

# **North Eastern Regional Power Committee**

## **Agenda**

### **For**

### **22<sup>nd</sup> NETeST Sub-Committee Meeting**

**Time of meeting : 10:00 Hrs.**

**Date of meeting : 17<sup>th</sup> March, 2022 (Thursday)**

**Venue : “Hotel Nandan”, Guwahati.**

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

##### **CONFIRMATION OF MINUTES OF 21<sup>st</sup> NETeST Meeting held on 25.11.2021.**

The minutes of 21<sup>st</sup> NETeST Meeting held on 25<sup>th</sup> November, 2021 at Guwahati were circulated by NERPC vide letter No. NERPC/SE(O)/TeST/2021/1577-1614 dated 23<sup>rd</sup> December, 2021.

***The Sub-committee may confirm the minutes of 21<sup>st</sup> NETeST meeting of NERPC as no comments/observations were received from the constituents.***

#### **A. ITEMS FOR DISCUSSION**

##### **A.1 Upgradation Activities of SCADA-EMS systems at Regional/State level in North Eastern Region:**

A MoU related to free-of-cost consultancy with a detailed responsibility matrix was circulated in 19<sup>th</sup> and 21<sup>st</sup> NETeST meeting under which it was proposed that all SLDCs and NERLDC can upgrade in a unified manner to get benefits of seamless integration, joint capacity building and economies of scale in terms of cost implications.

It was agreed in-principle to sign the draft MoU and corresponding funding through PSDF by routing the DPR through TCC/NERPC meeting. As present the status of signing of MoUs is mentioned in table below.

<b>S N</b>	<b>States</b>	<b>Remarks</b>
1.	Arunachal Pradesh	Under administrative approval process in Secretariat office.
2.	Assam	Signed on 06th January 2022.
3.	Manipur	Under consideration process in MD office. Getting slightly delayed because of restrictions due to ongoing state-elections.
4.	Meghalaya	Signed on 28th October 2021.

5.	Mizoram	Signed on 01st November 2021.
6.	Nagaland	Signed on 01st March 2022.
7.	Tripura	Under administrative approval process in MD office.

All SLDCs are requested to put up the matter of MoU signing on priority so that other technical activities can be started at the earliest.

Meanwhile a meeting was held in Ministry of Power, Delhi on 07th February 2022 in which review by Honourable Minister for Power Sh. R.K. Singh was done on the various aspects of grid management. As per one of the discussion points, POSOCO-NLDC was asked to submit detailed notes on some of the identified key areas with inputs pertaining to SCADA & REMC as mentioned below.

**SCADA/EMS System:**

Status of upgradation of SCADA/EMS system SLDC wise. Proposed plan of upgradation. Status of funding for the proposed upgradation of SCADA/EMS system SLDC wise – self or through-loan (mode of loan). In case there are financial constraints, is budgetary support from the Central Government required? Various utilization of Data / SCADA System. Major communication issues if any being faced.

**REMC System:**

Usages of REMC System at RLDC/ SLDCs. Constraints faced in REMC system. – Requirement of additional data type for better utilization. Integration status of RE plants in REMC system. Why RE plants are not integrating with REMC? Any communication issues...Requirement of upgradation, if any.

Status of forecasting and scheduling of generation? Is there any issue faced by States/RLDC to integrate new upcoming RE plants including forecasting and scheduling system? If any limitation and budgetary support from Central Government is required, same may be mentioned.

**Common for Both:**

The various types of data being collected, and issues faced in acquiring required data.

Non-availability of any important data set which could improve grid operations.

How is this data processed and used to monitor the system?

Various outputs and reports generated after processing the data may be elaborated.

Are all Transmission lines, substations, generators including renewable energy generators monitored?

Is any upgradation of infrastructure required for this purpose?

Suitable reply as per the discussions in the previous NETeST forums related to financial constraints, PSDF funding, communication issues, etc. in NER has been submitted to NLDC for subsequently submitting it to MoP for kind consideration.

