update the status.</p>	<ul style="list-style-type: none"> <li>▪ Plant is under R&amp;M, and AGC package is considered under R&amp;M also which is expected to be completed along with Khandong R&amp;M completion.</li> <li>▪ Agenda to be dropped till plant is under R&amp;M</li> </ul>
<p>Doyang</p>	<p>NEEPCO may update the status</p>	<ul style="list-style-type: none"> <li>▪ NEEPCO raised the concerned that R&amp;M of DHEP will increase the tariff of plant as it is a relay-based plant.</li> <li>▪ NEEPCO also informed the forum that estimated cost for SAS upgrade is 5.5 cr. NEEPCO raised concerned what will be mechanism of recovering the cost.</li> <li>▪ NERLDC informed that as per clause 34.vii the plants will get compensation for AGC</li> </ul>

		support. Thus, recovery of cost is possible.
Khandong	NEEPCO may update the status	<ul style="list-style-type: none"> <li>▪ Plant will undergo R&amp;M in 2024, and AGC package is considered under R&amp;M also which is expected to be completed by 2024.</li> <li>▪ Agenda to be dropped till plant is under R&amp;M</li> </ul>

***The Sub-Committee noted as above.***

***Action: NEEPCO & NTPC.***

### **B.9 RGMO/FGMO status:**

***Deliberation of the sub-Committee:***

<b>Station name</b>	<b>RGMO status</b>	<b>FGMO status</b>
Kopili Extension (1 unit)	▪ Agenda to be dropped till plant is under R&M.	▪ Agenda to be dropped till plant is under R&M.
OTPC (4 units)	Necessary work has been completed.	Necessary work has been completed.

***The Sub-Committee noted as above.***

### **B.10 Pending issues of State Utilities of NER:**

***Deliberation of the sub-Committee:***

The utility-wise discussion is tabulated below:

<b>Utility</b>	<b>Pending issues</b>	<b>Status as updated in the 24<sup>th</sup> NETeST meeting</b>
Assam	SAS upgradation related works may be updated.	<ul style="list-style-type: none"> <li>• Assam-SLDC will submit the status by March'23 to NERPC and NERLDC.</li> </ul>
Tripura	Dhalabil	<ul style="list-style-type: none"> <li>• TSECL requested PGCIL to extend support for restoration of systems over GPRS. NERTS agreed for the same.</li> </ul>
	Ambassa	
	Sabroom, Satchand	
	13 stations not covered under NER-FO expansion project	
Meghalaya	Procurement of DI card from PSDF is	<ul style="list-style-type: none"> <li>• MePTCL will propose procurement of new RTUs under DPR.</li> </ul>

<b>Utility</b>	<b>Pending issues</b>	<b>Status as updated in the 24<sup>th</sup> NETeST meeting</b>
	pending.	
Manipur	Churachandpur, Kongba and Kakching	<ul style="list-style-type: none"> <li>• Work will be completed by August 2022.</li> <li>• Action: MSPCL (MSPCL were not present)</li> </ul>
	Elangkhangpokpi, Thanlon, 132kV Thoubal	<ul style="list-style-type: none"> <li>• Board approval is required for DPR preparation.</li> <li>• Action: MSPCL (MSPCL were not present)</li> </ul>
Nagaland	Meluri	<ul style="list-style-type: none"> <li>• DoP-Nagaland will propose procurement of RTUs under PSDF fund.</li> </ul>
	Kiphire	<ul style="list-style-type: none"> <li>• Meluri-Kohima line is still under diversion due to road construction work. PLCC will be restored once line is restored over new towers.</li> </ul>
	LHEP	<ul style="list-style-type: none"> <li>• DoP-Nagaland informed that VSAT is proposed for LHEP.</li> </ul>
Mizoram	Luangmual	<ul style="list-style-type: none"> <li>• Luangmual is reporting.</li> </ul>
	Zuangtui	<ul style="list-style-type: none"> <li>• PE&amp;D-Mizoram informed that all isolators are manually operated and there is no auxiliary contact available for isolators.</li> <li>• P&amp;ED Mizoram will do survey of all isolator to understand the mechanism and way out to provide telemetry.</li> </ul>
	Kolasib	<ul style="list-style-type: none"> <li>• PE&amp;D-Mizoram informed that all isolators are manually operated and there are no auxiliary contacts available for isolators.</li> <li>• P&amp;ED Mizoram will do survey of all isolator to understand the mechanism and way out to provide telemetry</li> </ul>
	Saitual, Khawzawl, Champhai, Serchhip, Lunglei	<ul style="list-style-type: none"> <li>• RTUs are proposed in DPR for new RTU project and VSAT are proposed for these locations.</li> </ul>
Arunachal Pradesh	VSAT installation and other issues	<ul style="list-style-type: none"> <li>• DoP-Arunachal Pradesh informed that VSAT has been commissioned at 7 out of 8 stations under its ownership.</li> <li>• NERLDC emphasized that maintenance and</li> </ul>

Utility	Pending issues	Status as updated in the 24 <sup>th</sup> NETeST meeting
		<p>availability of VSAT link should be taken care by DoP-Arunachal Pradesh.</p> <ul style="list-style-type: none"> <li>• It has been observed that UPS supply is not extended to VSAT MODEMs installed due to which there is interruption in data whenever power supply fails in the concerned substations i.e. Pasighat, Deomali, Along, Khupi and Bhalukpong.</li> <li>• DoP, Arunachal is formulating the proposal to buy UPS for each station to cater for the power supply to VSAT equipment.</li> <li>• DoP, Arunachal Pradesh informed that joint visit with M/s GE is required at 132 kV Daporijo 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.</li> <li>• DoP, Arunachal and GE are working on proposal for replacement of faulty cards.</li> <li>• Pasighat: Power supply to RTU is interrupted after the malfunction of 48/110V DC charger of substation. DoP, Arunachal is working to replacement of 48/110V DC charger.</li> </ul>

***The Sub-Committee noted as above.***

***Action: All state utilities.***

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

POWERGRID-NERTS had earlier requested the forum to divert material of 132kV Surjamani Nagar (TSECL) - Monarchak (NEEPCO) or 132kV Rokhia (GBPP) - Surjamani Nagar (TSECL) to Lekhi station, 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 22<sup>nd</sup> 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-Fiber Optic Expansion project scope and will be included in NER Reliable communication scheme after getting request-in-writing from TSECL. Thus, end equipment (i.e. FOTE) of 132kV Rokhia station (TSECL) will be diverted to 132kV Lekhi station for terminating the fiber-optic at 132kV Lekhi station subject to confirmation of NERPSIP as equipment are under its ownership.

As per 23<sup>rd</sup> NETeST meeting, TSECL informed the forum that FOTE installed during NER Fiber-Optic 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 under NER Fiber-Optic expansion project 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. TSECL informed that they will confirm the shifting of Monarchak FOTE to forum by July'22.

**Deliberation of the sub-Committee:**

Sr. GM, NERTS informed the forum that currently Valiant make PDH is installed at Lekhi S/s, with one optical card which is providing facility to connect RTU over Ethernet based system. SDH equipment will also be installed which will be diverted from Monarchak.

***The Sub-Committee noted as above.***

***Action: TSECL, POWERGRID.***

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

TSECL requested POWERGRID-NERTS to rectify the issue of Contact Multiplying Relay (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 POWERGRID-NERTS itself. TSECL will rectify the issue of all other bays in coordination with GE. A summary is tabulated below:

<b>Sl. No.</b>	<b>Name of the bay</b>	<b>Status</b>
1.	Comilla Bay - 1	Rectified.
2.	Comilla Bay - 2	Rectified.
3.	Palatana Line	Rectified.
4.	Bus Coupler	Rectified.
5.	SM Nagar (Indigrid) Line	Rectified.

Sl. No.	Name of the bay	Status
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.

**Deliberation of the sub-Committee:**

Sr. GM, NELDC informed the forum that necessary work has been completed. The agenda item may be dropped.

**The Sub-Committee noted as above.**

**B.13 Integration of STERLITE owned OPGW with ULDC network:**

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

- 132 kV R C Nagar – PK Bari (TSECL) D/c:** Will provide additional path between Agartala and PK Bari
- 400 kV Silchar – Misa D/c:** Will provide additional link between south NER and North NER.
- 132 kV BNC – Chimpu D/c:** Will provide additional path between Arunachal Pradesh and rest of NER.
- 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.

**Deliberation of the sub-Committee:**

The status as per 24<sup>th</sup> NETeST meeting is given in *table* below:

Sl. No.	Description	As per 24 <sup>th</sup> NETeST Meeting
1.	132 kV RC Nagar – PK Bari (TSECL)	<ul style="list-style-type: none"> <li>Indigrid will integrate the link over GE equipment between PK Bari and RC Nagar. Further, at RC Nagar ULDC equipment will be integrated with GE FOTE. SFPs will be provided by each utility as per the ownership of equipment (FOTE). The work will</li> </ul>



Sl. No.	Description	As per 24 <sup>th</sup> NETeST Meeting
		be completed by March'23.
2.	400 kV Silchar-Misa D/C	<ul style="list-style-type: none"> <li>▪ Indigrid informed that after line restoration the integration of ULDC FOTE and Indigrid owned FOTE will be done. SFPs will be provided by each utility as per the ownership of equipment (FOTE). The work will be completed by March'23.</li> </ul>
3.	132 kV BNC – Chimpu D/C	<ul style="list-style-type: none"> <li>▪ The link is integrated with existing network of ULDC. For the time being, only 2 fibers have been utilized.</li> </ul>
4.	132 kV PK Bari (TSECL) - PK Bari (IGT)	<ul style="list-style-type: none"> <li>▪ As the fiber is laid by NERPSIP, and ownership of fiber is with TSECL. Indigrid requested TSECL to provide 2 core fiber for integration of FOTE equipment at the both end.</li> <li>▪ TSECL agreed to provide the fiber.</li> <li>▪ Integration work will be completed by March'23.</li> </ul>

**The Sub-Committee noted as above.**

**Action: TSECL, POWERGRID, NERLDC & INDIGRID.**

#### **B.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	As per 23 <sup>rd</sup> NETeST Meeting
1.	LRPP (Lakwa Replacement Power Project)	<ul style="list-style-type: none"> <li>• All digital data are reporting wrong.</li> <li>• 132/11 ICT 2 LV side data re not reporting.</li> <li>• Unit 6 data is not reporting.</li> </ul>	Target: September 2022  <b>Action:</b> SLDC-Assam may update the status.
2.	LTPS (Lakwa Thermal Power)	<ul style="list-style-type: none"> <li>• All CB are reporting wrong status.</li> <li>• All Isolators are not</li> </ul>	Details attached as per <b>annexure B.14.</b>  <b>Action:</b> SLDC-Assam may

Sl. No.	Name of Generating Station	Status of Telemetry data	As per 23 <sup>rd</sup> NETeST Meeting
	Station)	reporting. <ul style="list-style-type: none"> <li>All HV side data of GTs are not reporting.</li> </ul>	update the status.
3.	NRPP (Namrup Replacement Power Project)	<ul style="list-style-type: none"> <li>All digital and analog data are not reporting for GTG.</li> </ul>	For GTG all digital and analog data are not reporting because of the BCU (Bay Control Unit) of GTG bay is not functioning. Procurement of a new BCU for GTG Bay has already been initiated. Expected completion on December 2022. <b>Action:</b> SLDC-Assam may update the status.
4.	NTPS (Namrup Thermal Power Station)	<ul style="list-style-type: none"> <li>CB of unit 3 is reporting wrong status.</li> </ul>	Rectified.
		<ul style="list-style-type: none"> <li>All Isolators are not reporting.</li> </ul>	Work will be completed on February 2023. <b>Action:</b> SLDC-Assam may update the status.
		<ul style="list-style-type: none"> <li>Analog data of Unit 6 is not reporting.</li> </ul>	Unit is under shut-down from 22-06-2022. Hence, analog data is not reporting. <b>Action:</b> SLDC-Assam may update the status.
5.	Langpi Hydro Station	<ul style="list-style-type: none"> <li>All digital data associated with units are not reporting.</li> <li>Analog data of transmission lines are not reporting.</li> </ul>	Procurement of RTU is under process. Work will be completed on December 2022. <b>Action:</b> SLDC-Assam may update the status.

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

**Deliberation of the sub-Committee:**

<b>Sl. No.</b>	<b>Name of Generating Station</b>	<b>Status of Telemetry data</b>	<b>As per 24<sup>th</sup> NETeST Meeting</b>
1.	LRPP (Lakwa Replacement Power Project)	<ul style="list-style-type: none"> <li>• All digital data are reporting wrong.</li> <li>• 132/11 ICT 2 LV side data re not reporting.</li> <li>• Unit 6 data is not reporting.</li> </ul>	Completed on 09.12.2022.
2.	LTPS (Lakwa Thermal Power Station)	<ul style="list-style-type: none"> <li>• All CB are reporting wrong status.</li> <li>• All Isolators are not reporting.</li> <li>• All HV side data of GTs are not reporting.</li> </ul>	<ul style="list-style-type: none"> <li>• Completed on 27.07.2022.</li> <li>• Completed on 03.12.2022.</li> </ul> <p>Installation of Multi-Function meters was completed on 27.07.2022</p> <p>Most of the telemetry work is completed.</p> <p>APGCL is taking the necessary step to complete some of following work at the earliest.</p> <ol style="list-style-type: none"> <li>1. #5 GT HV side not reporting.</li> <li>2. #5 GT LV side current suspect.</li> <li>3. #6 GT HV side measurement not reporting.</li> <li>4. #6 GT HV CB displayed wrongly.</li> <li>5. #7 GT LV CB displayed wrongly.</li> </ol>

Sl. No.	Name of Generating Station	Status of Telemetry data	As per 24 <sup>th</sup> NETeST Meeting
			<p>6. #7 GT HV CB displayed wrongly.</p> <p>7. #7 GT LV side MW measurement displayed wrongly.</p> <p>8. 132/3.3 KV TR1 LV, HV side analog measurement wrong, CB wrong display.</p> <p>9. 132/3.3 KV TR 2 LV side analog wrong.</p> <p>10. 10) 132/3.3 KV TR 3 LV side analog wrong.</p> <p>11. Voltage and frequency are not reporting at LTPS Main &amp; Transfer Bus.</p>
3.	NRPP (Namrup Replacement Power Project)	<ul style="list-style-type: none"> <li>All digital and analog data are not reporting for GTG.</li> </ul>	Completed on 20.03.2023.
4.	NTPS (Namrup Thermal Power Station)	<ul style="list-style-type: none"> <li>CB of unit 3 is reporting wrong status.</li> <li>All Isolators are not reporting.</li> <li>Analog data of Unit 6 is not reporting.</li> </ul>	<p>Completed on 20.07.2022.</p> <p>Not completed due to remote operating mechanism of Isolator is in unusable state for telemetry purpose due to aging.</p> <p>Completed on 27.07.2022.</p>
5.	Langpi Hydro Station	<ul style="list-style-type: none"> <li>All digital data associated with units</li> </ul>	Telemetry work will be completed after completion of the major

<b>Sl. No.</b>	<b>Name of Generating Station</b>	<b>Status of Telemetry data</b>	<b>As per 24<sup>th</sup> NETeST Meeting</b>
		are not reporting. • Analog data of transmission lines are not reporting.	overhauling work of #2. Target date is 15 <sup>th</sup> May, 2023.

***The Sub-Committee noted as above.***

***Action: APGCL.***

**Additional Agenda items**

**B.15 OPGW connectivity between Daporizo Basar Along substation:**

**Deliberation of the sub-Committee:**

Director NERPC stated that in the 199<sup>th</sup> OCCM, SE Ar. Pradesh suggested that OPGW may be laid from Basar to either Daporizo or Along so that Basar can be connected to SLDC/ RLDC.

GM, Comp. of AP (PGCIL) informed the forum that OPGW connectivity between Daporizo Basar Along substation is included in the Comprehensive Scheme of AP.

***The Sub-Committee noted as above.***

***Action: Comprehensive-PGCIL.***

**Any other item:**

**Date and Venue of next NETeST Meeting**

It is proposed to hold the 25<sup>th</sup> NETeST meeting of NERPC in the month of June 2023. The date & exact venue will be intimated in due course.

**List of Participants in the 24<sup>th</sup> NETeST Meeting held on 13.03.2023**

<b>SN</b>	<b>Name &amp; Designation</b>	<b>Organization</b>	<b>Contact No.</b>
1	Sh. Purik Buchi, AE (E)	Ar. Pradesh	09402936916
2	Sh. Ashutosh Bhattacharya, DGM, AEGCL	Assam	09954106916
3	Sh. Pranab Saha, AGM, AEGCL	Assam	09435561717
4	Sh. Abhishek Kalita, DM, AEGCL	Assam	08486213068
	NO REPRESENTATIVE	Manipur	-
5	Sh. D. J. Lyngdoh, EE (SM), MePTCL	Meghalaya	-
6	Sh. Y. Iakai, AEE, (SLDC), MePTCL	Meghalaya	09402133552
7	Sh. S. W. Khyriem, AEE (CSD), MePGCL	Meghalaya	08787346704
8	Sh. C. W. Chen, AEE (C&C), MePTCL	Meghalaya	09863093311
9	Sh. Lalrinawma, SDO, MRT	Mizoram	09436791567
10	Sh. Lalremruata Sailo, JE (SLDC)	Mizoram	09612614372
11	Sh. E. Pongmei, SDO	Nagaland	08132862504
12	Smti. Shampa Sen, Sr. Mgr, TSECL	Tripura	09436120263
13	Sh. Joypal Roy, GM (E/M)	NEEPCO	08837200069
14	Sh. S.P.Barnwal, Sr.GM (SL)	NERLDC	09433041812
15	Sh. Akhil Singhal, Ch. Manager (Logistic)	NERLDC	09650598187
16	Sh. Sakal Deep, A.M (SL)	NERLDC	09774528218
17	Sh. Royal Sutnga, Engr. (SL)	NERLDC	08794107475
18	Sh. Rajendra Dubey, Sr.GM (ULDC)	PGCIL	08275039218
19	Sh. Kamlesh Baishya, Asst. Mgr (ULDC)	PGCIL	09859723132
20	Sh. P. Johny Singh, JE (ULDC)	PGCIL	09435303572
	NO REPRESENTATIVE	NHPC	-
	NO REPRESENTATIVE	OTPC	-
	NO REPRESENTATIVE	NTPC	-
21	Sh. Pankaj Kr. Das, Sr.GM	NERPSIP	09910378130
22	Sh. Abhilash A. A, Asst. Mgr	NERPSIP	09600160276
23	Sh. H. Talukdar, GM (T&C)	COMP. of AP	09436335237
24	Sh. Mukesh Wadhwa	GE	09910511110
25	Sh. Vivek Aggarwal	GE	09958990584
26	Sh. Manoj Gupta	GE	09958095172

Minutes of 24<sup>th</sup> NETeST Meeting held on 13<sup>th</sup> March, 2023

27	Sh. Rajesh Gupta	STL	09871770951
28	Sh. Vivek Karthikeyan, Sr. Manager	INDIGRID	08966903034
29	Sh. Prayas Gupta, AGM	INDIGRID	09099005516
30	Sh. K. B. Jagtap, Member Secretary	NERPC	09436163419
31	Sh. S. M. Aimol, Director	NERPC	08974002106
32	Sh. Sadiq Imam, DD	NERPC	07004133772
33	Sh. Shaishav Ranjan, DD	NERPC	08787892650
34	Sh. Vikash Shankar, AD-I	NERPC	09455331756
35	Sh. Dinesh Kr. Singh, AD-I	NERPC	07042118261
36	Sh. Rajib Das, AD-I	NERPC	-
37	Sh. Ashim Kr. Goswami, AD-II	NERPC	08638966481

### CYBER SECURITY MEASURES IMPLEMENTATION STATUS FOR NER SLDCs (AS ON 02.03.2023)

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 28.02.23.	Final CCMP approved by CERT-In with comments for incorporation. Modified CCMP approved by CERT-In on 19.09.2022.	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	In the process of approval of Certifying Agency.	Assam SLDC has received certification for <b>ISMS (ISO 27001: 2013)</b> on 09.07.22.	<b>LOA issued</b> 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 <b>ISMS (ISO 27001: 2013)</b> 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. <b>Now, DPR has been prepared and proposal has been submitted to Management for approving C-DAC on nomination basis. Approval awaited.</b>	In the process of implementing Security policies as recommended by M/s AKS Information Technology Service Pvt. Ltd.	Contract has been awarded to CDAC and work is in progress.
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. during 11/01/2022 - 17/01/2022.	VAPT Audit for OT systems of SLDC, Manipur was conducted by CDAC-Hyderabad from 21-24 Dec'21. VAPT for OT systems of SLDC by ASK Technology Services (part of GE Scada) from 12-15 Jan 2022. <b>VAPT completed</b> and the final reports have been sent to MoP.	(1) Mandatory Cyber Audit by GE has been completed for URTDSM system and SCADA system (in Aug'21 & Jul'22 for URTDMS and Jan'22 for SCADA). (2) VAPT of OT systems of Meghalaya SLDC was carried out during the first and second week of April 2022 by CDAC. Reports have been sent to MoP.	Done twice for FY 21-22 as part of SCADA Contract on Apr'21 & Jan'22.	(1) Done once for FY 21-22(Annual) as part of SCADA Contract by OEM in the month of Jan'22. (2) Done again on <b>29th JULY 2022</b> as a part of 6 months scheduled by M/s AKS Information Technology Services.	Done twice for FY 21-22 as part of SCADA Contract on Apr'21 & Jan'22.
	i) Date of Last VA-PT (OT):	24/01/2022- 26/01/2022	11/01/2022 - 17/01/2022	10/01/2022-12/01/2022 (ASK Services, Noida)	04/04/2022- 16/04/2022 (CDAC)	14/01/2022- 18/01/2022	29-07-2023	20/01/2022- 24/01/2022.
	Submission of latest VA-PT report carried out on OT systems of SLDC for onward submission to MoP	Submitted.	Submitted.	Submitted.	Submitted.	Submitted.	Submitted.	Submitted.
	ii) Due date for Next Audit / Plan for next audit :	23-03-2023	<b>14-02-2023. (Done. Reports pending)</b>	30-03-2023	02-03-2023	03-04-2023	17-03-2023	10-04-2023
4	Status of VA-PT on IT systems	Under Process	Has been done in <b>May 2022</b> . Reports received and hard copy disbursed to the office of CISO-MoP over confidential mail on 03.09.2022.	<b>Phase -1</b> of Cyber Security Audit for IT systems of SLDC, Manipur was conducted from 21.12.2021 to 24.12.2021 by CDAC-Hyderabad.	Audit has been carried out by C-DAC in <b>April 2022</b> and reports have been forwarded to MoP.	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. <b>Now, DPR has been prepared and proposal has been submitted to Management for approving C-DAC on nomination basis. Approval awaited.</b>	Done on <b>28th July 2022</b> by M/s AKS Information Technology Pvt Ltd.	Contract has been awarded to CDAC and work is in progress.



## CYBER SECURITY MEASURES IMPLEMENTATION STATUS FOR NER SLDCs (AS ON 02.03.2023)

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)	Final revised CII document has been submitted to NCIIPC after incorporation of comments on 01.03.2023.	Identified Systems of SLDC, Assam have been declared as CII by NCIIPC. Notification of CII as Protected Systems shall be issued by State Govt.	Final revised CII document has been submitted to NCIIPC after incorporation of comments on 20.02.2023.	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.	CII documents submitted to NCIIPC for review on 09.11.21 email id coord.power@nciipc.gov.in. Email forwarded to us for record. Comments received from NCIIPC on 17th May'22. Joint meeting involving SLDC, NCIIPC & NERLDC was carried out on 02.06.2022. The revised CII documents have been submitted to NCIIPC on 06.06.2022.	Identified Systems of SLDC, Nagaland have been declared as CII by NCIIPC. Notification of CII as Protected Systems still pending with the State Govt.	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. However, NCIIPC has asked for resubmission after modifications.
	Updated Completion Timeline by SLDC**:							
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	For CERT-In weekly advisories to be complied within 5 days: To be uploaded in the portal after completion.	Being Updated in 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	Yes	Yes
8	Cyber Security Certification: (Training attended)	No	Yes. Basic level training and certification on Cyber Security for Power Sector Professionals completed by officials (2 Officials) of IT/SCADA department.	Yes. (2 Officials)	Yes. (10 officials) undergone Basic level certification course from NPIT)	Yes (1 Official trained in Two Weeks Basic Level Training and Certification Program on Cyber Security)	No	No
9	IT - OT Integration:	Not present	Not present	Not present	Not present	Not present	Not present	Not present

# Fw: Request for new signals of Unit side data and rectification of DEOMALI line

Sakal Deep (सकल दीप)

Fri 3/3/2023 10:13

To: Paominlal Dounge (पाओमिलल डौंगेल) <paominlal@grid-india.in>;

Importance: High

Regards,

Sakal Deep (सकल दीप)

System Logistics

North Eastern Regional Load Despatch Centre, Shillong

**Grid Controller of India Limited/ ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड**

(Formerly known as Power System Operation Corporation Ltd)

**(A Government of India Enterprise)**

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**From:** Sakal Deep (सकल दीप)

**Sent:** 28 December 2022 16:42

**To:** dinabandhu.baishya@rediffmail.com; pem.agbp@rediffmail.com

**Cc:** S P Barnwal (एस पी बर्नवाल); Akhil Singhal (अखिल सिंघल); 'Paominal Dounge'; Royal Sutnga; Amba Prasad Tiwari; DGMAGBP Electrical; joppal\_roy@rediffmail.com; djdas.neepco@gmail.com

**Subject:** Re: Request for new signals of Unit side data and rectification of DEOMALI line

Respected Sir,

As per the mail received on 22<sup>nd</sup> August 2022, the materials to integrate MW and MVar value of 11 kV side of GTs had already reached the site in the month of the August-2022.

Kindly update the status on further schedule for integrating the signals with RTU.

Regards,

Sakal Deep (सकल दीप)

System Logistics

North Eastern Regional Load Despatch Centre, Shillong

**Grid Controller of India Limited/ ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड**

(Formerly known as Power System Operation Corporation Ltd)

**(A Government of India Enterprise)**

---

**From:** dinabandhu.baishya@rediffmail.com [mailto:dinabandhu.baishya@rediffmail.com]

**Sent:** 22 August 2022 14:05

**To:** Sakal Deep (सकल दीप) <skldeep@posoco.in>

**Cc:** pem.agbp@rediffmai=?UTF-8?Q?l.com <pe?=?UTF-8?Q?m.?=?UTF-8?Q?agbp@rediffmail.com>; ?=?UTF-8?Q?@rediffmail.com; =C2=AA=20=C2=AC=C2=B2?=  
Subject: [WARNING: ATTACHMENT UNSCANNED]Re: Request for new signals of Unit side data and rectification of DEOMALI line

\*\*\*\*Warning\*\*\*\*

This email has not originated from POSOCO. Do not click on attachment or links unless sender is reliable.

**Malware/ Viruses can be easily transmitted via email.**

Sir,

As already discussed, there is no provision for new signals (11KV side) for OLTC of GTGs & STGs. Accordingly same has already been discussed over telephone and subsequent in concern meetings. The required material have already been reached at our site and the OEM has planned to complete the new signals (11KV side) for GTGs & STGs as early as possible. Kindly omit the items for OLTC as recorded.

Regards.

Dinabandhu Baishya  
DGM(E/M), PEM  
AGBP, NEEPCO LTD.

From: Sakal Deep ( ) <[skldeep@posoco.in](mailto:skldeep@posoco.in)>

Sent: Mon, 22 Aug 2022 10:03:20

To: "pem.agbp@rediffmail.com" <[pem.agbp@rediffmail.com](mailto:pem.agbp@rediffmail.com)>

Cc: S P Barnwal (सकल दीप) <[spbarnwal@posoco.in](mailto:spbarnwal@posoco.in)>, Akhil Singhal (अखिल सिंघल) <[akhilsinghal@posoco.in](mailto:akhilsinghal@posoco.in)>, "dinabandhu.baishya@rediffmail.com" <[dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com)>, DGMAGBP Electrical

<[dgmagbpelect@gmail.com](mailto:dgmagbpelect@gmail.com)>, Paominlal Dounge (पाओमिनल डौंगेल) <[paominlal@posoco.in](mailto:paominlal@posoco.in)>, "Royal Sutnga"

<[royalsutnga@posoco.in](mailto:royalsutnga@posoco.in)>, Amba Prasad Tiwari <[Ambaprasad@posoco.in](mailto:Ambaprasad@posoco.in)>, "joypal\_roy@rediffmail.com"

<[joypal\\_roy@rediffmail.com](mailto:joypal_roy@rediffmail.com)>, "djdass.neepco@gmail.com" <[djdass.neepco@gmail.com](mailto:djdass.neepco@gmail.com)>, "djdass.neepco@rediffmail.com"

<[djdass.neepco@rediffmail.com](mailto:djdass.neepco@rediffmail.com)>

Subject: Re: Request for new signals of Unit side data and rectification of DEOMALI line

Sir,

As discussed please find the list of points required to be integrated.

Regards,

Sakal Deep (सकल दीप)

System Logistics

North Eastern Regional Load Despatch Centre, Shillong

Power System Operation Corporation Ltd./पावर सिस्टम आपरेशन कारपरेशन लि.

**(A Government of India Enterprise)**

---

**From:** Sakal Deep (सकल दीप)

**Sent:** 26 May 2022 10:27

**To:** 'pem.agbp@rediffmail.com' <[pem.agbp@rediffmail.com](mailto:pem.agbp@rediffmail.com)>

**Cc:** S P Barnwal (एस पी बर्नवाल) <[spbarnwal@posoco.in](mailto:spbarnwal@posoco.in)>; Akhil Singhal (अखिल सिंघल) <[akhilsinghal@posoco.in](mailto:akhilsinghal@posoco.in)>;

'dinabandhu.baishya@rediffmail.com' <[dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com)>; 'DGMAGBP Electrical'

<[dgmagbpelect@gmail.com](mailto:dgmagbpelect@gmail.com)>; 'Paominlal Dounge (पाओमिनल डौंगेल)' <[paominlal@posoco.in](mailto:paominlal@posoco.in)>; Royal Sutnga

<[royalsutnga@posoco.in](mailto:royalsutnga@posoco.in)>; Amba Prasad Tiwari <[Ambaprasad@posoco.in](mailto:Ambaprasad@posoco.in)>; 'joypal\_roy@rediffmail.com'

<[joypal\\_roy@rediffmail.com](mailto:joypal_roy@rediffmail.com)>; 'djdass.neepco@gmail.com' <[djdass.neepco@gmail.com](mailto:djdass.neepco@gmail.com)>; 'djdass.neepco@rediffmail.com'

<[djdass.neepco@rediffmail.com](mailto:djdass.neepco@rediffmail.com)>

**Subject:** RE: Request for new signals of Unit side data and rectification of DEOMALI line

Sir,

Your kind reply is still awaited. Kindly update the status.

This is a gentle reminder to provide new signals of unit side of all nine (09) units. The I/O list of requested new signals is attached for your kind reference.

**This requirement is a long pending from AGBPP end, we request you to close the issue at the earliest.**

Regards,

Sakal Deep (सकल दीप)

System Logistics

North Eastern Regional Load Despatch Centre, Shillong

Power System Operation Corporation Ltd./पावर सिस्टम आपरेशन कारपरेशन लि.

**(A Government of India Enterprise)**

---

**From:** Sakal Deep (सकल दीप)

**Sent:** 25 April 2022 12:41

**To:** 'pem.agbp@rediffmail.com' <[pem.agbp@rediffmail.com](mailto:pem.agbp@rediffmail.com)>

**Cc:** S P Barnwal (एस पी बर्नवाल) <[spbarnwal@posoco.in](mailto:spbarnwal@posoco.in)>; Akhil Singhal (अखिल सिंघल) <[akhilsinghal@posoco.in](mailto:akhilsinghal@posoco.in)>; 'dinabandhu.baishya@rediffmail.com' <[dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com)>; 'DGMAGBP Electrical' <[dgmagbpelect@gmail.com](mailto:dgmagbpelect@gmail.com)>; 'Paominlal Doungel (पाओमिनलल डौंगेल)' <[paominlal@posoco.in](mailto:paominlal@posoco.in)>; Royal Sutnga <[royalsutnga@posoco.in](mailto:royalsutnga@posoco.in)>; Amba Prasad Tiwari <[Ambaprasad@posoco.in](mailto:Ambaprasad@posoco.in)>; 'joypal\_roy@rediffmail.com' <[joypal\\_roy@rediffmail.com](mailto:joypal_roy@rediffmail.com)>; 'djdas.neepco@gmail.com' <[djdas.neepco@gmail.com](mailto:djdas.neepco@gmail.com)>; 'djdas.neepco@rediffmail.com' <[djdas.neepco@rediffmail.com](mailto:djdas.neepco@rediffmail.com)>

**Subject:** RE: Request for new signals of Unit side data and rectification of DEOMALI line

**Importance:** High

Sir,

This is a gentle reminder to provide new signals of unit side of all nine (09) units. The I/O list of requested new signals is attached for your kind reference.

**This requirement is a long pending from AGBPP end, we request you to close the issue at the earliest.**

Regards,

Sakal Deep (सकल दीप)

System Logistics

North Eastern Regional Load Despatch Centre, Shillong

Power System Operation Corporation Ltd./पावर सिस्टम आपरेशन कारपरेशन लि.

**(A Government of India Enterprise)**

---

**From:** [dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com) [dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com)

**Sent:** 07 January 2022 11:26

**To:** Sakal Deep (सकल दीप) [skldeep@posoco.in](mailto:skldeep@posoco.in)

Sir,

We have already been initiated with the OEM of RTU. After receipt of offer from OEM, same will be attended.

Regards,

DGM(E/M), PEM

AGBPS, NEEPCO LTD

---

**From:** Sakal Deep (सकल दीप)

**Sent:** 07 January 2022 10:36

**To:** [pem.agbp@rediffmail.com](mailto:pem.agbp@rediffmail.com)

**Cc:** S P Barnwal (एस पी बर्नवाल) <[spbarnwal@posoco.in](mailto:spbarnwal@posoco.in)>; Chitranksi Ghangrekar (चित्रांक्षी गंगरेकर) <[chitranksi@posoco.in](mailto:chitranksi@posoco.in)>; Akhil Singhal (अखिल सिंघल) <[akhilsinghal@posoco.in](mailto:akhilsinghal@posoco.in)>; [dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com); DGMAGBP Electrical <[dgmagbpelect@gmail.com](mailto:dgmagbpelect@gmail.com)>; 'Paominlal Doungel (पाओमिनलल डौंगेल)' <[paominlal@posoco.in](mailto:paominlal@posoco.in)>; Royal Sutnga <[royalsutnga@posoco.in](mailto:royalsutnga@posoco.in)>; Amba Prasad Tiwari <[Ambaprasad@posoco.in](mailto:Ambaprasad@posoco.in)>; 'joypal\_roy@rediffmail.com' <[joypal\\_roy@rediffmail.com](mailto:joypal_roy@rediffmail.com)>

**Subject:** RE: Request for new signals of Unit side data and rectification of DEOMALI line

Respected Sir,

This is a gentle reminder - 1 for completion of work as per the trailing mail.

Regards,

Sakal Deep (सकल दीप)

System Logistics

North Eastern Regional Load Despatch Centre, Shillong

Power System Operation Corporation Ltd./पावर सिस्टम आपरेशन कारपरेशन लि.

**(A Government of India Enterprise)**

---

**From:** Amba Prasad Tiwari <[Ambaprasad@posoco.in](mailto:Ambaprasad@posoco.in)>

**Sent:** 24 September 2021 10:31

**To:** [pem.agbp@rediffmail.com](mailto:pem.agbp@rediffmail.com)

**Cc:** S P Barnwal (एस पी बर्नवाल) <[spbarnwal@posoco.in](mailto:spbarnwal@posoco.in)>; Chitranksi Ghangrekar (चित्रांक्षी गंगरेकर) <[chitranksi@posoco.in](mailto:chitranksi@posoco.in)>; Akhil Singhal (अखिल सिंघल) <[akhilsinghal@posoco.in](mailto:akhilsinghal@posoco.in)>; NERLDC SCADA <[nerldc.scada@posoco.in](mailto:nerldc.scada@posoco.in)>; [ankumoni@gmail.com](mailto:ankumoni@gmail.com); [dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com); DGMAGBP Electrical <[dgmagbpelect@gmail.com](mailto:dgmagbpelect@gmail.com)>

**Subject:** Request for new signals of Unit side data and rectification of DEOMALI line

**Importance:** High

Respected Sir,

Kindly refer to the trailing mail, this is a gentle reminder to provide new signals of unit side of all nine (09) units. The I/O list of requested new signals is attached for your kind reference.

Further, this is to inform that MW & MVAR of 220 kV DEOMALI line are reporting with wrong value at NERLDC. Both MW & MVAR are showing zero (0).

Since, 220 kV Deomali line is an ISTS line its data is important for real time drawl calculation of Arunachal Pradesh.

Therefore, we request to rectify the issue at the earliest.

*Thanks & Regards,*

अम्बा प्रसाद तिवारी/Amba Prasad Tiwari,

सहायक अभियंता प्रशिक्षु (सिस्टम लॉजिस्टिक्स)/AET (System Logistics)

उ.पु.क्षे.भा.प्रे.के., शिलांग/ NERLDC, Shillong

पावर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड (पो.सो.को.)/POWER SYSTEM OPERATION CORPORATION LIMITED (POSOCO)

(A Government of India Enterprise)

---

**From:** Sakal Deep (सकल दीप) <[skldeep@posoco.in](mailto:skldeep@posoco.in)>

**Sent:** 04 August 2021 17:10

**To:** [pem.agbp@rediffmail.com](mailto:pem.agbp@rediffmail.com)

**Cc:** NERLDC SCADA <[nerldc.scada@posoco.in](mailto:nerldc.scada@posoco.in)>; [ankumoni@gmail.com](mailto:ankumoni@gmail.com); [dinabandhu.baishya@rediffmail.com](mailto:dinabandhu.baishya@rediffmail.com); DGMAGBP Electrical <[dgmagbpelect@gmail.com](mailto:dgmagbpelect@gmail.com)>

**Subject:** Request for new signals of Unit side data

**Importance:** High

Respected Sir,

As per requirement of grid operation, we request you to provide new signals of unit side of all nine (09) units.

The address list for MW and Mvar of units are attached for your kind reference.

Please take the necessary actions at your end.

Regards,

Sakal Deep (सकल दीप)

System Logistics

North Eastern Regional Load Despatch Centre, Shillong

Power System Operation Corporation Ltd./पावर सिस्टम आपरेशन कार्पोरेशन लि.

(A Government of India Enterprise)

HTML Image as link Follow POSOCO on:

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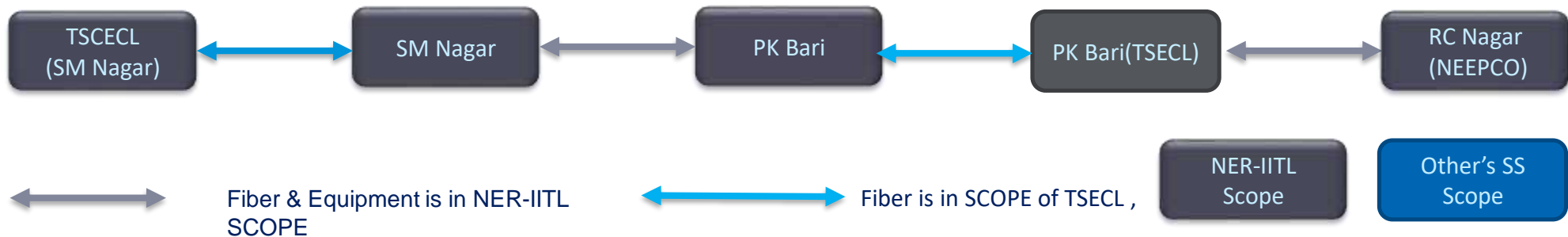
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## Execution plan & Support Required for ULDC integration at NEEPCO

- Main Connectivity of NER-IITL is via SM Nagar (TSECL)
- Secondary Link is via POWERTEL and used same path i.e., via SM Nagar (TSECL). It will be terminated after second ULDC Link termination work completed. As ULDC has been requested not to use POWERTEL Link.
- Existing & Redundancy Path for NER-IITL is mentioned below.



In RC Nagar(NEEPCO)-PK Bari(TSECL) & at PK Bari, OEM is GE, NER-IITL will arrange GE support & supply for configuration.

### Support Required

1. E1 Port need to be configured at NEEPCO(RC Nagar) by ULDC in existing equipment. SFP Need to be provided by ULDC. (By 20<sup>th</sup> March)
2. Required 2 core fiber in 132kV PK Bari(ISTS) – PK Bari(TSECL). As owner of this fiber is TSECL.

All equipment & fiber which is own by NER-IITL will be responsible for maintenance in future. Kindly ensure healthiness (PK Bari(ISTS) – PK Bari(TSECL)) fiber for stable connectivity.

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड  
**CENTRAL TRANSMISSION UTILITY OF INDIA LIMITED**  
 (Wholly Owned Subsidiary of Power Grid Corporation of India Limited)  
 (A Government of India Enterprise)

Ref. No. C/CTU/COMMNERPC/01

Date: 30-01-2023

To  
 Member Secretary,  
 North Eastern Regional Power Committee  
 HW9F+QV7, Jowai Rd, Umpling, Shillong,  
 Meghalaya -793006

Kind Attn: Shri K.R. Jagtap

Sub: Scheme for Providing redundant communication path for Kathalguri generation plant by using AEGCL network in NER region.

Dear Sir,

CTU has studied the existing ISTS communication system based on the inputs and feedback received from POSOCO and other constituents. Thereafter, the second ISTS Communication Planning Meeting for North Eastern Region was convened by CTUIL on 29.07.2022 and subject agenda was deliberated. The same was also deliberated in the 23<sup>rd</sup> TOC and NERPC meeting and it was approved by NERPC and recommended for implementation after NCT approval.

However, various redundant paths under implementation for Kathalguri node with their completion time frame, cost estimate and implementation time frame for the proposed scheme was not deliberated in the hold NERPC meeting. Hence, the scheme with cost estimate, implementation time frame is being put up to NERPC for their views.

Based on the deliberations of the above said meetings, following scheme with cost estimate and time frame is being proposed by CTUIL as under:

**Scheme for Redundant path for Kathalguri AGC location by using AEGCL network.**

In line with MoP office order no. 15/03/2017-Trans-Pt (1) dated 09.03.2022 regarding "Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS)- reg", as per clause 5 for Category (B) Communication Schemes/Packages proposed by CTUIL for upgradation/modification of existing ISTS Communication System shall be put up to RPC for their views. RPC to provide their views on the Schemes/Packages proposed by CTUIL within 45 days of receipt of the proposal from CTUIL.

Clause 5 for category (B) is stipulated below:

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

In consideration of above, it is requested that NERPC may forward their views in respect of the scheme attached at Annexure-I at the earliest, so that the scheme may be taken up promptly for consideration in the NCT meeting along with the views of NERPC.