***Members may please discuss.***

**A.2 Establishment of VSAT Communication in selected remote locations for state-utilities in North-Eastern region:**

As per deliberations against Agenda Item B.6 in MoM of 17<sup>th</sup> NETeST meeting it was mentioned that NERPC and NERLDC will sit together for cost analysis and explore the possibility of PSDF funding. After successful pilot projects in Tezu (Arunachal Pradesh) and Killing (Meghalaya), it was proved that the VSAT will function in extreme climatic conditions and hilly terrain areas of NER if Extended-C band is used.

In view of above, a draft Detailed Project Report (DPR) was prepared and circulated amongst all state-utilities and necessary inputs were taken and incorporated in it; subsequently a budgetary quotation was collected for 129 nos. of remote locations in NER and 7 SLDCs.

Meanwhile a meeting was held in Ministry of Power, Delhi on 07<sup>th</sup> February 2022 in which review by Honourable Minister for Power Sh. R.K. Singh was done on the various aspects of grid management. As per one of the discussion points, POSOCO-NLDC was asked to submit detailed notes on some of the identified key areas with inputs pertaining to SCADA & REMC. Suitable reply as per the discussions in the previous NETeST forums related to financial constraints, PSDF funding, communication issues, etc. in NER has been submitted to NLDC for subsequently submitting it to MoP for kind consideration.

***Members may please discuss.***

**A.3 Deployment of new Remote Terminal Units (RTUs) in selected substations of NER.**

On request of state-utilities related to RTUs, a draft DPR with technical specifications was prepared by NERLDC and submitted in 21<sup>st</sup> NETeST meeting which may be put up for PSDF funding after taking certain station-specific inputs from SLDCs. A total of 112 locations were identified by state-utilities for it with break-up as mentioned below.

- **Meghalaya:** 5 stations (incl. 2 spares).
- **Manipur:** 3 stations
- **Mizoram:** 14 stations
- **Arunachal Pradesh:** 15 stations.
- **Nagaland:** 42 stations.
- **Assam:** 33 stations.
- **Tripura:** Nil.

SLDCs were requested to provide inputs such as requirements of MDEM, OLTC Transducers, Analog/Digital Cards, Multifunction transducers, Time Synchronization Units, DC to Ac Convertors, etc. so that the quantity in BoQ can be finalized and budgetary quotation can be taken based on it. A template for populating these inputs was shared with SLDCs on 24<sup>th</sup> February 2022. All state-utilities are requested to populate the data in the shared template so that BoQ and Cost-Estimate can be prepared for the DPR.

An email dated 24/02/2022 was sent to all state utilities along with a template to fill the station-wise details required for RTUs. The template is attached as **Annexure-A.3.**

Further, it is requested from all state to fill up details in coordination with Station In-Charges.

***Members may please discuss.***

**A.4 Cyber Security aspects in SCADA/IT systems at Load Despatch Centres in North-Eastern region:**

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

A summary of the present status of each SLDC is attached in as **Annexure-A.4**.

**A.5 Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS):**

Please find the copy of Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS) approved by Ministry of Power for information and necessary action please. **Annexure A.5a** and **Annexure A.5b**.

***Members may please discuss.***

**A.6 Feasibility to connect Lekhi substation over Fiber-Optic network:**

In the 21<sup>st</sup> NETeST meeting, NERTS requested the forum to divert the material of 132kV Surjamani Nagar (TSECL) - Monarchak (NEEPCO) or 132kV Rokhia (GBPP) - Surjamani Nagar (TSECL) to Lekhi S/S, but NERPC informed that proposal may be kept on hold as NERPC will take up the matter with TSECL for completion of the above-mentioned links.

***NERTS may please intimate the status.***

**A.7 Feasibility to connect Sterlite owned OPGW with ULDC network:**

Under NER Strengthening scheme, Sterlite has constructed following lines along with OPGW:

1. 132 kV R C Nagar – PK Bari (TSECL) D/c: Will provide additional path between Agaratala and PK Bari
2. 400 kV Silchar – Misa D/c: Will provide additional link between south NER and North NER.
3. 132 kV BNC-Chimpu D/c: Will provide additional path between Arunachal Pradesh and rest of NER.
4. 132 kV PK Bari (TSECL) - PK Bari (IGT): Will provide secondary path for Indigrd Stations.