Thanking you,

*Pankaj*  
 06/02/2023

Registered Office: Plot No.2, Sector-28, Gurugram, Haryana-122001 CIN U40100HR2020GOI091857, Tel.: 0124-2571700-719  
 "पंजीकृत कार्यालय": प्लॉट नंबर 2, सेक्टर-28, गुरुग्राम- 122001 CIN U40100HR2020GOI091857, दूरभाष 0124-2571700-719

Sh. Anmol, DD  
 Sh. Saadig, DD

का.पिन

संयुक्त ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड  
CENTRAL TRANSMISSION UTILITY OF INDIA LIMITED  
(Wholly Owned Subsidiary of Power Grid Corporation of India Limited)  
(A Government of India Enterprise)

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Yours faithfully,

H S Kaushal

Sr. General Manager (CTUIL)

Encl: Annexure I & II



## Scheme for Redundant path for Kathalguri AGC location

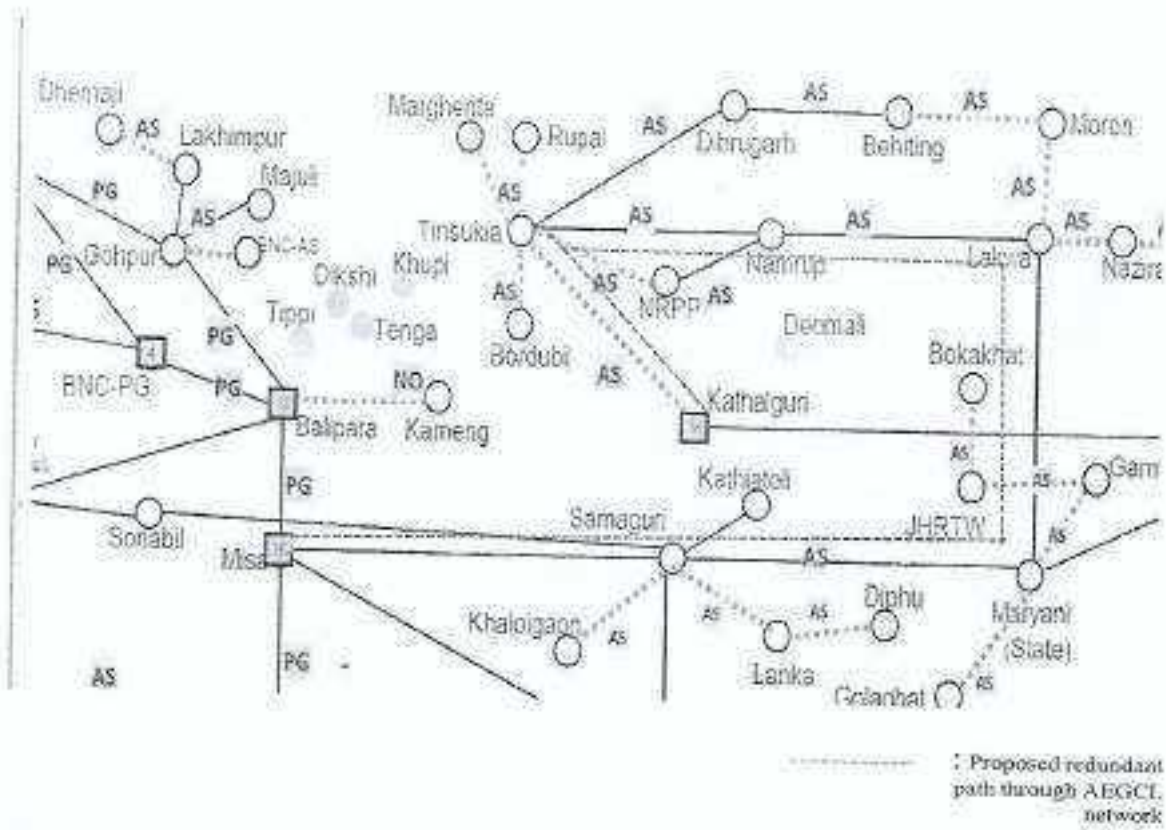
S. No.	Items	Details
1.	Name of Scheme	Redundant path for Kathalguri AGC location
2.	Scope of the scheme	24 fiber OPGW installation on 220kV Kathalguri to Tinsukia portion (approx. 30 kms line length).
3.	Depiction of the scheme on FO Map	As shown in Exhibit I below
4.	Objective / Justification	<p>220kV Kathalguri AGC station of NEEPCO is under implementation and it shall be commissioned by Dec. 2022. The <b>table 1</b> below shows the expected time for completion for different redundant paths for Kathalguri node which are under implementation. From <b>table 1</b>, it is clear that redundant path as mentioned in Sr. No. 1 shall be taking least time period for completion with expected completion schedule of Mar 2024.</p> <p>However, the mentioned redundant path at Sr.No. 1 in table, is long and may take much longer commissioning time than March 2024 due to difficult NER terrain/working conditions. Hence, in the CTU's 2<sup>nd</sup> ISTS communication planning meeting dated 29.07.2022(minutes attached), it was suggested for shorter redundant path for Kathalguri through AEGCL network. Accordingly, a shorter redundant path scheme for Kathalguri by utilising AEGCL network has been prepared based on inputs from state constituents, POSOCO and POWERGRID. In the said scheme, OPGW is to be laid only on Kathalguri to Tinsukia (AEGCL) portion which belongs to AEGCL and the remaining path is already on fiber connectivity owned by AEGCL.</p>
5.	Estimated Cost	Rs. 1.35 Crore (approx.)excluding GST
6.	Implementation time frame	18 months from the date of allocation
7.	Implementation mode	<p>Implementation mode shall be RTM mode. Ownership of the subject line(220kV Kathalguri to Tinsukia portion) is with AEGCL so work may be assigned to AEGCL.</p> <p>However, If AEGCL suggests that work may be carried out by POWERGRID, the same may be agreed.</p>
8.	Deliberations with NERPC along with their comments	<p>The proposed scheme was deliberated in the 23rd TCC and NERPC meeting held on 18.11.2022 and 19.11.2022 respectively (Agenda Item No. B.12). Abstract of deliberation of 23rd NERPC are attached at <b>Annexure-II</b>, wherein NERPC has approved the scheme for implementation after NCT approval. However, various redundant paths under implementation for Kathalguri node with their</p>

		completion time frame, cost estimate and implementation time frame for the proposed scheme was not deliberated in the held NERPC meeting. Hence, the scheme with cost estimate, implementation time frame is being put up to NERPC for their views .
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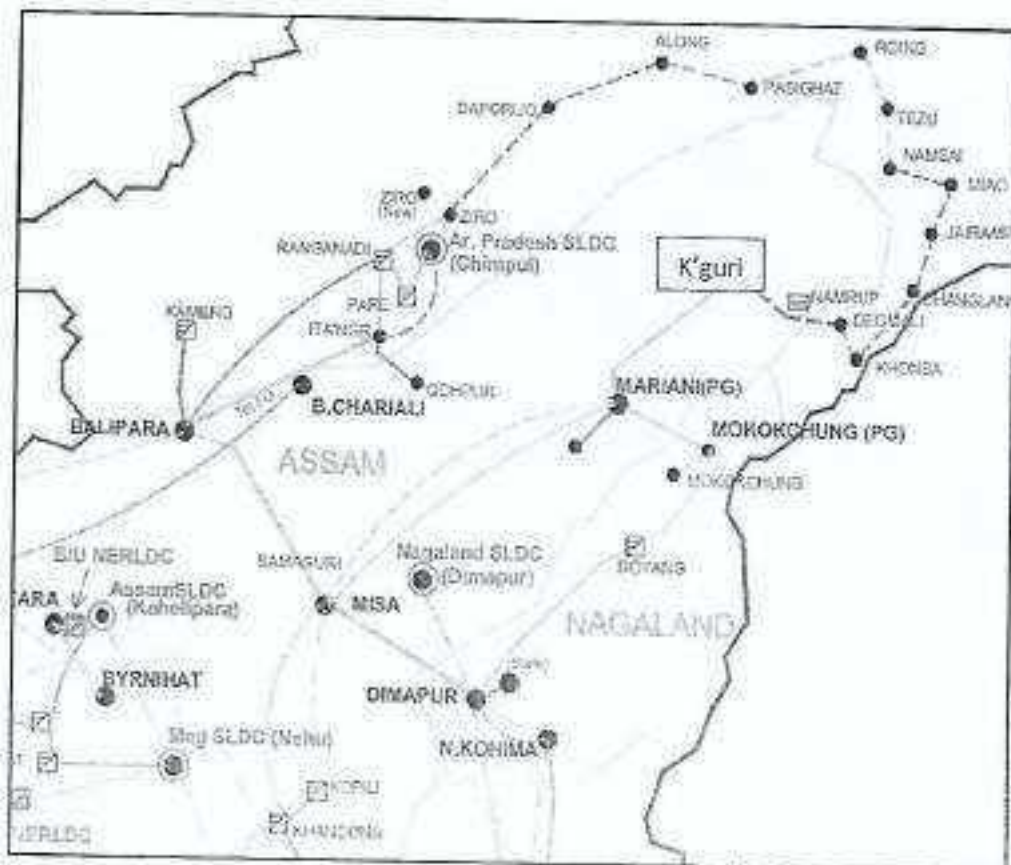
Table 1: showing different redundant paths for kathalguri with their timeframe

Sr. No	Complete Redundant path name for Kathalguri node	Section A of complete path with expected completion timeframe	Section B of complete path with expected completion timeframe	Section C of complete path with expected completion timeframe	Expected completion schedule for complete path	Remark
1	Kathalguri-Doornali-Khansa-Changlang-Jamampur-Miso-Namsai-Teku-roing-Pasighat along Daporijo-Ziro	Kathalguri-Doornali-Khansa-Changlang-Jamampur-Miso-Namsai March 2024	Namsai-Teku-roing-Pasighat June 2023	Pasighat along Daporijo-Ziro March 2024	March 2024	Under implementation
2	Kathalguri-Namsai-Teku-roing-Pasighat along Daporijo-Ziro	Kathalguri-Namsai October 2025	Namsai-Teku-roing-Pasighat June 2023	Pasighat along Daporijo-Ziro March 2024	October 2025	Under implementation
3	Kathalguri-Tinsukia-Namrup-Lakwa-Manani (state)-Sorigam-Mise (PS)	Kathalguri-Tinsukia 18 months from gazette notification (NCT approval yet to be taken)	Namrup-Lakwa-Manani (state)-Sorigam-Mise (PS) Fiber already exists	Nil	Oct 2024	Proposed in this E office note for redundant path scheme approval through state network.

Kathalguri redundant path through AEGCL network



EXISTING KATHALGURI CONNECTIVITY IN NER FO MAP



Schematic diagram for Kathalgudi redundant path through AEGCL network



b) Kathalguri Gas Power plant (291 MW): Currently, Kathalguri is connected over fiber-optic link of 220 kV Kathalguri – Mariani (PG) only. To establish its redundant fiber-optic link, an OPGW should be laid over 220 kV Kathalguri – Tinsukia. Kindly refer to the **Annexure-B.12** for details.

TCC/NERPC may kindly approve establishing fiber-optic communication channels of two sections i.e. “132 kV Khupi – Tenga – Balipara” and “220 kV Kathalguri – Tinsukia” under any of the POWERGRID projects (such as NER Reliable Communication Scheme or other similar projects or any new project, as per feasibility by POWERGRID) being executed by ULDC team of POWERGRID-NERTS.

**Deliberation of the TCC**

SE (Trans), DoP Ar.Pradesh informed that OPGW for 132kV Khupi-Nechipu-Balipara is being laid under Comprehensive Scheme being executed by POWERGRID. Further, he also informed that OPGW for 132kV Khupi- Bomdila-Tawang is also considered under Comprehensive Scheme of POWERGRID. Since 132kV Khupi- Tawang is yet to be completed, he requested that instead OPGW with end equipments may be installed on 132kV Nechipu – Dokumpani – Dikshi HEP (32 km) which shall ensure connectivity to Dikshi HEP and Dokumpani.

After detailed deliberation the forum recommended for installation of 24 Fiber for 220kV AGBPP – Tinsukia with NCT approval and also directed POWERGRID to install fiber for 132kV Balipara – Nechipu-Dokumpani-Dikshi – Khupi at the earliest.

*TCC recommended for approval of RPC.*

**Deliberation of the RPC**

*The RPC noted and approved the recommendation of TCC.*

**ITEM NO. B.13 : ENHANCEMENT OF CAPABILITY OF 132 KV PANCHGRAM – LUMSHNONG, 132 KV HAILAKANDI – DULLAVCHERRA, 132 KV PANCHGRAM – HAILAKANDI LINE AND 132 KV SRIKONA-PAILAPOOL LINE: - NERLDC**

The following lines have crossed the useful life of 35 years of age and need upgradation.

Sl.No.	Name of the Line	Year of Commissioning
1	132 kV Panchgram – Lumshnong line	1969 (Approx)

Mumbai Urja Marg Limited  
 (Erstwhile Vapi II-North Lakhimpur Transmission Ltd.)  
 Project Office: House No. 95, 2nd Floor, C.D. Road, Ward No-4,  
 North Lakhimpur, Assam- 787001



MUML/Part D/2023-24/165

Date: 06<sup>th</sup> Feb 2023

To,

The Chief General Manager (E/M) & HoP  
 Pare HEP, NEEPCO Ltd.  
 Dolmukh, Papumpare District,  
 Arunachal Pradesh, PIN: 791112.

**Sub:** Construction of 132 KV D/C Pare-HEP to North Lakhimpur Transmission line & LILO of one circuit at Nirjuli along with bypassing of Ranganadi-Naharlagun/Nirjuli line and reconductoring of NEEPCO LILO line: **Requirement of Shutdown for completion of scope leading to Early commissioning of the asset.**

Dear Sir,

1. With reference to the subject cited above MUML would like to inform you that construction of the subject elements of transmission project is going on in full swing. As of now MUML have completed about 90% of construction work of 132 KV D/C Pare HEP - North Lakhimpur line and about 60% of Nirjuli LILO line. MUML has mobilized sufficient resources including B3 helicopter for material transportation.
2. As per para 1, with deployment of sufficient resources MUML is expecting to complete its scope and be ready for commissioning by mid-April'2023. The Scheduled Commercial Operation date ("SCOD") of the elements as per TSA is June' 23. MUML has expedited the construction works considering early monsoon in this area and to ensure required transmission path availability during peak hydro power generation season. This transmission system was identified for strengthening the system associated with Pare HEP, as a part of NERSS-IX scheme, and the scheme has been awarded in the 17<sup>th</sup> TCC/NERPC meeting held on 04.10.2016 and 37<sup>th</sup> Empowered Committee Meeting on Transmission held on 20.09.2017. The need of the transmission system was to decongest the overloading observed in the region from evacuation of power from Pare HEP. So, completion of the same before peak hydro generation is more essentially required by the grid for better reliability.
3. Furthermore, a complete shutdown of your LILO portion along with Ranganadi-Naharlagun/Nirjuli line shall be required for about 15 days to complete the reconductoring at LILO Portion. It is understood from past experiences and with discussion with your good office that it would be difficult to provide the shutdown during peak hydro generation months. MUML is proposing doe 15 days shutdown w.e.f 25.03.2023 to 10.04.2023 to complete the works of reconductoring of LILO portion, dismantling and re-erection of 2 Nos. of existing towers as well as bypassing of Ranganadi-Naharlagun/Nirjuli Line.
4. If the aforementioned proposed shutdown is not provided, then due to peak generation period this shutdown can get shifted to a date beyond SCOD of the project and that will lead to another scenario in which the existing lines will operate in overloading conditions and the system constructed for decongestion will stand on the ground unused.



5. In view of the above, MUML again requests you to provide the shutdown of the aforementioned lines w.e.f. 25.03.2023 to 10.04.2023 to complete the works defined under the scope of the project. Prior approval for commissioning before SCOD would be sought from the LTTC's of the project informing the conditions as described in Para 2, 3 & 4 above.
6. It is kindly request to your good office to extend support in matter of presenting the case of early commissioning in front of all LTTC's, RPC and NERLDC which will benefit power evacuation from Pare HEP and shall improve overloading of the transmission network in this area leading to better reliability of the grid, which is of prime importance.

Assuring best of our services.

Thanking you.

For Mumbai Urja Marg Limited



06/02/2023.

Narottam Chakraborty

Project Head – MUML

Mobile: +91 7896022335

Email: [narottam.chakraborty@sterlite.com](mailto:narottam.chakraborty@sterlite.com)





Assam Electricity Grid Corporation Limited  
 Regd. Office: 1<sup>st</sup> Floor, Bijulee Bhawan, Paltanbazar, Guwahati-  
 781001  
 CIN:U40101AS2003SGC007238  
 Phone-0361-2739520 / Fax-0361-2739513 Web: www.aegcl.co.in



No.: AEGCL/CGM/SLDC/T-132/22/172

Dated: 30/01/2023

To,

The Senior General Manager  
 NERLDC  
 Lower NONGRAH, LAPALANG,  
 Shillong, Meghalaya 793006

Sub: Separate Gateways for telemetering of two new Sterlite bays at North Lakhimpur GSS

Ref: Minutes of the meeting dated 25<sup>th</sup> Jan, 2023

Sir,

With reference to the subject cited above, this is to bring into your kind notice that two new Sterlite bays is going to be commissioned at 132kV North Lakhimpur GSS. Regarding this, a meeting was organized on 25<sup>th</sup> Jan, 2023 at Bijulee Bhawan, Paltanbazar, Guwahati where both the officials from Assam Electricity Grid Corporation Limited and Sterlite were present (MOM attached). In that meeting, AEGCL officials proposed to install a new gateway for establishing telemetry of the two new Sterlite bays at 132kV North Lakhimpur GSS. However, Sterlite suggested to establish telemetry using the existing AEGCL gateway. But, as per AEGCL officials, implementing new gateway will reduce the chance of hampering the acquisition of data from the two new Sterlite bays even if the existing AEGCL gateway gets down. It is also to mention herewith that being ISTS lines the real time data of those Sterlite bays are very important for grid operation. Also, there are other examples of implementing separate gateways like at Srikona GSS, – one for AEGCL bays and another for Power Grid bays, separate gateways has been used. Similarly, for NTPS, LTPS also multiple gateways are there.

Hence, you are requested to provide your opinion regarding using dedicated gateway for Sterlite bays at 132kV North Lakhimpur GSS.

Encl: As Above

Yours Faithfully,

Chief General Manager, SLDC,  
 AEGCL, Kahilipara, Guwahati – 19

Memo No. AEGCL/CGM/SLDC/T-132/22/172(a-f)

Dated: 30/01/2023

Copy to:

1. The P.S. to the MD, AEGCL, Bijulee Bhawan, Paltanbazar, Guwahati for kind information to the Hon'ble MD, AEGCL
2. The CGM (PP&D), AEGCL, Bijulee Bhawan, Paltanbazar, Guwahati for his kind information.
3. The CGM(O&M), UAR, AEGCL, Bijulee Bhawan, Paltanbazar, Ghy for kind information
4. The Sterlite Representative for kind information
5. The CEA, 36, Sector 5, Rama Krishna Puram, New Delhi, Delhi 110066 for kind information.
6. Office Copy

Chief General Manager, SLDC,  
 AEGCL, Kahilipara, Guwahati-19

Minutes of meeting between representatives of M/S AEGCL and M/S Mumbai Urja Marg Limited, MUML (Sterlite Power), Dtd.- 25/01/2023 at the office chamber of MD, AEGCL, Bijulee Bhawan.

Points of discussion:

1. In the meeting M/S AEGCL requested M/S MUML for installation of a separate dedicated gateway for the new 2 No of bays of Sterlite Power at North Lakhimpur GSS.
2. M/S MUML requested AEGCL for configuration of the 2 new bays (Sterlite Power) in the existing gateway of AEGCL.
3. M/S AEGCL expressed their concerns regarding any penalty that might be imposed now or in the future as per applicable statutory norms on AEGCL due to unavailability of the gateway and subsequent downtime in telemetry of data of these two new bays considering that these two new bays are for the Pare HEP (NEEPCO)-North Lakhimpur (AEGCL) 132KV D/C line which is an ISFS line.
4. In regards to the above laid down points it was decided that M/S AEGCL will issue a letter to NERLDC within 3 working days with a copy to MUML (Sterlite Power) and CEA seeking clarification for the above mentioned points that, " AEGCL asked to put dedicated Gateway for 2 nos. 132KV line bays of MUML at North Lakhimpur substation & this gateway will be dedicated & separate gateway from the present gateway of the AEGCL at North Lakhimpur GSS."
5. The O&M agreement will be signed between AEGCL & MUML (Sterlite Power) after clarification of the above mentioned points. However, if there is any other points on O&M agreement submitted by MUML to AEGCL, AEGCL shall share their observation at the earliest.

For AEGCL

For Sterlite Power

Sandip Maity

Narottam Chakraborty

Narottam Chakraborty  
AVP & Project Head-MUML

T. Baruah  
CGM(O&M), UAR & Safety  
O/o the M.D. AEGCL

Ashutosh Bhattacharjee  
DEPUTY GENERAL MANAGER (SYSTEM LOGISTICS)  
O/O THE COM.S.D.C. AEGCL RAHIMPUR, GHY-18

Raj Sharma  
DGM (O&M), UAR  
O/o the MD, AEGCL

Parv B  
PARV B SAIKIA  
TIME MANAGER  
PROJECTS

The list of substations and transmission lines not having telemetry is mentioned as below:

Sl. No.	Scheme	Name of Element	Name of Owner	Remarks
1	NERPSIP	Mohanpur	TSECL	<ul style="list-style-type: none"> <li>• Inconsistently reporting</li> </ul>
2	NERPSIP	132 kV Mokokchung-Mariani line LILO at Longnak and 132kV Bay & 33kV GIS Bay and associated equipments at Longnak Substation	DoP, Nagaland	<ul style="list-style-type: none"> <li>• Not reporting.</li> <li>• Station is not modelled in SLDC Nagaland SCADA.</li> </ul>
3	NERPSIP	132/33kV Tangla GSS	AEGCL	<ul style="list-style-type: none"> <li>• Reporting</li> </ul>
4	NERPSIP	132/33 kV, 31.5 MVA Power transformer at Ambassa substation	TSECL	<ul style="list-style-type: none"> <li>• Not reporting</li> <li>• Not integrated in SCADA system of SLDC</li> </ul>
5	NERPSIP	132kV Sonabil-Tezpur line 1	AEGCL	<ul style="list-style-type: none"> <li>• CB status at Sonabil end is suspect.</li> <li>• Tezpur station whole data is intermittent.</li> </ul>
		132kV Sonabil-Tezpur line 2		
6	NERPSIP	132/33 kV Tezpur Substation	AEGCL	<ul style="list-style-type: none"> <li>• Tezpur station whole data is intermittent.</li> </ul>
7	Comprehensive	132/33KV Bay extension and 16 MVA Transformer at Dukumpani(Tenga) Substation	DoP, Arunachal Pradesh	<ul style="list-style-type: none"> <li>• Not reporting.</li> <li>• Element is not modelled in SLDC Arunachal SCADA.</li> </ul>
8	NERPSIP	132 kV Rabindranagar - Rokhia line	TSECL	<ul style="list-style-type: none"> <li>• Not reporting.</li> <li>• Element is not modelled in SLDC Tripura SCADA.</li> </ul>

9	Comprehensive	132 kV Basar S/s	DoP, Arunachal Pradesh	<ul style="list-style-type: none"> <li>• Not reporting.</li> <li>• Station is not modelled in SLDC Arunachal SCADA.</li> </ul>
10	NERPSIP	132 kV Gamphazol	MSPCL	<ul style="list-style-type: none"> <li>• Not reporting.</li> <li>• Station is not modelled in SLDC Manipur SCADA.</li> </ul>

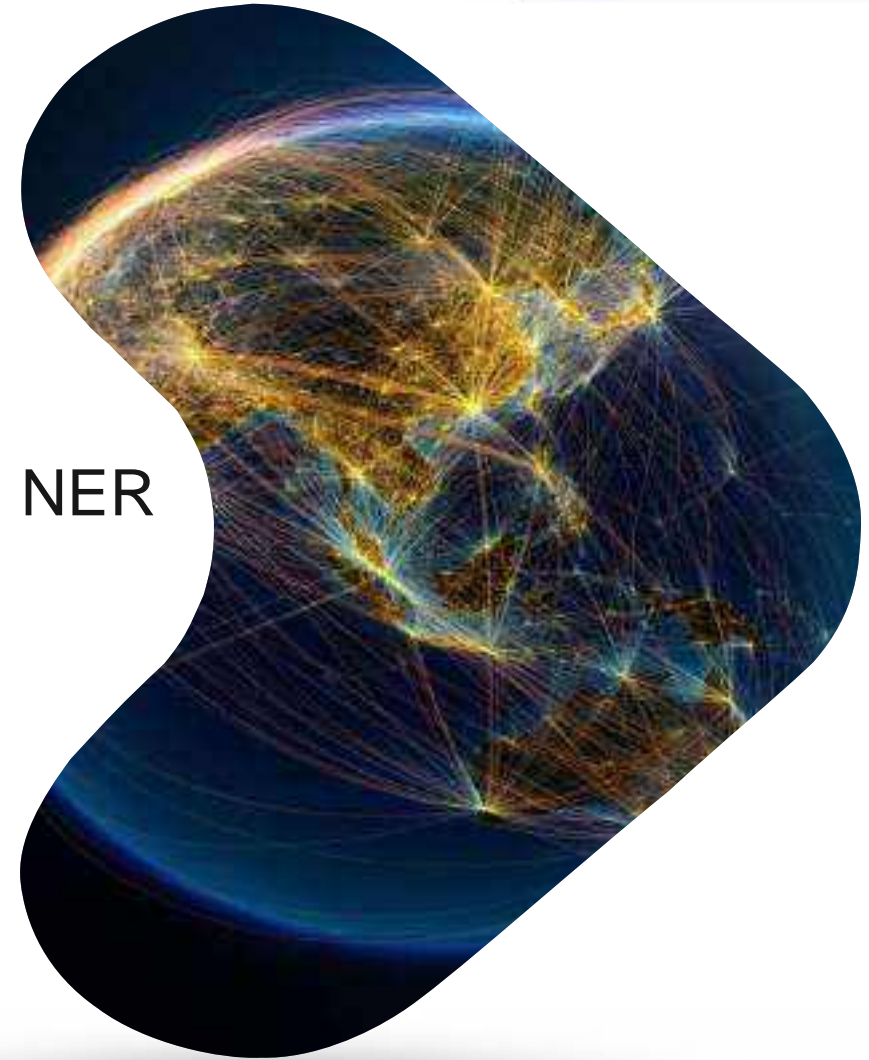


Annexure B.1



# U-NMS

Central Sector & State Sector Communication in NER



# Agenda



- 1** Introduction
- 2** Project Overview
- 3** Network Design
- 4** Advantage - SLDC
- 5** Support Required
- 6** Project Plan
- 7** Quality Approach

1  
Core  
Business

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Solutions

Network  
Services

Network  
Software

9  
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Capabilities

backed by our unique capabilities in

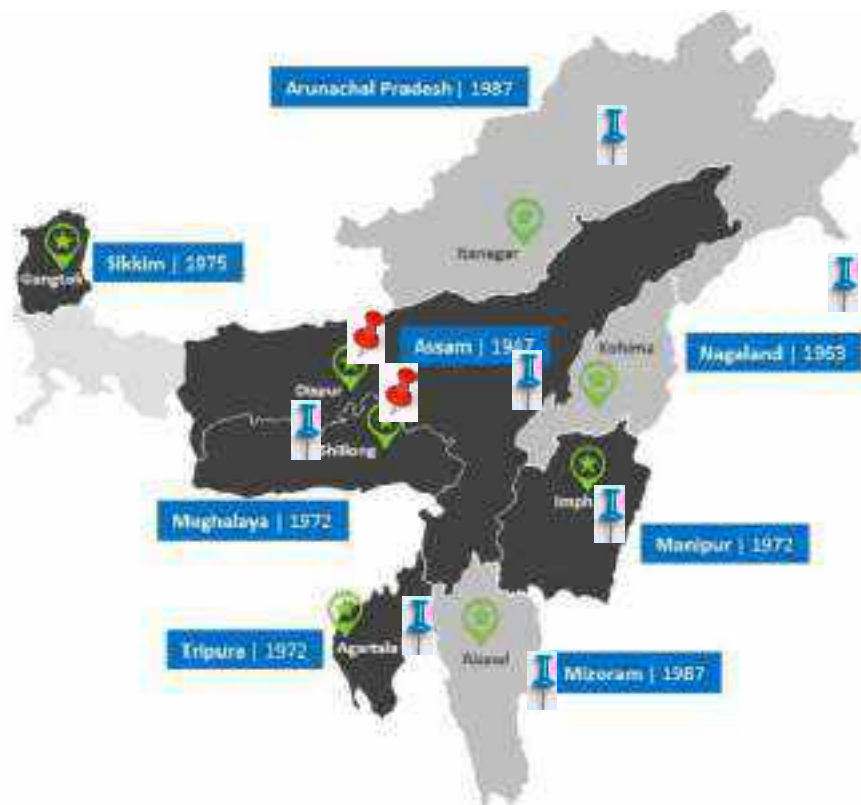
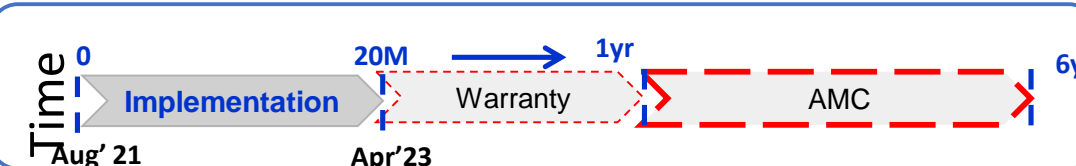
- Advanced Photonics
- Materials Science
- Precision Manufacturing
- Algorithmic Design
- Ultra Fast Deployment
- Automation & Robotics
- AI Analytics
- Programmable Networks
- Web scale DevOps

# Project Snapshot



## Deliverables

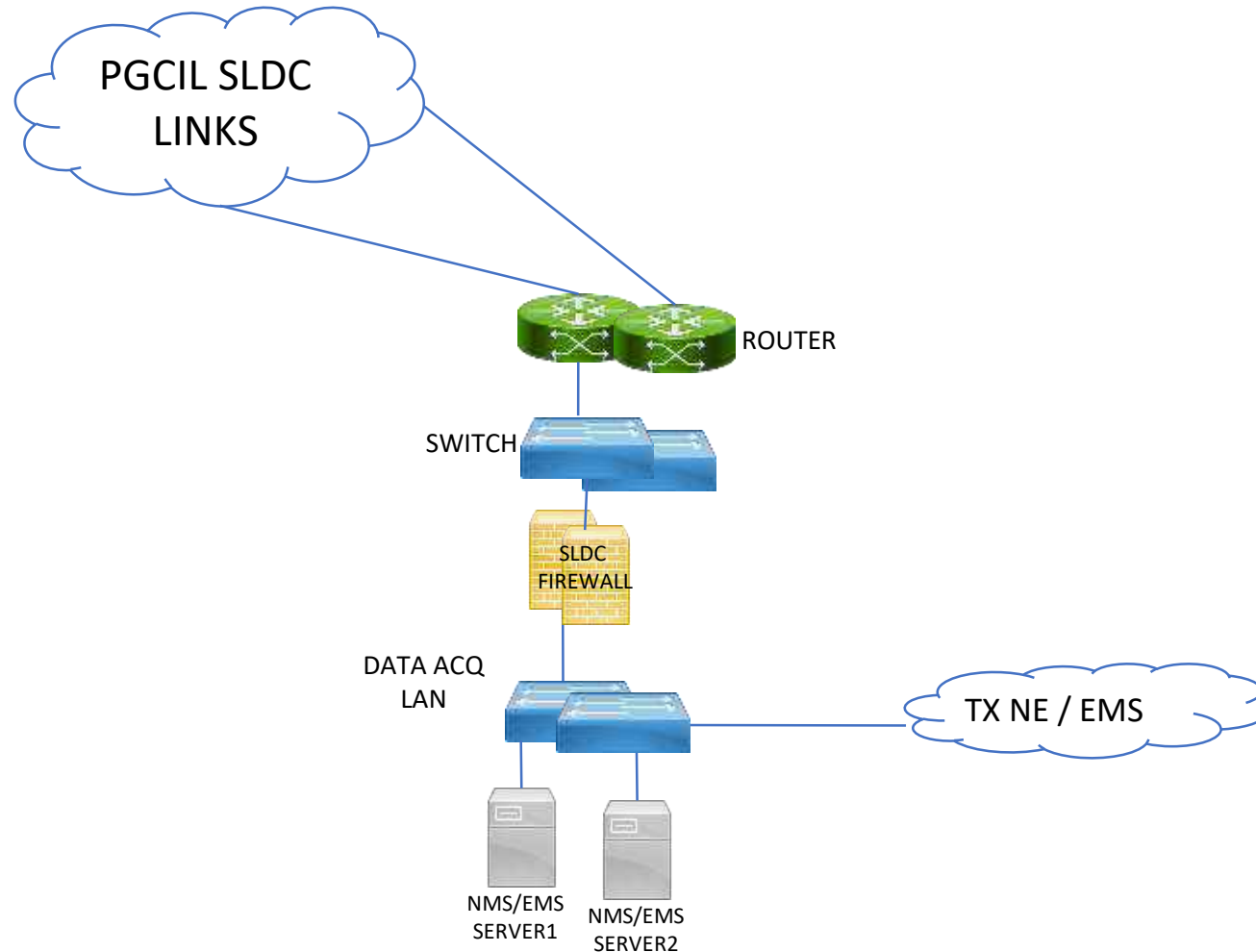
- UNMS Components & Application layer
- Networking & Switching
- Security by Design
- Servers & Storage Infrastructure
- UNMS Unified Console
- Mobile Console
- Centralized Management Console
- Training



SERVER/STATE	LOCATIONS
UNMS Server Location	Guwahati & Shillong
UNMS State Location	Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura



# SLDC Topology



Entire setup will be established in 01 no's 44 U Rack

# OEM Stack

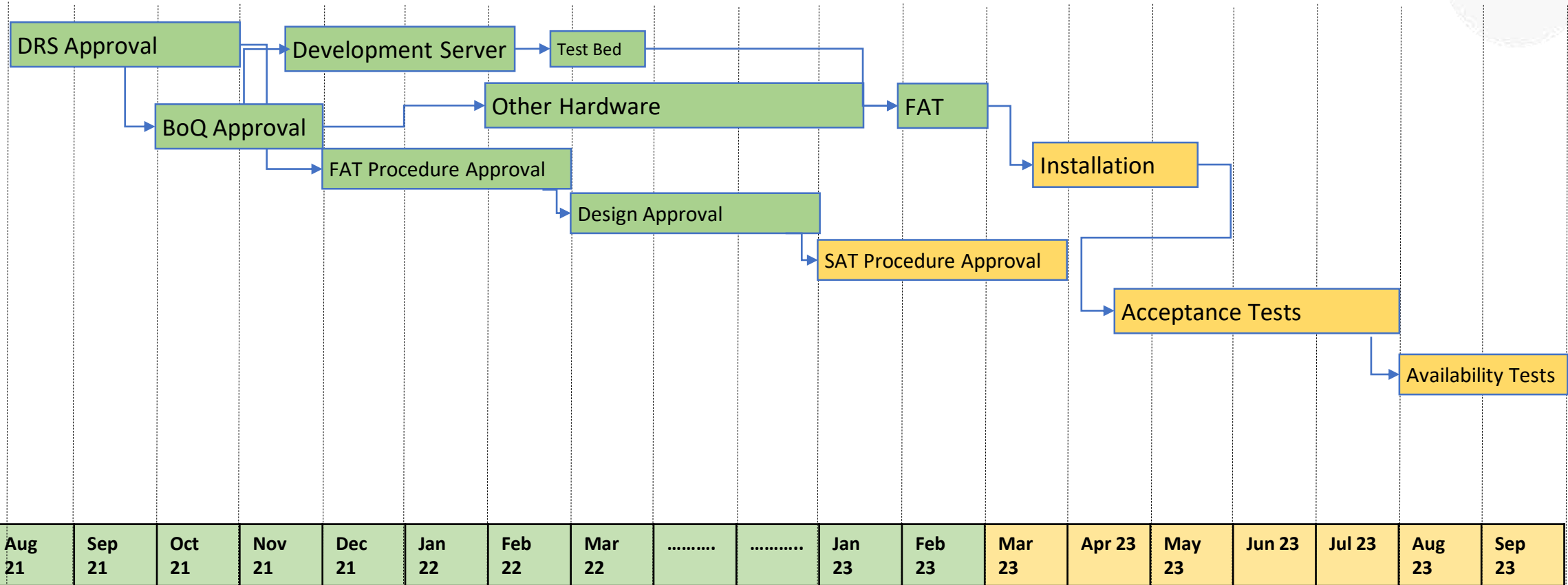
Product		OEM		SLDC - BoQ
WorkStation	→	Dell	→	03 no's
Routers	→	Cisco	→	02 no's
Switches	→	Cisco	→	02 no's
Firewall	→	Fortinet & Gajshield	→	02 no's each
Printers	→	Canon	→	01 no
Furniture	→	Cosmotec	→	01 set
Auxiliary Power Supply	→	BPE	→	Under Approval
Time Availability Display	→	Winspect	→	01 no

# Original Project Plan

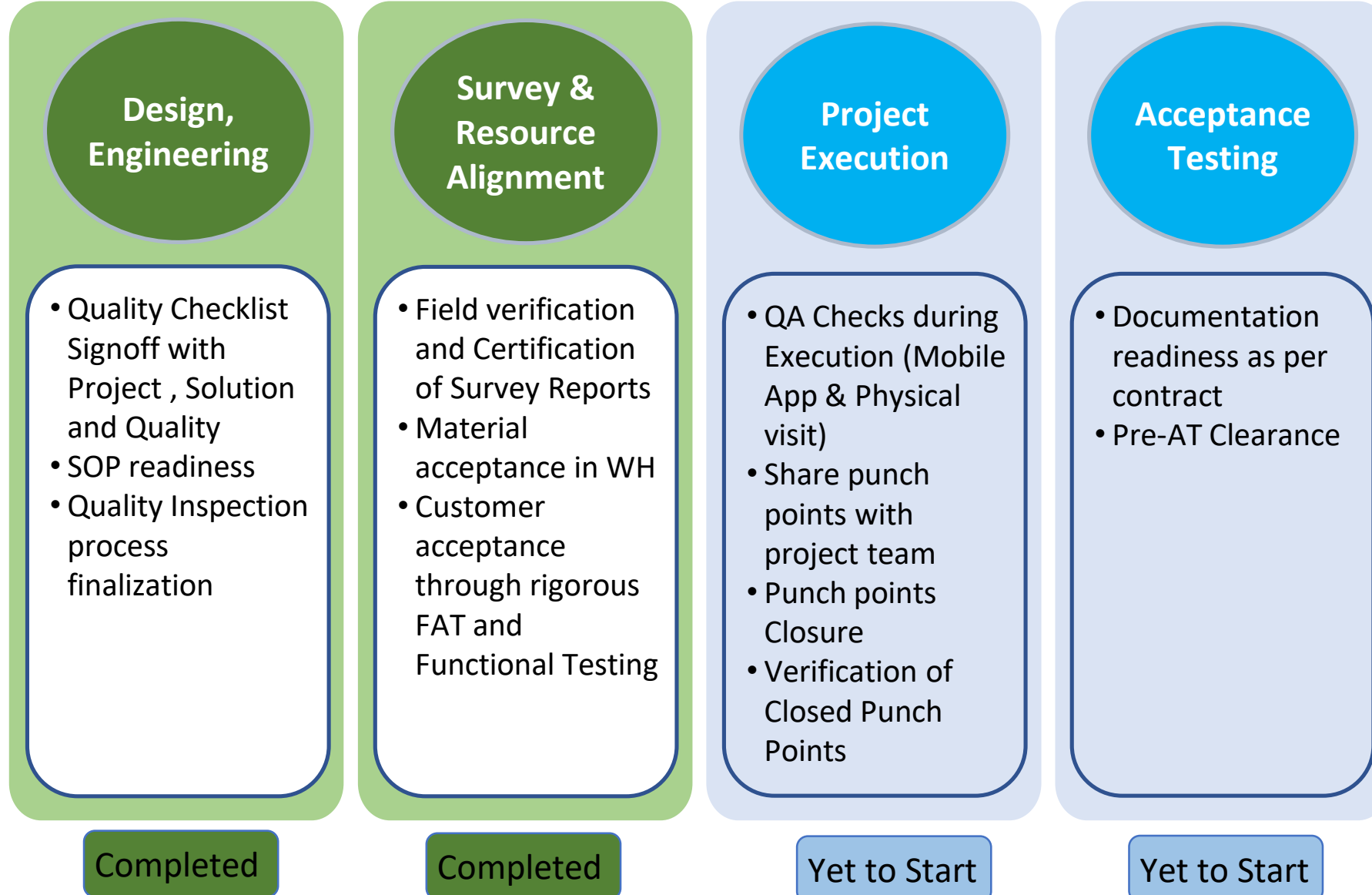


Activity	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	#			
LoI Issued	█																							
DRS,Survey Format Approval	█	█	█																					
Field Survey			█																					
Document Approval			FAT Procedure Design Documents, Acceptance Tests - SAT I, SAT II, SAT III, Availability Test																					
PO to OEM			█																					
FAT				█																				
Material Delivery				█																				
Installation & Integration				█																				
SAT I SAT II SAT III													█											
VAPT													█											
Availability Test																			█					
TOC																						█		

# Execution Approach



# Quality Approach



# UNMS Data Exchange Approach

Capability of integration with multiple wired/wireless technologies like SDH, PDH, DWDM, CWDM, ASON, OTN, PTN, MPLS, VSAT, Radio etc. from multiple vendors

Field Survey

Feasibility Study

A

NBI Compliant Std. TMF 814 Interface



B

SNMP, CORBA, XML, SOAP, HTTPS or any Industry standard protocol



C

No methodology to exchange data



# Infrastructure Requirements

## Main UNMS Site – Guwahati

- Space Requirement – 800 Sq. Ft. ;  
NOC Centre – 450 Sq. Ft. || Battery Bank & UPS – 200 Sq. Ft. || Server & N/W Components – 150 Sq. Ft.
- Power Requirement – 40 KVA
- Bandwidth - 100 Mbps ; DC-DR (1+1)

## Backup UNMS Site - Shillong

- Space Requirement – 600 Sq. Ft. ;  
NOC Centre – 400 Sq. Ft. || Server & N/W Components – 150 Sq. Ft.
- Power Requirement – 40 KVA
- Bandwidth - 100 Mbps ; DC-DR (1+1)

## SDLC Sites (07 Sites)

- Space Requirement ( N/W Components) – 2ft x 5.6 ft
- Furniture – 5ft x 7ft
- Power Requirement – 6 KVA
- Bandwidth - 10 Mbps ; DC-SLDC & DR - SLDC



# Advantages to SLDC

## Network Manageability

- Network Management View availability in SLDC
- Visibility of all network performance/faults
- End-to-End link provisioning (irrespective of the OEM)