Feasibility to connect the above links with existing ULDC network may be explored.

In the 21<sup>st</sup> NETeST meeting, NERTS informed that after fibers are provided by M/s INDIGRID patching will be done at the terminal equipments. Subsequently the links can be integrated with NMS and the availability may be confirmed by NERLDC. The forum requested NERTS, M/s INDIGRID to take necessary action at the earliest.

***NERTS and Indigrid may update the status.***

**A.8 Establishment of second communication channel to telemeter data and voice from Indigrid stations to NERLDC Shillong.**

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

Indigrid needs to establish second communication channel on priority preferably on ULDC network.

***Indigrid may please discuss.***

**A.9 OPGW network planning for ISTS Drawal Points and NER states drawal point:**

It is desired that all the ISTS drawal points and states drawal point must be connected through OPGW. In this regard the requirement for installation OPGW in the missing link to connect all the drawal points to SLDCs and RLDCs needs to be deliberated.

***Members may please discuss.***

**A.10 Issues of SLDCs in SCADA AMC:**

1. State Estimator value of non-reporting RTUs in SLDCs

The following issues faced by Assam SLDCs in SCADA AMC.

2. Integration of SLL in the web server of SCADA: Looking from the cyber security prospective SSL certificate has been procured and forwarded the same to M/S GE T&D Ind. Ltd. for incorporation of the same in the web server. Though SLDC, AEGCL is continuously requesting to M/S GE T&D Ind. Ltd., the same is yet to be implemented.

3. Support to run EMS feature of SCADA: M/S GE T&D Ind. Ltd. Has configured the EMS functionalities with simulated data. Support needed from M/S GE T&D Ind. Ltd to Prepare Database and Run EMS.

4. The performance of battery bank of UPS-1 in SLDC was not found to be satisfactory during the last preventive maintenance of the UPS which was performed on 09/02/2022. Therefore, AEGCL requested GE to do the needful for replacement of the said battery bank looking at the importance of the matter as SCADA servers requires uninterrupted power supply.

***AEGCL & GE T&D may please intimate the status.***

**A.11 Provisioning of E1 interfacing to create secondary channel for carrier inter tripping for 400 KV Mirza- Silchar and 400 KV Mirza-Bongaigaon line:**

At present the protection coupler for carrier inter tripping for 400 KV Mirza- Silchar and 400 KV Mirza-Bongaigaon line runs only over PLCC and there is no provision for E1 interfacing to create secondary channel which is extremely necessary for reliability.

***AEGCL & NERTS may please intimate the status.***

**A.12 Request for 4Mbps Ethernet Link between Agia -Kahilipara:**

MePTCL request AEGCL for 4Mbps Ethernet Link between Agia -Kahilipara.

***MePTCL & AEGCL may please intimate the status.***

**B. I T E M S F O R S T A T U S**

**B.1 Status of FO works under different projects:**

Latest status of various FO Project in NER:

Project		No. of Links/Nodes	Status
Additional Communication Scheme		8	8 Pending
Reliable Communication Scheme		13+9	All links pending.
NER FO Expansion	Central Sector	16	12 Completed. 4 Pending
	Manipur	11	10 Completed. 1 Pending
	Meghalaya	4	3 Completed. 1 Pending
	Tripura	12	10 Completed. 2 Pending

The status of NER FO Expansion project as given in 21<sup>st</sup> NETeST meeting:

States	Current Status	Comments/ Issues
Central Sector	400kV Bongaigaon (PG) - 220kV Salakati - 220kV BTPS	Target date: <b>March, 2022.</b>
	400kV Mirza (Azara) – Byrnihat	
	400kV Silchar – Palatana	Stringing for 150 out of 204km completed. Target date is <b>January, 2022.</b>