## Ease of Operation

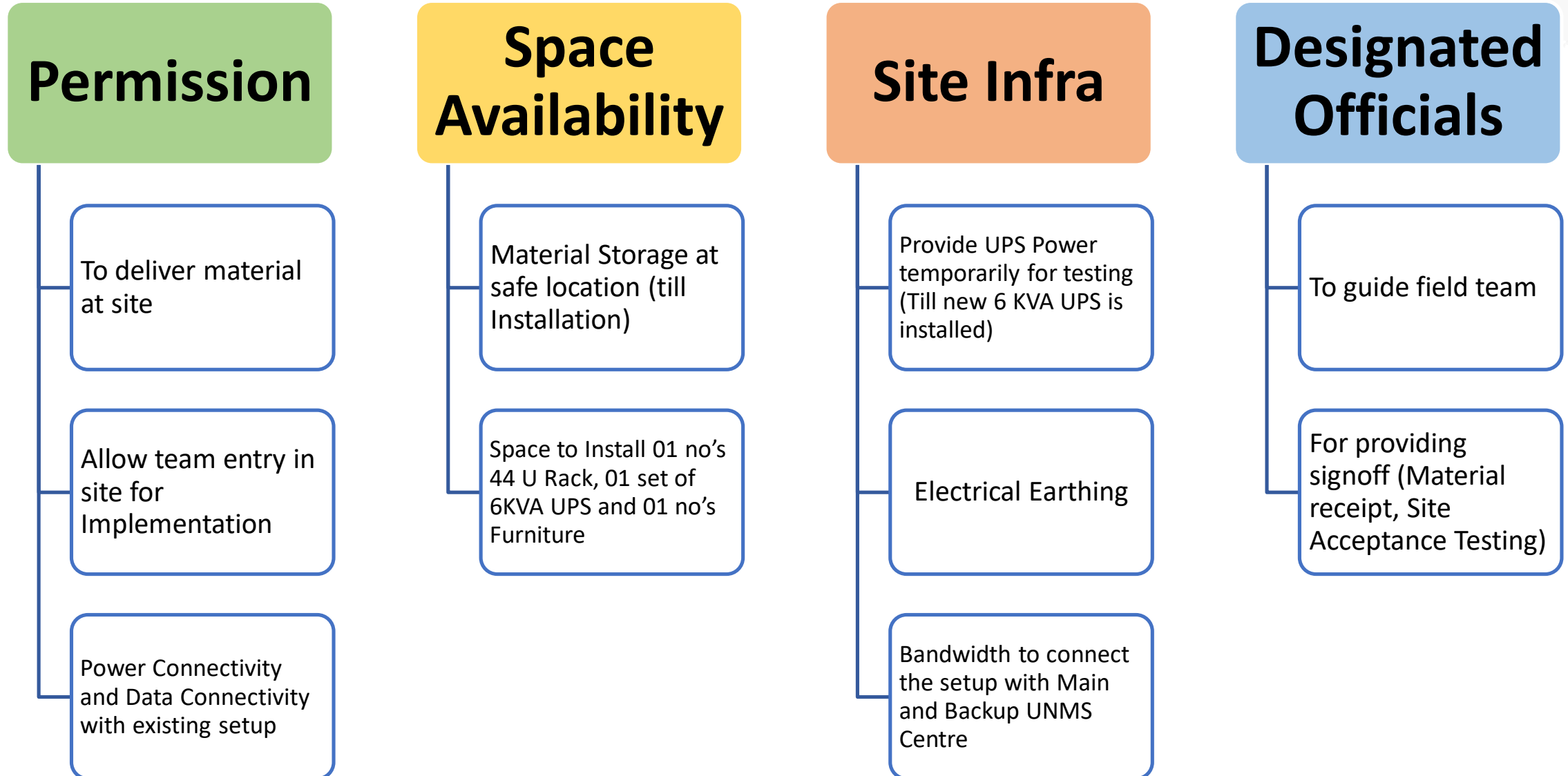
- Resource to manage network Operations
- Simple easy to create end-to-end link provisioning
- Customized reports at click of the button

## Regulatory Compliance

- Meet CEA & CERC Guidelines



# Support Required





**THANKS...**

List of FO links under NERPSIP-Assam

Sl No	Line details		OPGW stringing	Stringing completed(Km)/Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2 status	Commissioning	Point of Integration & Connectivity to SLDC	Remarks/ issue to be discuss
A ASSAM STATE(Existing Lines)											
1	Samuguri SS (Ex)	Sankardev Nagar (Ex)	completed	60/60	Done	Done	Feb-23	Done	Mar-23	STM4 Under NERPSIP - Samuguri - Sankardevnagar link STM1 under State link - Samuguri to SLDC. Integration at Samuguri - Done	Sufficient Band width required through existing path
2	132kV Sonabil (Ex)	132kV Balipara (Ex)	completed	28/28	Done	Done	Done	Done	Done	STM4 Under NERPSIP - Sonabil - Balipara link STM1 under State link - Sonabil to SLDC. Integration at Sonabil- Done	
3	132kV N Lakhimpur (Ex)	132kV Dhemaji (Ex)	completed	60.8/60.8	Done	Done	Done	Done	Done		
4	132kV Gohpur (Ex)	132kV N Lakhimpur (Ex)	completed	76.7/76.7	Done	Done	Done	Done	Done	STM4 integration at Gohpur - Done	
5	132kV Mariani (Ex)	132kV Golaghat (Ex)	completed	45/45	Done	Done	Done	Mar-23	Mar-23	Mariani - Integration with existing SDH - To be done	At least 3KLM required from Mariani to SLDC. At SLDC POWERGRID has provided patching to KEYMILE MUX.
6	132kV Golaghat (Ex)	132kV Sarupathar (New)	completed	66/66	Done	Done	Mar-23	Done	Mar-23		
7	132kV Bokajan (Ex)	132kV Sarupathar (New)	completed		Done	Done	Mar-23	Done	Mar-23		
8	132kV Jorhat (Ex)	132kV Mariani(ex)	completed	20/20	Done	Done	Done	Done	Mar-23		
9	132kV Nazira(Ex)	132kV Teok (New)	completed	66/66	Done	Done	Done	Done	Done		
10	132kV Jorhat (Ex)	132kV Teok (New)	completed		Done	Done	Done	Done	Done		
11	132kV Rangia (Ex)	132kV Tangla (New)	Jun-23	10.52/108	Apr-23	Done	Apr-23	Done	Jun-23		Due to non availability of tower schedule with state, survey was repeated under NERPSIP.
12	132kV Rowta (Ex)	132kV Tangla (New)	Jun-23		Apr-23	Done	Apr-23	Done	Jun-23	Rangia - Integration with Existing SDH	
13	132kV Tinsukia (Ex)	132kV Rupai (Ex)	Jun-23	0/31	Apr-23	Done	Apr-23	Apr-23	Jun-23	Tinsukia- Integration with Existing SDH	As discussed in 197th OCC meeting, Sr GM/ POWERGRID has informed that the work will completed within four months from the date of custom clearance from state for balance supply of materials from China. State has provided clearance by 09.02.2023.
14	LILO of Rangia- Kahilipara at Kamakhya Line		Jun-23	0/5	Apr-23	NA	Apr-23	NA	Jun-23		
15	LILO of Rangia- Kahilipara at Kamalpur Line		Jun-23	0/5	Apr-23	NA	Apr-23	NA	Jun-23		
16	SLDC				Done	NA	Under Progress	NA		LDC - Integration with Existing SDH	

List of FO Links under NERPSIP- Assam

Sl No	Line details		OPGW stringing	Stringing completed(Km)/Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2 status	Commissioning	Point of Integration	Remarks/ issue to be discuss
B ASSAM STATE(New Lines)											
1	220kV Rangia	Amingaon	Mar-23	0/29	Under Progress	Under Progress	Under Progress	Done	Apr-23		ROW issues and conductor theft issues.
2	220kV Tinsukia	Behiating	Mar-23	25/53.02	Under Progress	Under Progress	Under Progress	Under Progress	Apr-23	Tinsukia- instegration with existing SDH	
3	132kV Kahilipara	Guwahati Med College	Apr-23	0/6.64	Under Progress	Under Progress	Done	Done	May-23		Cable laying under progress. Due to traffic issues, G20 summit and Jiaka pipe line laying, the work is progressing slow at site.
4	132kV Amingaon	Hazo	Apr-23	0/28	Mar-23	Apr-23	Done	Done	Apr-23		Re-stringing is required due to theft of conductor

5	132kV Rupai	Chapakhowa	Done	44/44	Done	Done	Done	Done	Done		
6	132kV Dhemaji	Silapathar	Done	35/35	Done	Done	Done	Done	Done		
7	132kV Sonabil	Tezpur	Done	16/16	Done	Done	Done	Done	Done		
8	LILO of 132 kV S/C Kamalpur - Sishugram at Amingaon		Mar-23	0/9.344	Under Progress	NA	Done	NA	Mar-23		
9	LILO of 132 kV S/C Kamalpur - Khamakhya at Amingaon		Mar-23		Under Progress	NA	Done	NA	May-23		Required enough existing fiber connectivity from Amingaon -
10	Under ground FO of 132 kV Paltanbazar-Kamakhya		Apr-23	3.9/4.5	Under Progress	Under Progress	Done	Under Progress	May-23		PWD work of road crossing under progress. 2 out of 3 crossing are completed.

List of FO Links under NERPSIP- Manipur										
SI No	Line details	OPGW stringing	Stringing completed(Km)/ Actual length (Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2 status	Commissioning	Point of integration	Remarks/ issue to be discuss
<b>A Manipur state (Existing Lines)</b>										
1	Rengpang - Jiribam	Completed	43/43	SFP Only - State permission for power off	SFP Only - State permission for power off	Not in Scope	Not in Scope	Mar-23		State was recently given permission for integration of SFP
2	Churachandpur - Thanlon	Completed	67/67	Done	Under Progress	Not in Scope	Not in Scope	Mar-23		
3	Thoubal - Moreh.(Thoubal-Kakching-Moreh) Thoubal-Kakching Line section under construction.	(Kakching-Moreh - Done)	45/72	Done	Under Progress	Not in Scope	Not in Scope	Apr-23		Thoubal to Kakching Link will be ready after the readiness of TL by State. Kakching - Moreh link will commission by April 23
4	Elangkhangpokpi - Churachandpur	Apr-23	3.3/10	Apr-23	Done	Apr-23	Not in Scope	Apr-23		
5	Elangkhangpokpi--Kakching			Apr-23	Under Progress	Apr-23	Not in Scope			
6	Tipaimukh - Jiribam PG	Completed	14/14	Apr-23	SFP Only - State permission	Apr-23	Not in Scope	Apr-23		Existing portion OGPW to be laid by NERTS.
7	Tipaimukh -Aizwal PG			Apr-23	Under Progress	Apr-23	Not in Scope			

List of FO Links under NERPSIP- Manipur										
SI No	Line details	OPGW stringing	Stringing completed(Km)/ Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2 status	Commissioning	Point of Integration	Remarks/ issue to be discuss
<b>B Manipur state (New Lines)</b>										
1	LILO of 132 kV Yurembam(Imphal)-Karong at Gamphajol S/S	Completed	0.8/0.8	Done	Under Progress (Only SFP)	Done	Under Progress	Done		Existing link has break at Karong side.
2	Karong to mao tower	Completed	31/31	Done	NA	NA	NA	Done		
3	132 kV Imphal (Powergrid)- Ningthoukhong	Completed	32.5/32.5	Pending	Done	Not in scope	Not in scope	Done		
4	132 kV S/C(on D/C tower) Rengpang-Tamenglong	Apr-23	0/21	Mar-23	CRB U/p	Not in scope	Not in scope	May-23		Subject to ROW clearance..

List of FO Links under NERPSIP- Meghalaya

SI No	Line details		OPGW stringing	Stringing completed(Km)/Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2	Commissioning	Point of integration	Remarks/ issue to be discuss
<b>A Meghalaya State(Existing Lines)</b>											
1	132 kV Ampati	Rongkhon	Completed	34/34	Done	Done	Done	Mar-23	Done		
2	132 kV Rongkhon	Nangalbira	Completed	72/72	Done	Done	Mar-23	Mar-23	Done		
3	132 kV Nangalbira	Nongstoin	Completed	61/61	Done	Feb-23	Mar-23	Feb-23	Apr-23		
4	132 kV Nongstoin	Mawngap	Completed	56/56	Feb-23	Done	Feb-23	Done	Mar-23		Strengtening of existing tower has done and completed stringing.
5	132 kV Mawngap	Sumer Stage-I	Completed	35/35	Done	Done	Done	Feb-23	Mar-23		
6	132 kV Shillong (Mawlai)	NEHU (WB)	Completed	8.4/8.4	Done	Mar-23	Feb-23	Mar-23	Mar-23		Strengtening of existing tower has done and completed stringing.
7	132kV Mawngap	Shillong (Mawlai)	Completed	22.5/22.5	Done	Done	Done	Feb-23	Mar-23		Strengtening of existing tower has done and completed stringing.

List of FO Links under NERPSIP- Meghalaya

SI No	Line details		OPGW stringing	Stringing completed(Km)/Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2	Commissioning	Point of integration	Remarks
<b>B Meghalaya State(New Lines)</b>											
1	220 kV Killing	Mawngap	Apr-23	80/129.38	Done	Done	Done	Done	Apr-23		Subject to ROW Clearing.
2	Mawngap	New Shillong			Done	Done	Done	Done			
3	132 kV Phulbari	Ampati TL	Completed	49.89/49.89	Done	Done	Done	Done	Done		
4	132kV MLHEP	Mynkre	Completed	25.83/25.83	NA	Apr-23	NA	Done	Apr-23		Mynkre station is getting ready. Station will commission after establishment of links.
5	Khliehriat	Mynkre			NA	Apr-23	NA	Done			

List of FO Links under NERPSIP- Mizoram

SI No	Line details		OPGW stringing	Stringing completed (Km)/Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2	Commissioning	LoA Date/Extension Date	Point of Integration	Remarks
<b>A Mizoram state(Existing Lines)</b>												
1	132 kV W. Phaileng	Zembawak	Mar-23	45.023/51	Done	Apr-23	Done	NA			Zembawak Integration with existing SDH	- Provision of OPGW stringing is not available in some portion due to poles
2	132 kV Lunglei	Lungsen	Mar-23	26/27	Apr-23	CRB not ready	Apr-23	CRB not ready				Poles are used in the existing portions.
3	132kV Zuingtui (Zembawak)	Saitual	Mar-23	0/50	Apr-23	Not in scope	Not in scope	Not in scope			Zembawak Integration with existing SDH	- Newly added scope in Sep 21. Terminal equipment at Khawzawl shall be arranged by state. Stae has provided clearance on PTW 22.02.23
4	132kV Saitual	Khawzawl	Mar-23	0/43	Not in scope	Not in scope	Not in scope	Not in scope				

List of FO Links under NERPSIP- Mizoram

SI No	Line details		OPGW stringing	Stringing completed(Km)/Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2	Commissioning	LoA Date/Extension Date	Point of Integration	Remarks
<b>B Mizoram state(New Lines)</b>												
1	132 kV West Phaileng	Marpara	May-23	0/50.265	Done	Done	Done	Done	May-23			Hilli terrain and forest clearances awaited.
2	132 kV Lungsen	Chawngte	Almost completed	29.4/30.966	CRB not ready	Apr-23	CRB not ready	Apr-23	May-23			
3	132 kV Chawngte	S.Bungtlang	Apr-23	0/35	Apr-23	May-23	Apr-23	May-23	May-23			

List of FO Links under NERPSIP- Nagaland

Sl No	Line details		OPGW stringing	Stringing completed(Km)/ Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2	Commissioning	Point of Inegration	Remarks
<b>I Nagaland state(Existing Lines)</b>											
1	66 kV Mokokchung	Tuensung	Completed	67/67	Supplied	NEW CRB to be constructed. Under tendering stage	Under Progress	NEW CRB to be constructed. Under tendering stage		132kV Mokukchong - Integration with Existing SDH	Revised scope was received from CEA on Jan'22. To be awarded
2	132 kV Meluri (Khipire)	Pfutsero (New SS)	Completed	75.47/75.47	Supplied	SS construction U/P	Supplied	SS construction U/P	Apr-23		Pfutsero Station construction under Progress
2	Kohima (WB)	Pfutsero (New SS)	Completed		Done	SS construction U/P	Done	SS construction U/P	Apr-23		

List of FO Links under NERPSIP- Nagaland

Sl No	Line details		OPGW stringing	Stringing completed(Km)/ Actual length(Km) as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2		Point of Integration	Remarks
<b>I Nagaland state(New Lines)</b>											
1	220kV New Kohima	Mokokchung	Mar-23	78.75/87.062	Done	Done	Done	Done	Apr-23	132kV Mokukchong - Integration with Existing SDH	
2	132 kV Wokha	Zunheboto	Mar-23	20.77/51.62	Supplied.	Station U/p	Done.	Station U/p	Apr-23		
3	132 kV Zunheboto	Mokokchung	Mar-23		Station U/p	Donee	Station U/p	Done	Apr-23	132kV Mokukchong - Integration with Existing SDH	
4	LILO of 132kV Mokokchung - Mariani at Longnak		Not in POWERGRID scope.								
5	132 kV Tuensang	Longleng	Mar-23	2.95/29.24							Revised scope was received from CEA on Jan'22 To be awarded
6	LILO of 132kV Kohima	New Kohima	Mar-23	8.34/9.24	Done	NA	Done	NA	Mar-23	Integration to be done at Kohima.	Required bandwidth from state.
7	Wokha	New Kohima			Done	NA	Done	NA			
8	132kV Kohima	Pfutsero	Completed	2.83/2.83	Supplied	SS construction U/P	Supplied	SS construction U/P	Apr-23		
9	Meluri(Kipire)	Pfutsero			Done	SS construction U/P	Done	SS construction U/P	Apr-23		
10	132 kV New Kohima	New Secretariat Complex	Completed	14.39/14.39	Done	Done	Done	Done	Mar-23		New Sect.. (new) s/s will charge after routing data to SLDC.



## Execution Plan for FOTE System under NERPSIP- Tripura

SI No	Line details		OPGW Stringing	OPGW stringing Status as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2	Commissioning	Remarks
<b>A Tripura state(Existing Lines)</b>										
1	132 kV PK Bari	Ambasa	Completed	40.82/40.82	Space constraints	CRB u/p	Space constraints	CRB u/p	Mar-23	Space constraints to be resolved for achieving the target.
2	Ambasa	Manu	Completed		Done	CRB u/p	Done	CRB u/p	Mar-23	
3	132 kV PK Bari	Kamalpur	Completed	28.94/28.94	Space constraints	Done	Space constraints	Done	Mar-23	
4	132kV PK Bari	Mission Tilla	Completed	35.4/35.4	Space constraints	Mar-23	Space constraints	Mar-23	Mar-23	
5	132kV PK Bari	Kumarghat (PG)	Completed	1.5/1.5	Space constraints	Mar-23	Space constraints	Mar-23	Mar-23	
6	132 kV PK Bari	Kailashar	Completed	18.44/18.44	Space constraints	Extension CRB u/p	Space constraints	New CRB u/p	Mar-23	
7	132 kV Rabindranagar	Monarchak	Completed	2.69/2.69	Done	Done	Done	Done		The line (existing) to be terminated at Rabindranagar new S/s by state. OPGW link connectivity is possible after termination of this line to new Rabindranagar S/s
8	132 kV Kamalpur	Dhalabil	Completed	34.234/34.234	Done	Done	Done	Done	Done	
9	132 kV Teliamura - Baramura		Completed	11.954/11.954	Mar-23	Mar-23	Mar-23	Mar-23	Apr-23	
10	132kV Tilla Agartala - Rokhia		Completed	33.52/33.52	Done	Done	Done	Done	Done	

## List of FO Links under NERPSIP- Tripura

SI No	Line details		OPGW Stringing	OPGW stringing as on 14-02-23	FOTE end -1 status	FOTE end -2 status	DCPS end-1 status	DCPS end-2		Remarks
<b>B Tripura state(New Lines)</b>										
1	LILO of Agartala	Mohanpur	Completed	1.21/1.21	Done	Done	Done	Done	Done	
	Dalabil	Mohanpur	Completed		Done	Done	Done	Done	Done	
2	132 kV Rabindra Nagar	Rokhia	Completed	22.03/22.163	DOne	Done	DOne	Done	Mar-23	
3	132 kV Udaipur	Bagafa	Completed	31.907/31.907	Done	Done	Done	Done	Done	
4	132kV Bagafa	Belonia	Completed	9.306/9.306	Done	CRB U/P	Done	CRB U/P	May-23	
5	132 kV Bagafa	Satchand	May-23	0/29.5	Done	CRB U/P	Done	CRB U/P	May-23	
6	132 kV Belonia	Sabroom	Mar-23	30.534/38.815	CRB U/P	CRB U/P	CRB U/P	CRB U/P	Apr-23	
7	LILO of Surajmaninagar- Rokhia at Gokulnagar		Completed	2.867/2.867	Under Progress	NA	Under Progress	NA		Link can be establish once TSECL existing line (Surajmani Rokhia portion) completed

8	Rabindranagar	Belonia	Apr-23	8/64.12	Done	CRB U/P	Done	CRB U/P		Link can be established after re-routing of Rabindranagar - Manarchak to new Rabindranagar SS by dismantling existing towers.
9	132 kV Kailashahar	Dharamnagar	Mar-23	0/21.785	New CRB U/P	CRB U/P	New CRB U/P	CRB U/P	May-23	
10	132 kV Udaipur	Amarpur	Completed	15.29/15.29	Done	CRB U/p	Done	CRB U/P	Apr-23	

SI No	Line details (END-1)						Line details (END-2)			LoA Date/Extension Date	Package Name
	Arunachal Pradesh state(Existing Lines)	OPGW stringing	Total Length	Substation	FOTE end -1 status	DCPS end-1 status	Substation	FOTE end -2 status	DCPS end-2 status		
1	132kV Ziro (PG)-Daporizo	OPGW stringing Yet to be done	86.722	Ziro(PG)	Supplied	Supplied	Daporizo	Supplied	Supplied		
2	132kV Daporizo - Along	OPGW stringing Yet to be done	80	Daporizo	Supplied	Supplied	Along	Supplied (Installation Coplete)	Supplied (Installation Coplete)		
3	132kV Along - Pasighat	OPGW stringing Yet to be done	76	Along	Supplied (Installation Coplete)		Pasighat (old)	Supplied	Supplied		
4	132kV Balipara -Khupi	55.626/67.28	67.28	Balipara	Supplied	Supplied	Khupi	Supplied			
7	132kV Khupi-Kimi	2.359/7.6	7.6	Khupi	Supplied		Kimi	Supplied	Nechipu Equip to divert (Supplied)		
8	220kV AGBPP(Kathalguri) -Deomali	Complete	25	220kV AGBPP(Kathalguri)	Supplied	Supplied	Deomali	Supplied	Supplied		
9	220kV Tinsukia AGBPP(Kathalguri)	Complete	25	Tinsukia	Supplied	Supplied	220kV AGBPP( Kathalguri)	Supplied	Supplied		
<b>I</b>	<b>Arunachal Pradesh state(New Lines)</b>	<b>OPGW stringing</b>	<b>Total Length</b>								
1	132/33kV Ziro (PG)-Ziro(New)	OPGW stringing Yet to be done	12.29	Ziro(PG)	Supplied	Supplied	Ziro(New)	Supplied	Available	Date of NOA: 28.02.2018/ 31.12.2022	ARP-SS-01B
2	LILO 132/33 kV Daporijo-Along at Basar	Daporijo-Basar: yet to start Basar-Along:22.58 (Complete)	One Section Completed	LILO132/33kV Daporijo-Along	Supplied	Supplied	at Basar	Supplied	Available	Date of NOA: 28.02.2018/ 31.12.2022	ARP-SS-01B
3	132kV Likabali-Niglok TL	OPGW stringing Yet to be done	66.048	Likabali	supplied	Available	Niglok	Under Manufacturing and being prepared for Dispatch	Available	Date of NOA: 18.05.2017/ 31.03.2022	ARP-TW-01
4	132kV S/C Pasighat (old) - Mariang	OPGW stringing Yet to be done	47.843	Pasighat(old)	Supplied		Mariang			Date of NOA: 18.05.2017/ 31.10.2022	ARP-TW-02
5	132kV S/C Niglok- Pasighat New	16.228	19.857 (Complete)	Niglok	Under Manufacturing and being prepared for Dispatch	Available	Pasighat New(Napit)	Supplied	Available	Date of NOA: 05.06.2017 / 31.10.2022	ARP-TW-03
6	132kV S/C Pasighat New (Napit) – Pasighat old	OPGW stringing Yet to be done	13.149	Pasighat New(Napit)	Supplied	Available	Pasighat(old)	Supplied		Date of NOA: 05.06.2017 / 31.10.2022	ARP-TW-03
7	132kV Seppa - Rilo Line	OPGW stringing Yet to be done	45.662	Seppa	Under Manufacturing and being prepared for Dispatch	Available	Riloh	Under Manufacturing and being prepared for Dispatch	Available	Date of NOA: 11/09/2017/ 31.12.2022	ARP-TW-05
8	132kV Rilo to Seijosa Line	OPGW stringing Yet to be done	44.015	Riloh	Under Manufacturing and being prepared for Dispatch	Available	Seijosa	Available		Date of NOA: 31/03/2017/ 30.09.2022	ARP-TW-06
9	132kV Sagali -Naharlagun	OPGW stringing Yet to be done	39.22	Sagali	Supplied	Available	Naharlagun	Supplied	Available	Date of NOA: 15/06/2017/	ARP-TW-08
10	132kV Chimpu to Holongi line	9	11.08/14.293	Chimpu	Supplied (Installation Coplete)	Supplied (Installation Coplete)	Holongi	Supplied (Installation Coplete)	Supplied	Date of NOA: 18/05/2017/ 31.07.2022	ARP-TW-09
11	132kV Naharlagun- Banderdewa	OPGW stringing Yet to be done	9.6	Naharlagun	Supplied	Available	Banderdewa		Available	Date of NOA: 18/05/2017/ 31.07.2022	ARP-TW-09
12	132kV Rilo – Sagalee	OPGW stringing Yet to be done	33.16	Riloh	Under Manufacturing and being prepared for Dispatch	Available	Sagali	Supplied	Available	Date of NOA:18.05.2017/ 17.11.2022	ARP-TW-10
13	132 kV Gerukamukh-Likabali TL	OPGW stringing Yet to be done	52.274	Gerukamukh	Under Manufacturing and being prepared for Dispatch	Available	Likabali	Supplied	Available	Date of NOA: 21.09.2017/ 30.09.2022	ARP-TW-11
14	132kV Naharlagun-Gerukamukh	OPGW stringing Yet to be done	85.34	Naharlagun	Supplied	Available	Gerukamukh	Under Manufacturing and being prepared for Dispatch	Available	Date of NOA: 21.09.2017/ 20.03.2023	ARP-TW-12
15	132kV S/C on D/C Ziro(New)-Palin	OPGW stringing Yet to be done	37.53	Ziro(New)	Supplied	Available	Palin			Date of NOA: 22.05.2021/ 30.11.2022	ARP-TW-13
16	132kV S/C on D/C Palin-koloriang	OPGW stringing Yet to be done	33.87	Palin			koloriang			Date of NOA: 22.05.2021/ 30.11.2022	ARP-TW-13
17	132kV S/C on D/C Daporijo-Nacho	OPGW stringing Yet to be done	72.837	Daporijo	Supplied		Nacho			Date of NOA: 22.05.2021/ 30.11.2022	ARP-TW-13
18	132kV Jairampur - Miao (132KV S/C Line)	OPGW stringing Yet to be done	34.321	Jairampur		Available	Miao		Available	Date of NOA: 23.10.2017/ 31.12.2022	ARP-TW-19
19	132kV S/C on D/C Roing-Dambuk	OPGW stringing Yet to be done	28.757	Roing			Dambuk			Date of NAO:13.11.2018/ 30.11.2022	ARP-TW-20
20	132kV S/C on D/C Roing-Anini	OPGW stringing Yet to be done	90.8	Roing			Anini			Date of NAO:13.11.2018/ 30.11.2022	ARP-TW-20
21	132kV S/C on D/C Tezu-Haliapani	OPGW stringing Yet to be done	63.09	Tezu			Haliapani			Date of NAO:13.11.2018/ 30.11.2022	ARP-TW-20
22	132 KV S/C Khupi – Seppa	OPGW stringing Yet to be done	48.893	Khupi	Supplied		Seppa	Under Manufacturing and being prepared for Dispatch	Available	Date of NOA: 28.09.2018/ 28.03.2023	ARP-TW-24
23	132 KV Seppa-Bameng	OPGW stringing Yet to be done	29.591	Seppa	Under Manufacturing and being prepared for Dispatch	Available	Bameng		Available	Date of NOA: 28.09.2018/ 28.03.2023	ARP-TW-24
24	132 KV Tawang – Lumla	OPGW stringing Yet to be done	99	Tawang	Supplied	Available	Lumla			Date of NOA: 28.09.2018/ 28.03.2023	ARP-TW-24
25	132kV S/C on D/C Along-Kambang	OPGW stringing Yet to be done	35	Along	Supplied (Installation Coplete)	Available	Kambang			Date of NAO: 13/11/2018/ 30.10.2023	ARP-TW-26
26	132kV S/C on D/C Along-Yingkiong	OPGW stringing Yet to be done	94.6	Along	Supplied (Installation Coplete)	Available	Yingkiong			Date of NAO: 13/11/2018/ 30.10.2023	ARP-TW-26
27	132kV S/C on D/C Yingkiong-Tuting	OPGW stringing Yet to be done	78.5	Yingkiong			Tuting			Date of NAO: 13/11/2018/ 30.10.2023	ARP-TW-26
28	132kV S/C on D/C Kambang-Mechuka	OPGW stringing Yet to be done	91.9	Kambang			Mechuka			Date of NAO: 13/11/2018/ 30.10.2023	ARP-TW-26
29	Deomali-Khonsa	OPGW stringing Yet to be done	27.2	Deomali	Supplied		Khonsa		Available	Date of NOA: 09.03.2021/ 09.09.2022	ARP-TW-29B
30	Khonsa- Changlang	OPGW stringing Yet to be done	26.005	Khonsa			Changlang		Available	Date of NOA: 09.03.2021/ 09.09.2022	ARP-TW-29B
31	Khonsa-Longding	OPGW stringing Yet to be done	24.169	Khonsa		Available	Longding			Date of NOA: 09.03.2021/ 09.09.2022	ARP-TW-29B
32	Jairampur-Changlang	OPGW stringing Yet to be done	50.54	Jairampur		Available	Changlang		Available	Date of NOA: 26.02.2021/ 26.08.2022	ARP-TW-30B
33	Miao-Namsai	OPGW stringing Yet to be done	40.568	Miao		Available	Namsai	Supplied	Supplied	Date of NOA: 26.02.2021/ 26.08.2022	ARP-TW-30B
34	132kV S/C on D/C Bomdila-Kalaktang	OPGW stringing Yet to be done	53.07	Bomdila			Kalaktang			Date of NOA: 22.05.2021/ 22.05.2023	ARP-TW-31

\*Presently OPGW Stringing Work Going in Balipara-Khupi and Along- Pasighat Line

Sl. No.	Name of the link	Length of OPGW	Status as in 17th RPC/TCC	Status as in 18th	Status in 18th NETeST Meeting	Status in 19th NETeST Meeting	Status as in 21st NETeST Meeting		Status as in 22nd NETeST Meeting		Status as in 23rd NETeST Meeting	
							OPGW Status	End Equipment Status	OPGW Status	End Equipment Status	OPGW Status	End Equipment Status
1	132 kV Silchar - Hallakandi (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.	Stringing work is completed except approach cable laying	Material Delivered
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.	Stringing of 44/103km completed.	Material Delivered
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.	Stringing of 39/73 km is completed	Material Delivered
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.	Stringing of 82/96 km is completed	Material Delivered
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.	--	Material Delivered
6	400 kV Ballpara – 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.	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 Bongaloan – Killing (Brynhat)	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.	Stringing of 200/202 km. Remaining 2km stringing will be completed subject to approval of shutdown.	Material Delivered
8	400 kV Silchar – Killing (Brynhat)	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.	Stringing of 56/216 km is completed	Material Delivered

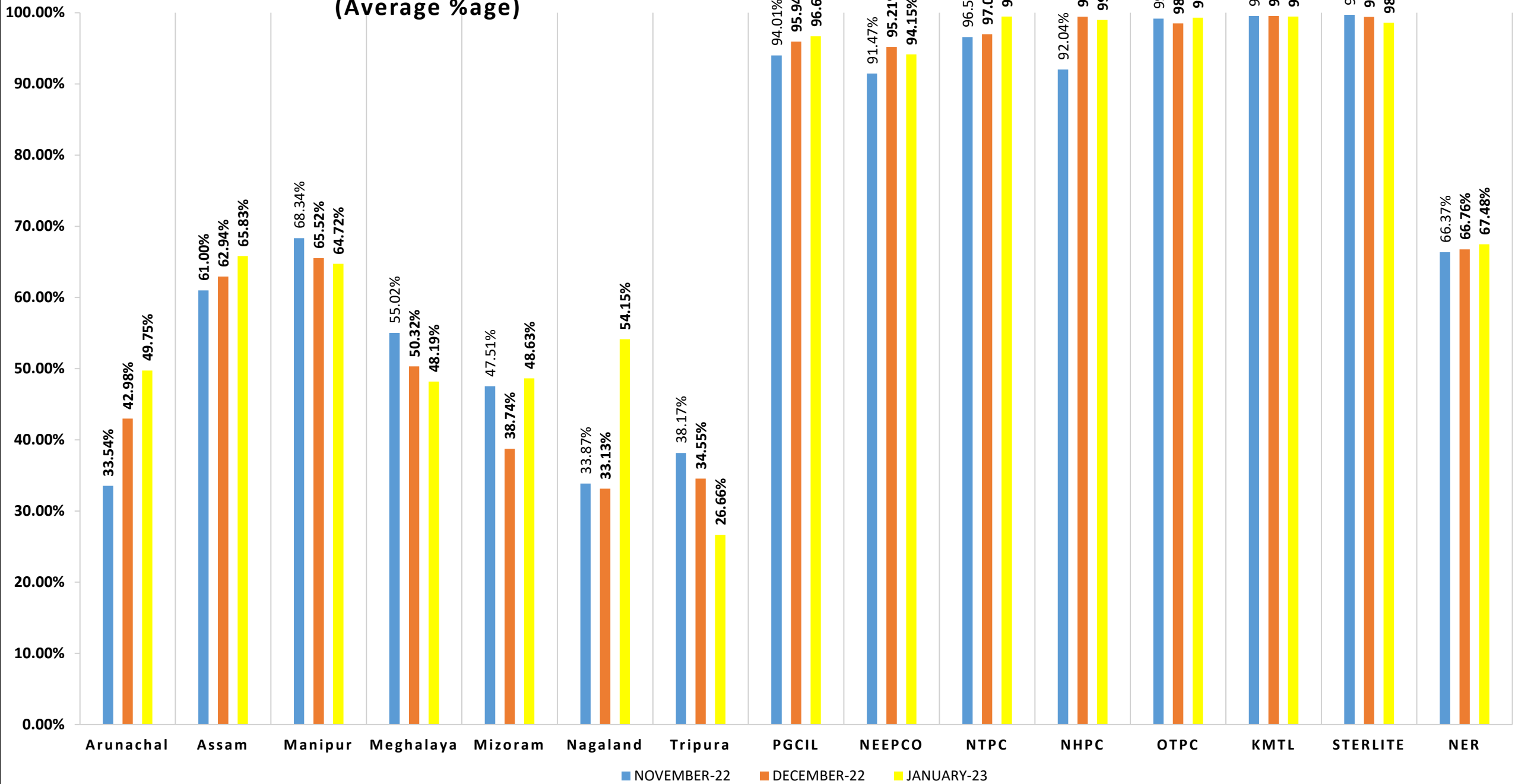
<b>Fibre Optic Links for Redundancy</b>				
SI No	Name of Line	Voltage Level in kV	Length (in kM)	Completed
1	Mariani(New)-Misa	400	223	<b>101.158</b>
2	Bongaigaon-Balipara ckt III and IV	400	309	<b>267.684</b>
3	Misa-Kopili ckt III	220	73	<b>73</b>
4	Jiribam-Haflong	132	101	<b>68</b>
5	Bishwanath-Chariali-Pavoi	132	13	
6	Balipara-Bongaigaon ckt 1`	400	290	<b>16.939</b>
7	Kopili-Khandong	132	12	<b>8.3</b>
8	Khandong-Khlierihat (2nd Circuit)	132	43	
9	Aizawl-Jiribam	132	175	
	Total (in kM)		1239	<b>535.081</b>
<b>Fibre Optic Links for Replacement</b>				
1	Nehu-Shillong	Underground	6.23	
2	Khlierihat (MeSEB)-Khlierihat (PG)	132	7.791	
3	Khlierihat (MeSEB)-Khandong (PG)	132	40.99	
4	Khandong(PG)-Kopili (PG)	132	11.191	
5	Misa (PG)-Kopili (PG)	220	73.186	
6	Misa (PG)-Dimapur (PG)	220	94.046	
7	Misa (PG)-Balipara (PG)	400	96	<b>88.975</b>
8	Badarpur (PG)-Khlierihat (PG)	132	73.183	
9	Badarpur (PG)-Kumarghat (PG)	132	117.519	
10	Agartala Gas (PG)-Kumarghat (PG)	132	99.817	
11	Agartala(PGCIL)-Agartala Gas (PG)	132	7.416	
12	Dimapur (PG)-Kohima (PG)	132	59.8	
13	Kohima (PG)-Imphal (PG)	132	105.64	
	Total (in kM)		792.809	<b>88.975</b>

# Telemetry Statistics for the Month of January 2023

Annexure B.10

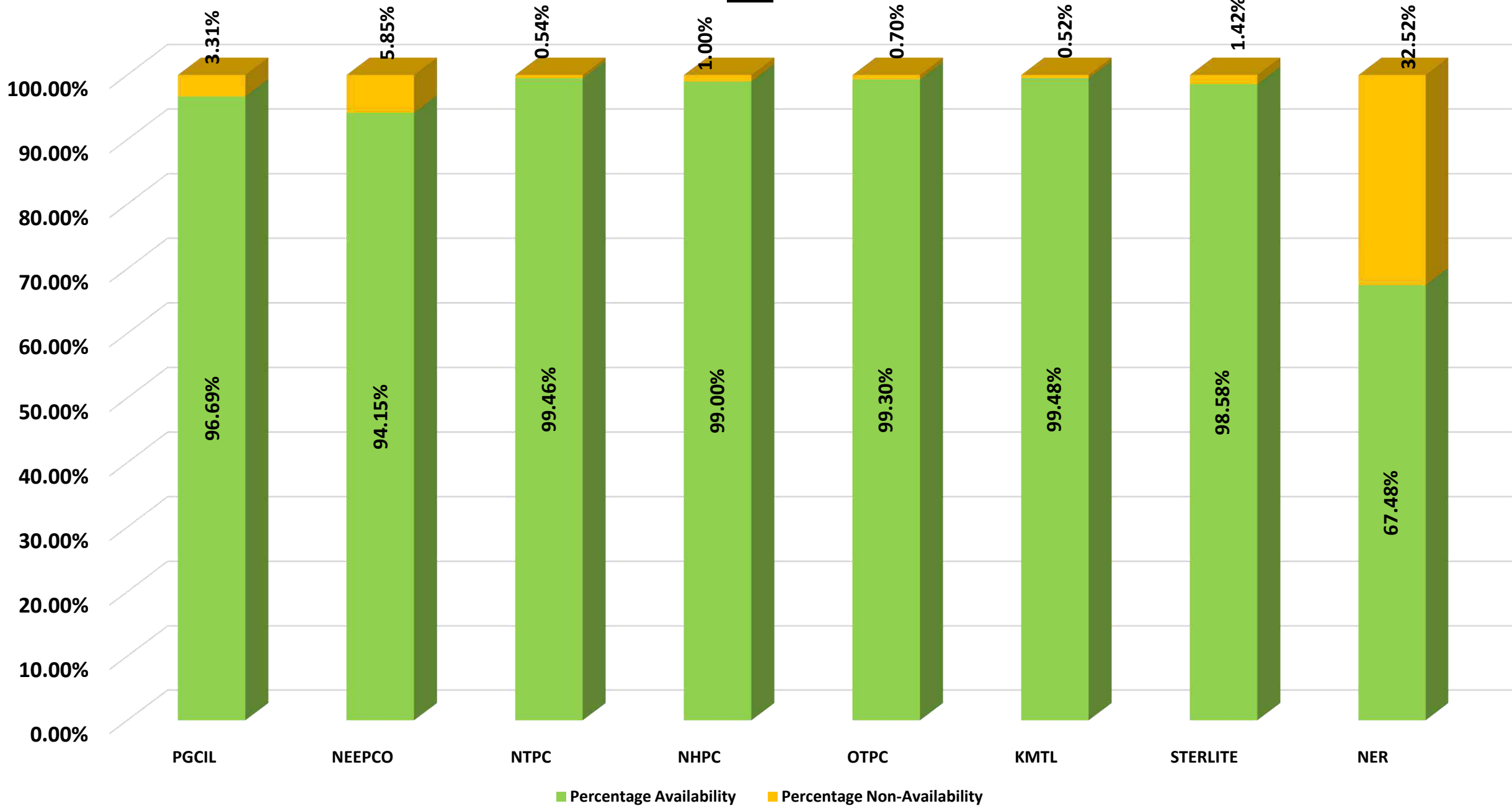
Sl. No.	Utility	Average Total Percentage	Instantaneous Maximum of Total percentage	Average Analog Percentage	Average Digital Availability	Average RTU Availability
1	PGCIL	96.69	98.23	95.47	97.32	97.54
2	NEEPCO	94.15	96.44	89.1	97.45	98.13
3	NTPC	99.46	100	98.52	99.95	98.47
4	NHPC	99	100	98.03	99.52	98.03
5	OTPC	99.3	100	98.3	99.75	98.3
6	KMTL	99.48	100	98.51	99.93	98.55
7	IndiGrid	98.58	100	96.11	99.61	98.08
8	Arunachal Pradesh	49.75	77.25	54.77	46.3	56.54
9	Assam	65.83	70.57	63.94	66.8	70.05
10	Manipur	64.72	66.48	68.03	62.74	80.33
11	Meghalaya	48.19	61.68	69.79	31.69	70.6
12	Mizoram	48.63	55.28	53.13	44.88	63.53
13	Nagaland	54.15	58.13	42.21	63.44	40.49
14	Tripura	26.66	27.81	35.52	20.33	38.17
	NER	67.48	71.19	67.48	67.39	68.15