	132kV Pare – Chimpu	Target date for completion of link is <b>February-2022.</b>
<b>Manipur</b>	132kV Imphal (State) – Karong	MSPCL informed that diversion work is not completed due to RoW issue in the line. MSPCL requested NERTS to lay the OPGW on the existing line and gave permission to carry out the work. Target date for completion of link is <b>March-2022.</b>
<b>Meghalaya</b>	132kV Nehu - Neigreims	Target: <b>December-2021.</b>
<b>Tripura</b>	132kV Rokhia - Surjamani Nagar	NERTS requested for short closure of the project as it cannot be delayed indefinitely. MS, NERPC requested NERTS to wait till March, 2022 for the construction of the line. It will be reviewed in the next NETeST meeting
	132kV Surjamani Nagar - Monarchak (NEEPCO)	

**Members may please discuss.**

**B.2 Status and details of Fiber Optic projects approved in 17th TCC/RPC meeting:**

Status as per 21<sup>st</sup> NETeST meeting

a) **Additional Communication Scheme:**

SN	Lines	Target Date	OPGW Stringing	Equipment Installation
1	132 kV Silchar - Hailakandi (Part of line)	December, 2021.	Under progress	Material Delivered
2	132 kV Roing - Pasighat	December, 2021.		Material Delivered
3	132 kV Roing - Tezu	December, 2021.		Material Delivered
4	132 kV Tezu - Namsai	December, 2021.		Material Delivered
5	132 kV Tuirial - Kolasib	December, 2021.		Material Delivered
6	400 kV Balipara - Kameng	December, 2021.	Completed	Installed. DC supply Pending.
7	400 kV Bongaigoan - Killing (Brynihat)	December, 2021.		Material Delivered
8	400 kV Silchar - Killing (Brynihat)	December, 2021.		Material Delivered

Detailed status is attached in **Annexure B.2a.**

- b) **Reliable Communication Scheme:** POWERGRID-NERTS has informed that there is total twenty-two (13+9) links which are coming under this project and status is attached in **Annexure – B.2b**. Members requested that few additional links be included in the Scheme viz. 132kV Longlak-Mokokchung, 132kV Umiam Stg-III to Umiam Stg-IV, 132kV Khliehriat –Mustem and two other lines

NERTS agreed to the same.

***NERTS may please intimate the status.***

### **B.3 Status of implementation of U-NMS in NER:**

In the 21<sup>st</sup> NETeST meeting, NERTS informed the forum that the package has been awarded to M/s Sterlite Technologies Ltd on 09/08/2021. Technical Documents is under approval. Party has completed survey in (7/7) SLDC's and at NERTS, Shillong and Guwahati.

AGM, AEGCL raised the query that whether the existing state communication network and upcoming network having NMS will be integrated with the UNMS.

Sr. GM, NERTS informed the forum that the Scope of the project included integration of existing and new NMS during the implementation and AMC Period.

***NERTS may please intimate the latest status.***

### **B.4 Status of URTDSM**

The status on various issues related to URTDSM and other PMU related matters needs to be updated to the forum as listed below:

**ASSAM:** Assam requested NERTS to send GE team to rectify as link is ok but data is not reporting correctly. NERTS agreed to send GE T&D team to investigate the issue.

**NERTS :** NERTS informed that Analytical application software under URTDSM has been upgraded with new features along with installation of 6<sup>th</sup> module at all RLDCS, NLDC & Backup NLDC.

***AEGCL and NERTS may please intimate the latest status.***

### **B.5 Automatic Generation Control (AGC) in Indian Grid:**

NERLDC informed the forum that as per the CERC order on AGC, all the ISTS stations need to get connected with NLDC for receiving AGC signals. The status is as follows:

<b>Sl. No.</b>	<b>Station Name</b>	<b>Status as in 21<sup>st</sup> NETeST</b>
1.	BgTPP (Unit #2)	Letter of Award has been issued to M/s Siemens but material is yet to be delivered at site.
2.	AGBPP	NEEPCO informed the forum that OEM (Joint-Venture of GE and BHEL) has quoted very huge amount for necessary modifications in the plant's controllers. Thus, NEEPCO is planning for

		negotiation with OEM and will be able to update in next NETeST meeting regarding it.
3.	Kopili	NEEPCO may update the status
4.	Kopili II	NEEPCO may update the status
5.	Doyang	NEEPCO may update the status
6.	Khandong	NEEPCO may update the status