# Comparison of Telemetry Availability Statistics (Average %age)



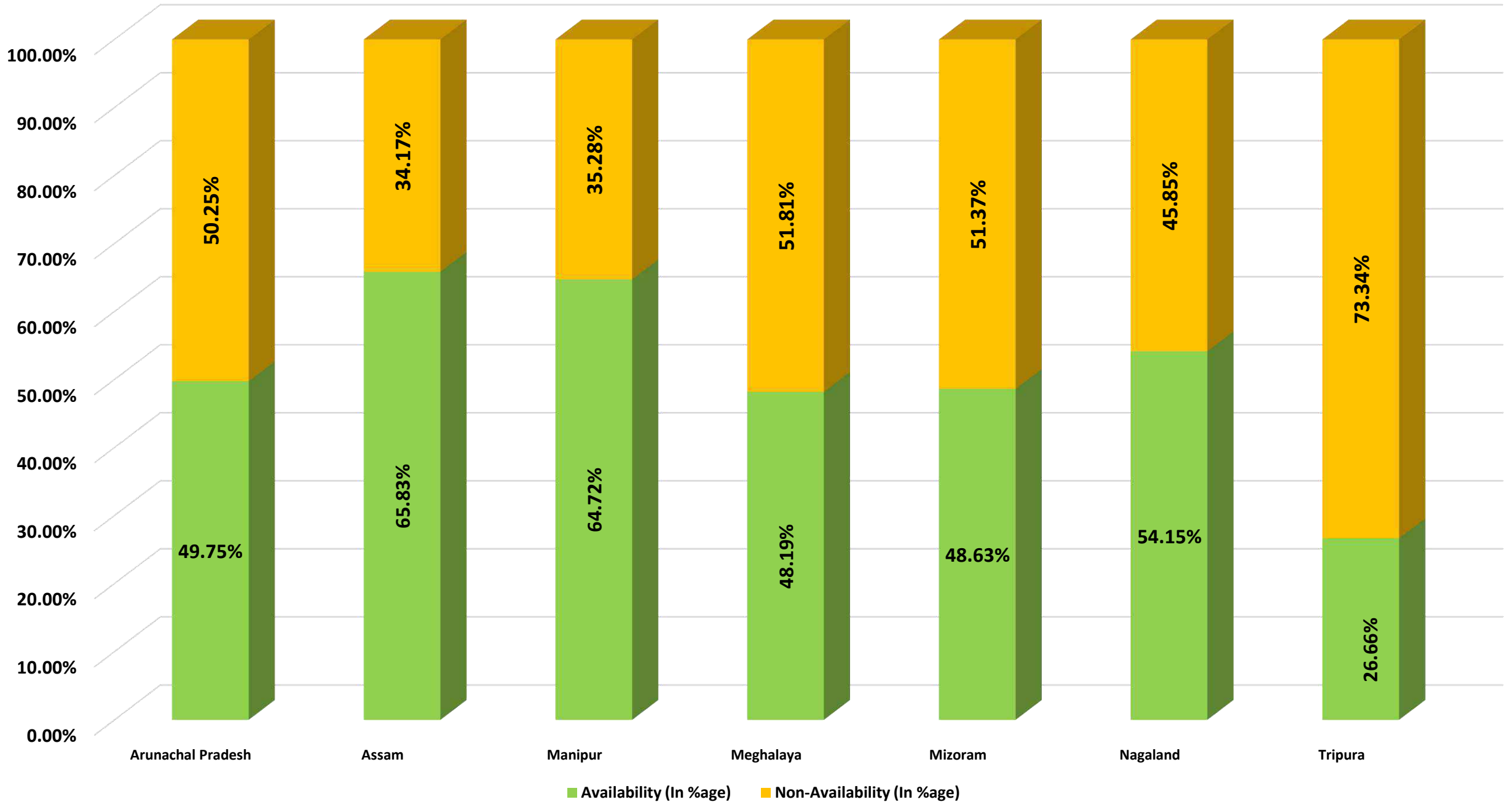
# Telemetry Statistics for Central Sector of NER (Average availability of data for the Month of JANUARY

'23)

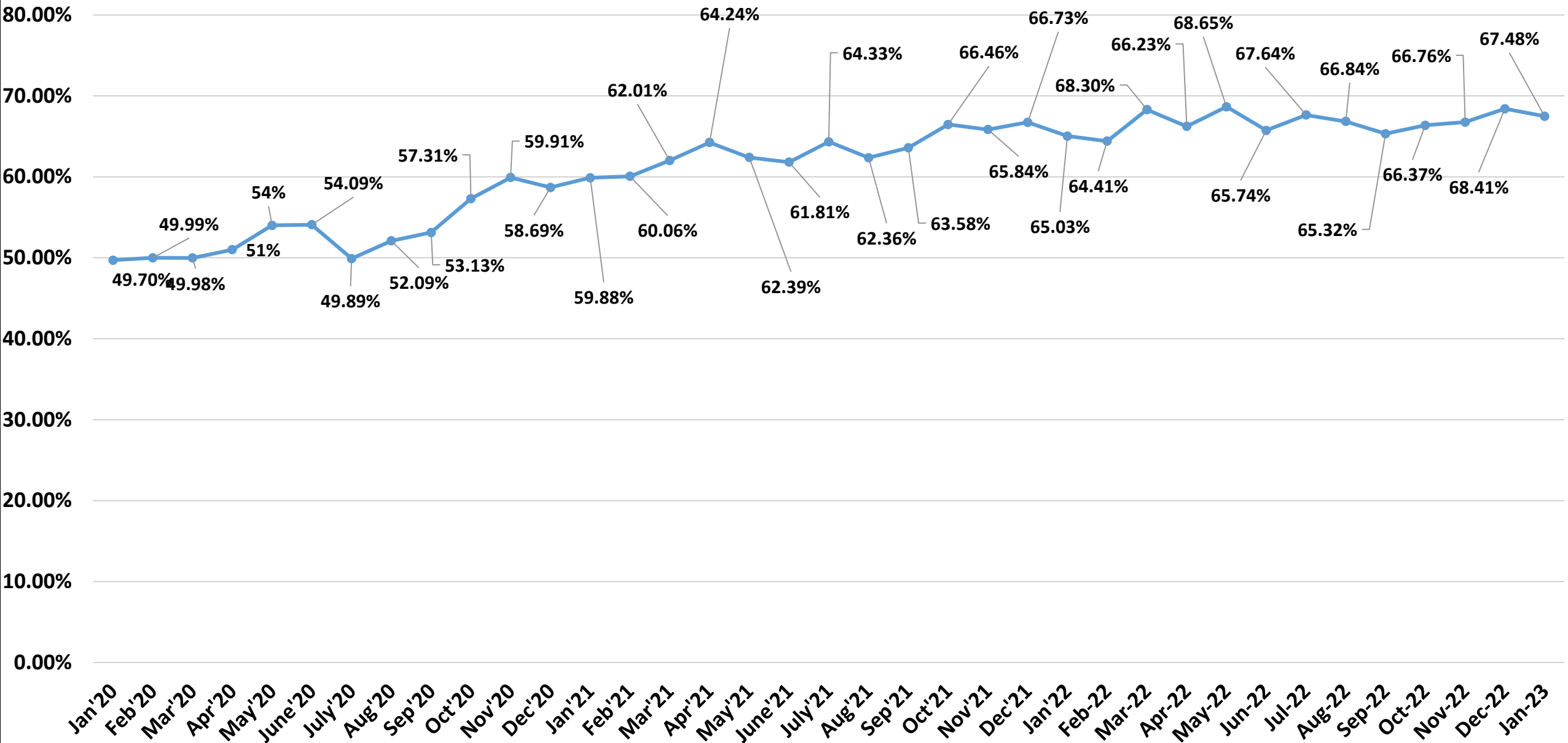




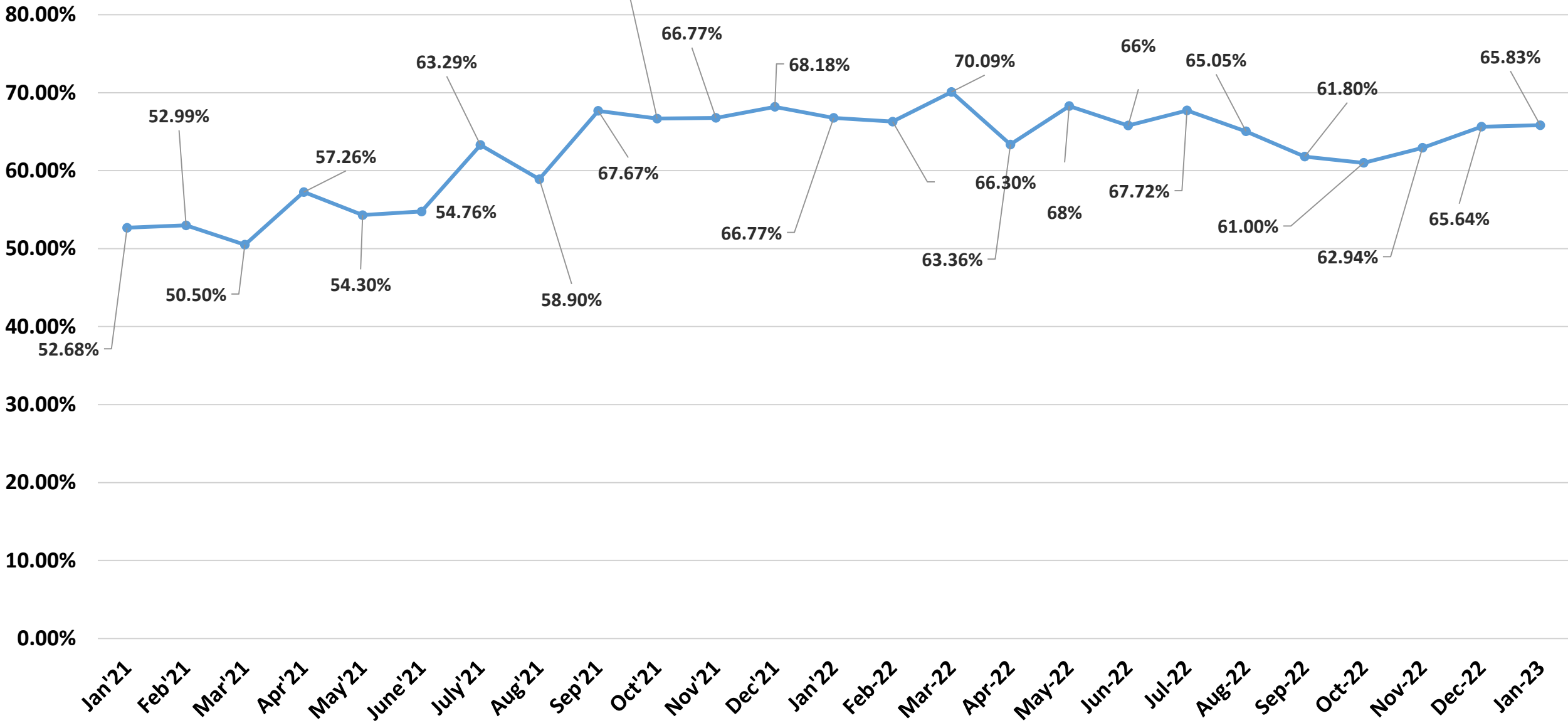
## Telemetry Statistics for NER States (Average availability of data for the Month of JANUARY '23)

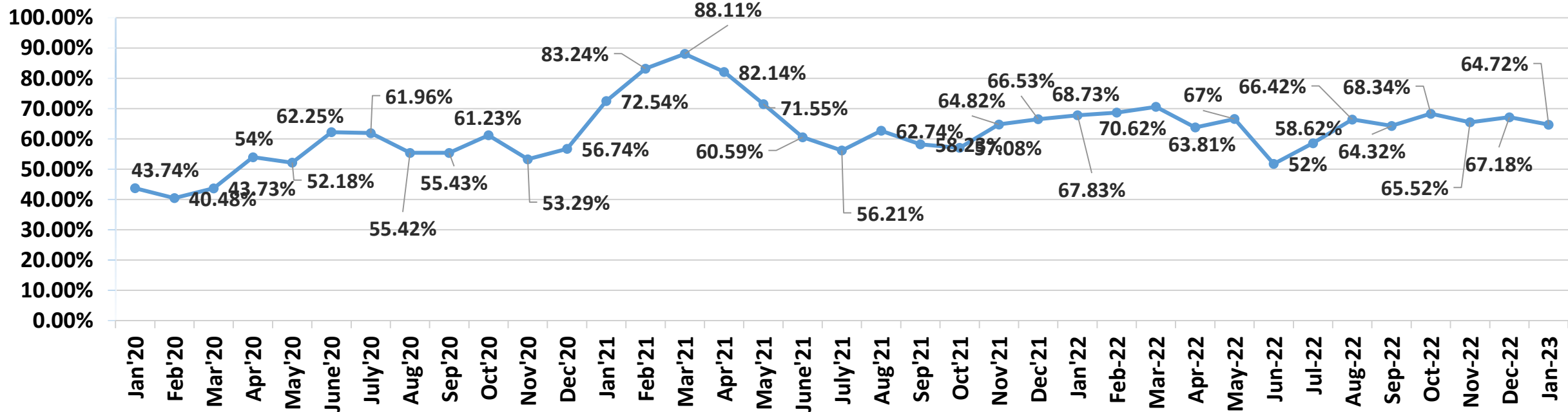


# Real Time Data Availability of NER (In Percentage)

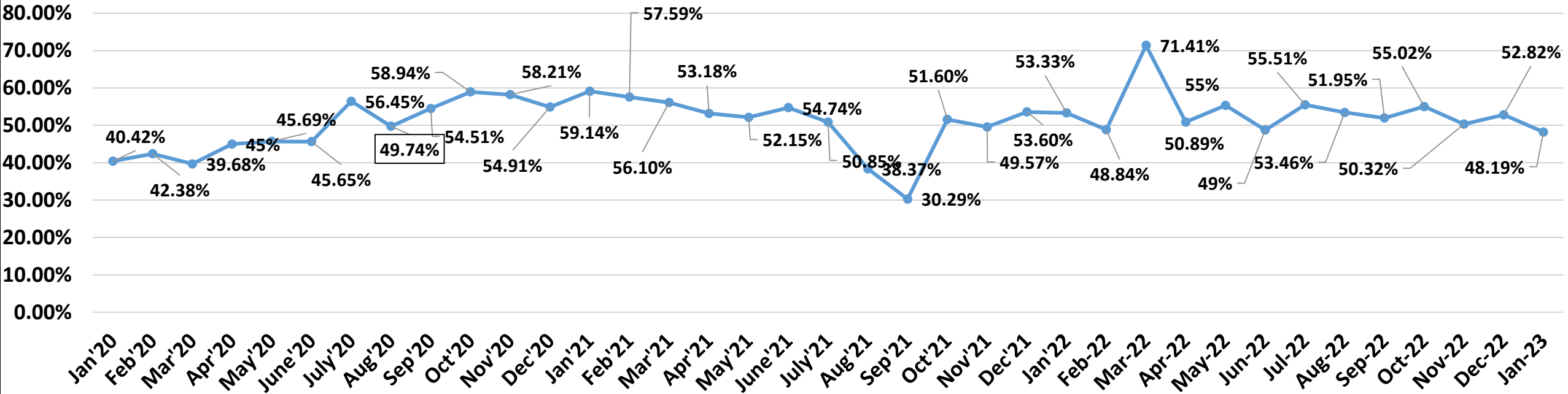


# Real Time Data Availability of Assam State (In Percentage)

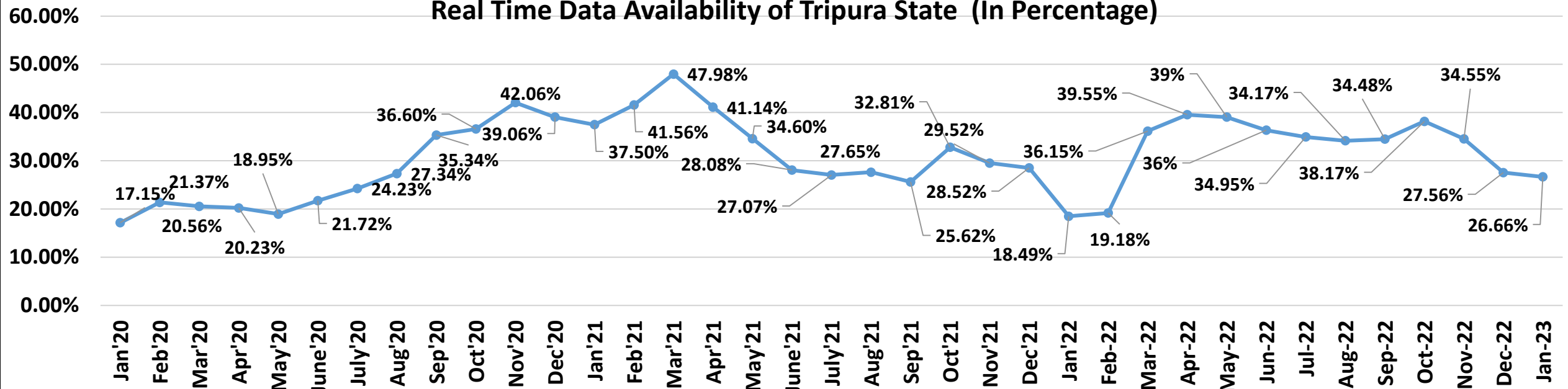




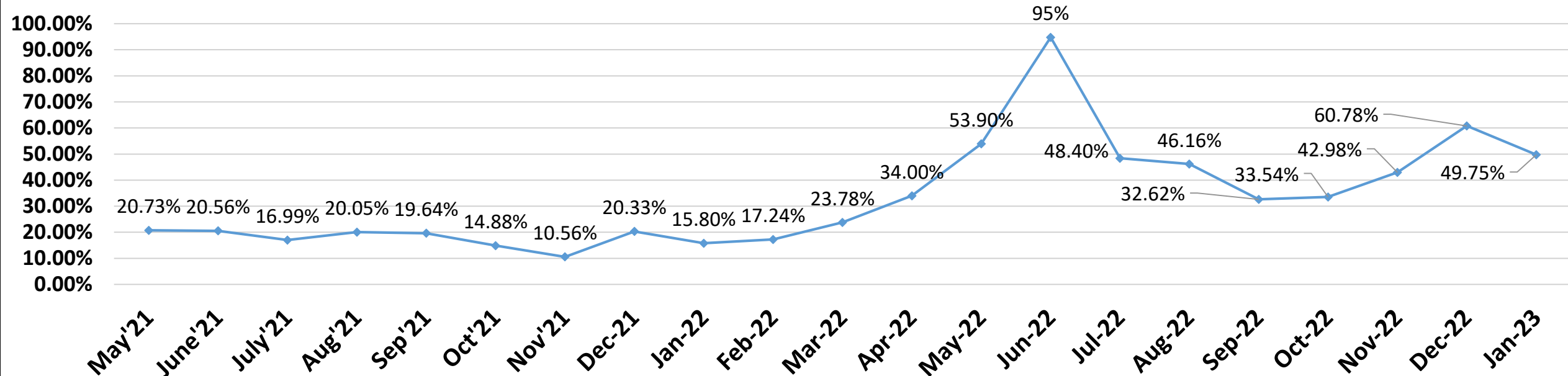
**Real Time Data Availability of Meghalaya State (In Percentage)**



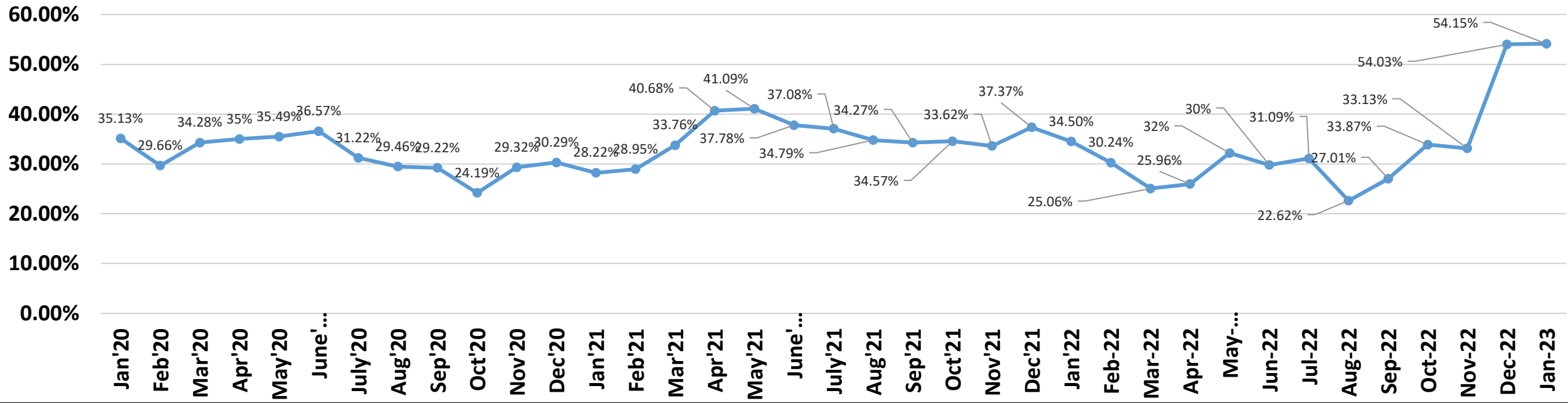
### Real Time Data Availability of Tripura State (In Percentage)



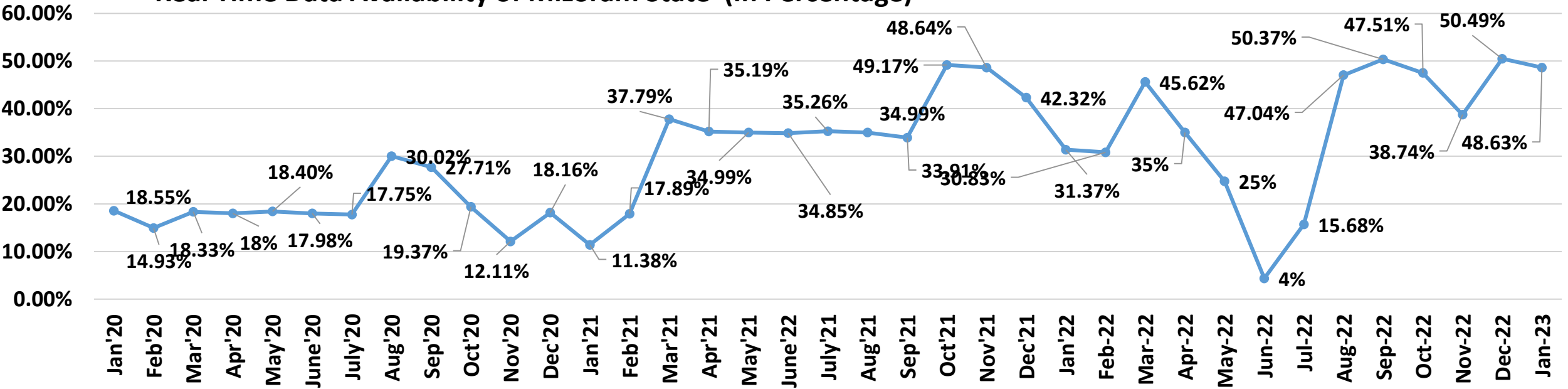
### Real Time Data Availability of Arunachal Pradesh State (In Percentage)



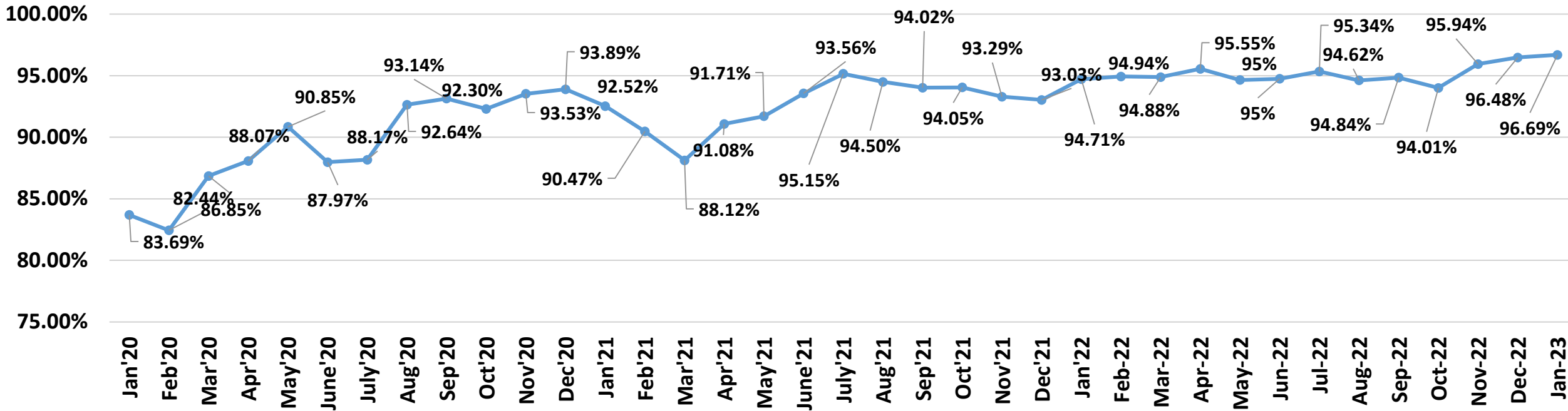
### Real Time Data Availability of Nagaland State (In Percentage)



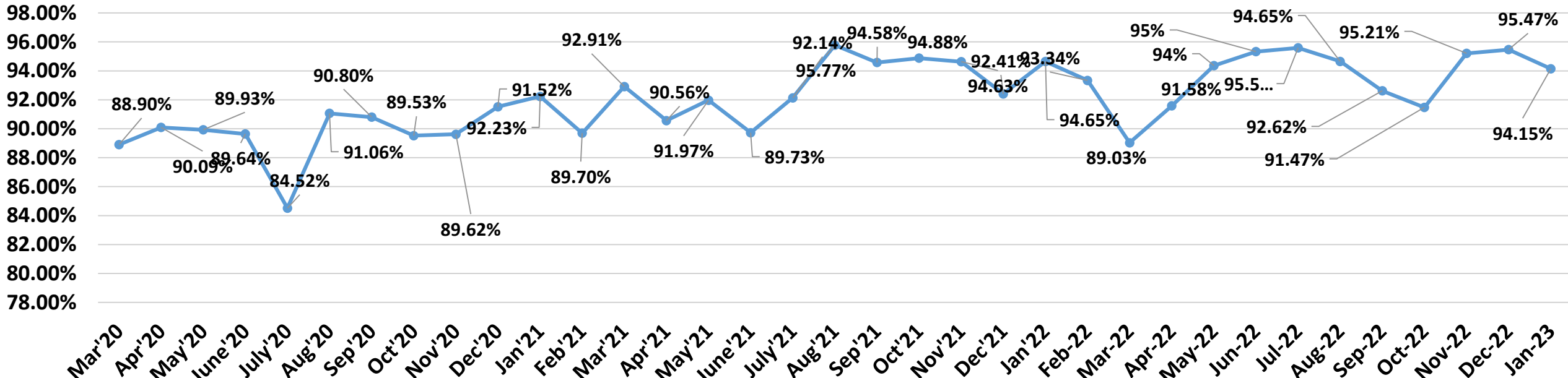
### Real Time Data Availability of Mizoram State (In Percentage)



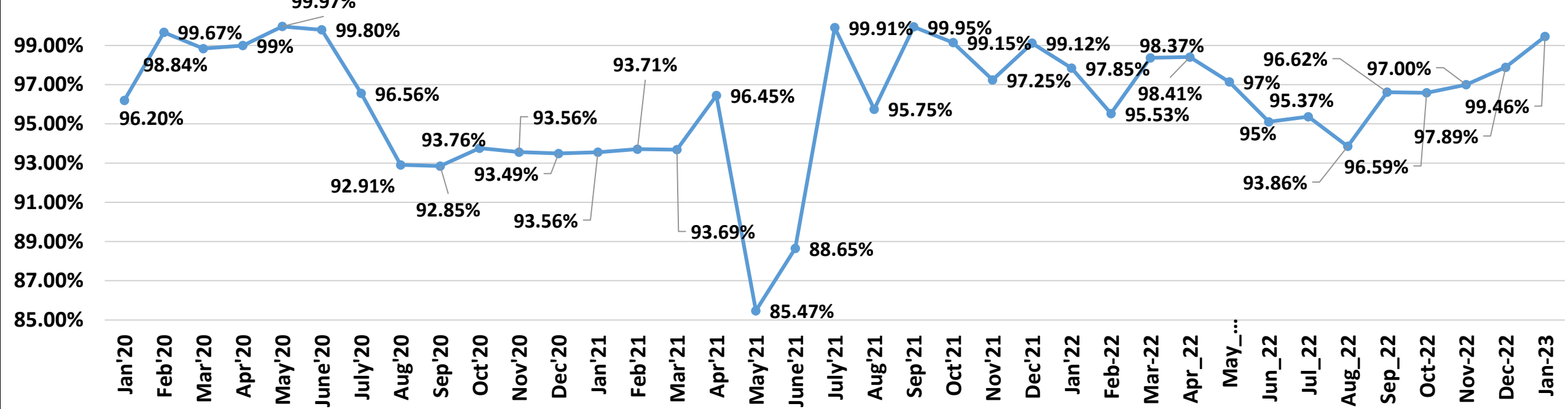
### Real Time Data Availability of PGCIL (In Percentage)



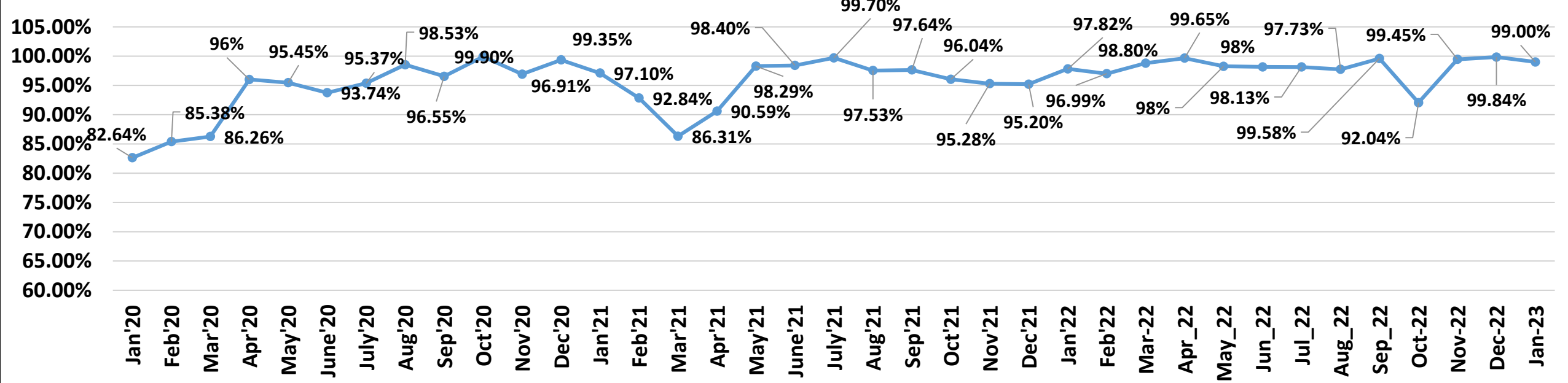
### Real Time Data Availability of NEEPCO (In Percentage)



### Real Time Data Availability of NTPC (In Percentage)

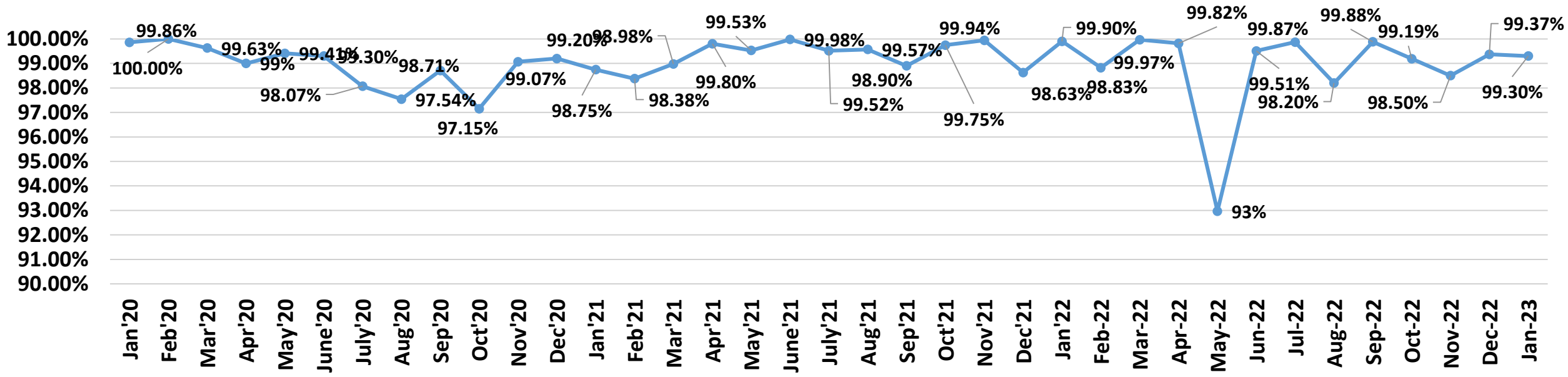


### Real Time Data Availability of NHPC (In Percentage)

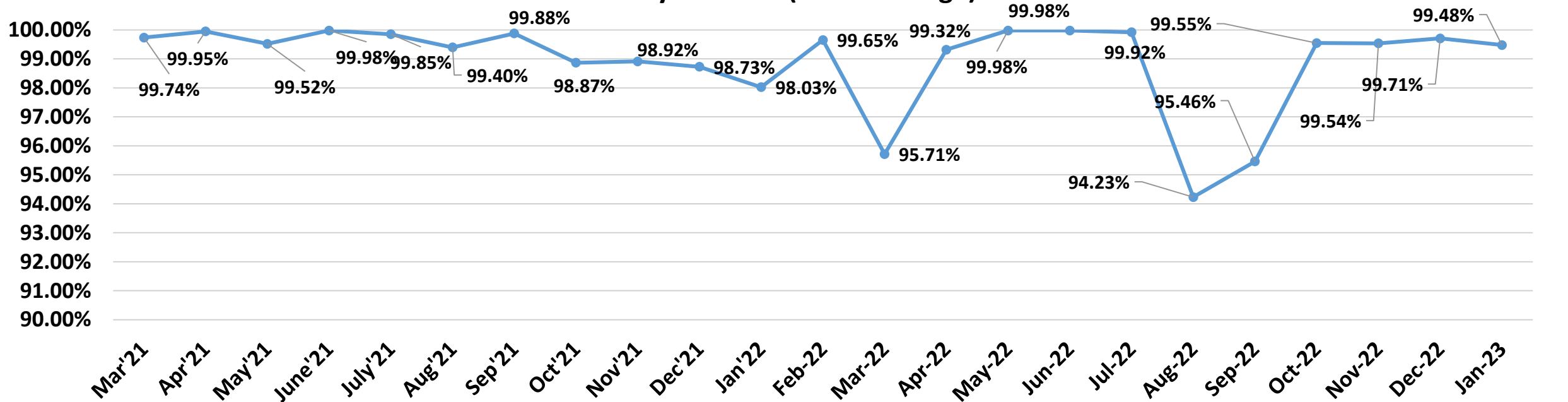




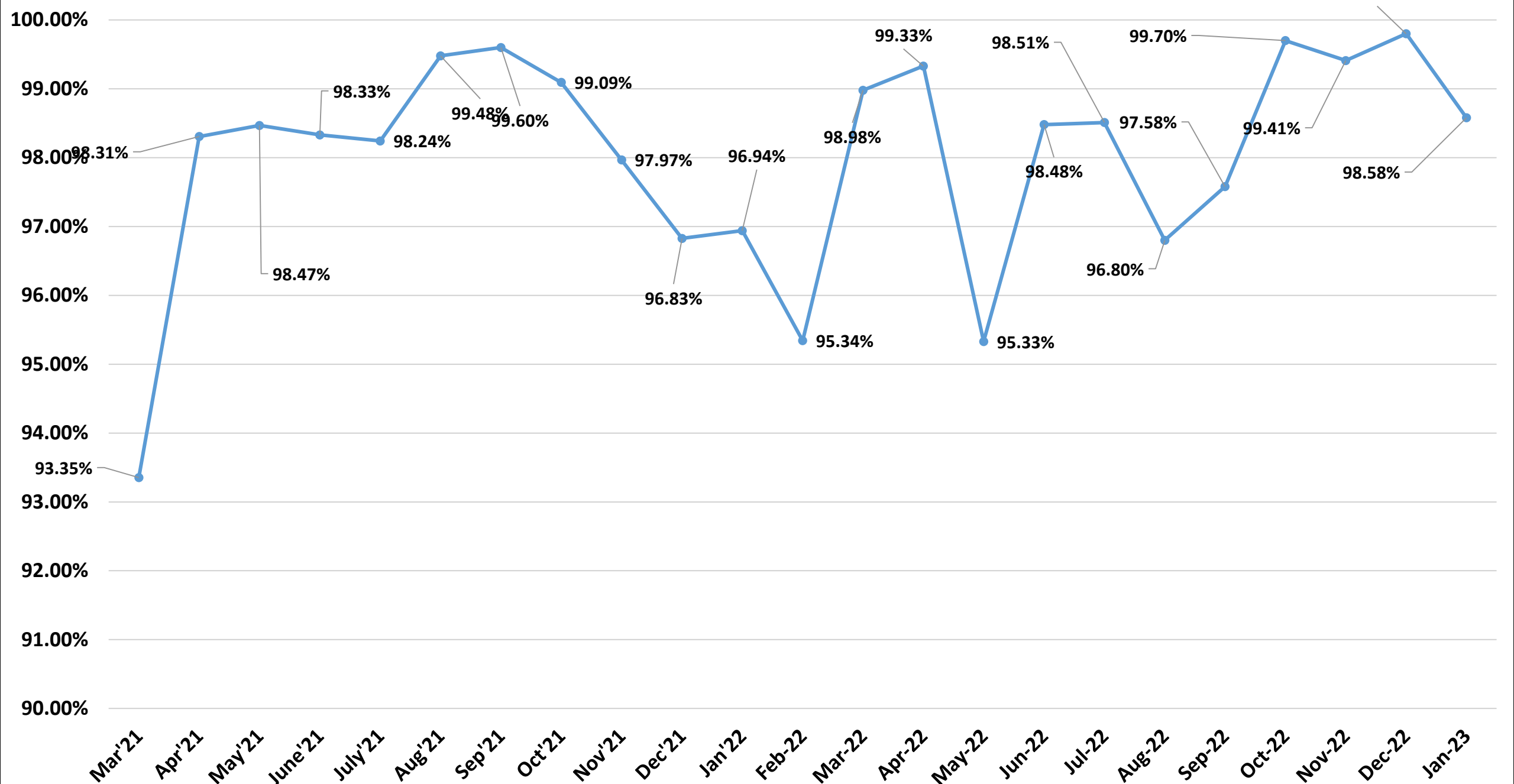
### Real Time Data Availability of OTPC (In Percentage)



### Real Time Data Availability of KMTL (In Percentage)



# Real Time Data Availability of IndiGrid (In Percentage)



## 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	MFM of GT unit #5 (LV)	rishab	Rish Master 3430 MFM 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	MFM of GT unit #6 (LV)	rishab	Rish Master 3430 MFM 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	MFM of GT unit #7 (LV)	rishab	Rish Master 3430 MFM 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, Charaideo  
Maibella

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 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 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	

  
 28/07/2017  
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 LTPS, APGCL, Charaldeo  
 Maibella

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


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

*[Signature]*  
28/07/2022  
Assistant General Manager  
(EMD-I)  
LTPS, APGCL, Maibella  
Dist., Chirraideo

**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 B HV 132 KV	Crompton Greaves	Gas Circuit Breaker, Type: 120-SFM-32B, U: 145 KV, U <sub>w</sub> : 650 kVp, F: 50 Hz, I <sub>n</sub> : 2000 A, I <sub>cu</sub> : 40 kA, Duration: 3 sec, I <sub>c</sub> : 100 kAp, Rated Operating Sequence: 0 - 0.3 sec - CO - 3 MIN - CO, Rated SF6 Gas Pressure: 7 kg/cm <sup>2</sup> - 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: VM2L: 3.5 KV, F: 50 Hz, I <sub>n</sub> : 1600 A, I <sub>cu</sub> : 31.5 kA, Duration: 3 sec, I <sub>c</sub> : 78 kAp, P. F. withstand: 10 KV, U <sub>w</sub> : 40 kVp, Rated Coil Voltage: 220 V, Interrupter: BEI, VSI2014, IS: 1311B	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, U <sub>w</sub> : 650 kVp, F: 50 Hz, I <sub>n</sub> : 2000 A, I <sub>cu</sub> : 40 kA, Duration: 3 sec, I <sub>c</sub> : 100 kAp, Rated Operating Sequence: 0 - 0.3 sec - CO - 3 MIN - CO, Rated SF6 Gas Pressure: 7 kg/cm <sup>2</sup> - 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 B HV 132 KV before Circuit breaker	G & R Power Switchgear Ltd.	Type: HDB, U: 145 KV, I <sub>n</sub> : 1250 A, U <sub>i</sub> : 650 KV, P.F.: 275 KV rms, I <sub>th</sub> : 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 B HV 132 KV after Circuit breaker	G & R Power Switchgear Ltd.	Type: HDB, U: 145 KV, I <sub>n</sub> : 1250 A, U <sub>i</sub> : 650 KV, P.F.: 275 KV rms, I <sub>th</sub> : 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, I <sub>n</sub> : 1250 A, U <sub>i</sub> : 650 KV, P.F.: 275 KV rms, I <sub>th</sub> : 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, I <sub>n</sub> : 1250 A, U <sub>i</sub> : 650 KV, P.F.: 275 KV rms, I <sub>th</sub> : 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	MFM at Steam Turbine Generator Unit B 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	MFM at Steam Turbine Generator Unit B 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

  
**Asst. General Manager (REG)**  
**LTPS, APGCL, Charaideo**  
 Malhalla

  
**Asst. General Manager**  
**LTPS, Malhalla**

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 2430, 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

*[Signature]*  
28/07/2022  
**Asst. General Manager (REG)**  
LTPS, APGCL, Charaideo  
Malbaila

*[Signature]*  
28/07/22  
**Asst. General Manager**  
WPS, LTPS, Malbaila

**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

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

  
 28/07/2022  
**Asst. Gen. Manager (LRPP)**  
**Litwa, Mithraj, Bandy Station**  
**APGCL, Maibella, 272500**



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

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

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

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

*Rishab*  
28/07/2022  
Asst. General Manager (REG)  
LTPS, APGCL, Charaideo  
Maibella

*V. S.*  
28/07/2022  
Asst. Gen. Manager (LTP)  
Lakshya Thermal Power Station  
APGCL, Maibella-765009

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

Sl 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

  
**Asst. General Manager (RE)**  
 LTPS, APGL, Charaide  
 Malibella

  
**Asst. Gen. Manager (LRPP)**  
 Adwa Thermal Power Station  
 APGL-1 Malibella-785554

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, Ic-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, Ic-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, Ic-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

*[Signature]*  
25/07/2022  
Asst. General Manager (REG)  
LTPS, APGCL, Charaldeo  
Maibella

*[Signature]*  
20/07/22  
Asst. Gen. Manager (LRPS)  
Lakshya Thermal Power Station  
APCL, Maibella-786455

13	SUT 1 HV Isolator_2	GR Power Switchgear Ltd.	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	To be programmed by AEGCL in RTU till 31st Aug/2022
14	SUT 2 HV Isolator_1	GR Power Switchgear Ltd.	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	To be programmed by AEGCL in RTU till 31st Aug/2022
15	SUT 2 HV Isolator_2	GR Power Switchgear Ltd.	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	To be programmed by AEGCL in RTU till 31st Aug/2022

*[Signature]*  
Asst. General Manager (REG)  
LTPS, APGCL Charaldeo  
Maibella

*[Signature]*  
Asst. Gen. Manager (RPS)  
Lalasa Thermal Power Station  
APGCL Maibella

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