**All Constituents may please intimate the status.**

**B.6 Status of RGMO to the Load Dispatch Centers:**

The status is as follows:

	Station Name	RGMO / FGMO Status
1.	<b>Khandong (2 units)</b>	Completed.
2.	<b>Kopili Extension (1 unit)</b>	Target date: <b>March, 2021.</b>
3.	<b>Ranganadi (3 units)</b>	GE to visit for site-survey so that target date can be finalized.
4.	<b>DHEP</b>	Letter of Award has been placed but OEM is not able to visit site due to COVID-19 pandemic situations.
6.	<b>OTPC (4 units)</b>	Target date: <b>October, 2021.</b> (Delay due to COVID-19)
7.	<b>BgTPP (3 units)</b>	Completed.

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

**Members may please discuss.**

**B.7 Project status of NERPSIP and Arunachal Pradesh Comprehensive Scheme being implemented by PGCIL.**

POWERGRID is implementing two numbers of projects namely:

**a. Northeastern Region Power System Improvement Project (NERPSIP)** for Six (6) States (Assam, Manipur, Meghalaya, Mizoram, Tripura, and Nagaland) for strengthening of the Intra-State Transmission and Distribution Systems. Detailed status is given in **Annexure B.7a**

The status of OPGW in existing line is as follows:

SN	Lines	OPGW Stringing	Equipment Installation	Target	SLDC
1	220kV Sonabil-Balipara	Completed	Pending	January, 2022.	ASSAM
2	132kV Rangia-Rowta			March, 2022	
3	132kV Rupai-Tinsukia			March, 2022	

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4	132kV Dhemaji-N. Lakhimpur	Completed	Pending	January, 2022.		
5	132kV N. Lakhimpur-Gohpur	Completed	Pending	January, 2022.		
6	132kV Bokajan-Golaghat			March, 2022		
7	132kV Golaghat-Mariani			March, 2022		
8	132kV Mariani-Jorhat			March, 2022		
9	132kV Jorhat-Nazira			March, 2022		
10	132kV Sankardev Nagar-Samaguri	Under progress		March, 2022		
11	LILO of 132 kV Rangia-Kahilipara at Kamakhya			March, 2022		
12	LILO of 132 kV Rangia-Kahilipara at Kamalpur			March, 2022		
13	132 kV Ampati- Rongkhon	Completed	Pending	January, 2022		MEGHALAYA
14	132 kV Rongkhon-Nangalbira	Completed	Pending	February, 2022		
15	132 kV Nangalbira-Nongstoin			March, 2022		
16	132 kV Nongstoin-Mawngap			March, 2022		
17	132 kV Mawngap-Sumer Stage-I			March, 2022		
18	132 kV Shillong (Mawlai)-NEHU (WB)			March, 2022		
19	132kV Mawngap-Shillong (Mawlai)			March, 2022		
20	Rengpang - Jiribam	Completed	Pending	January, 2022	MANIPUR	
21	Churachandpur - Thanlon			March, 2022		
22	Thoubal - Moreh			March, 2022		
23	Elangkhangpokpi LILO ( in Churachandpur - Kakching TL)			March, 2022		
24	Tipaimukh LILO (Jiribam PG-Aizwal PG)			March, 2022		
25	132 kV W. Phaileng-Zembawak			March, 2022	MIZORAM	
26	132 kV Lunglei-Lungen			March, 2022		
27	132kV Zunagtui - Saitul			March, 2022		
28	132kV Saitul - Khawzawl			March, 2022		
29	66 kV Mokochung-Tuensung	Completed	Pending	January, 2022	NAGALAND	
30	132 kV Meluri (Khipire)-Kohima (WB)	Completed	Pending	January, 2022		
31	132 kV PK Bari-Kailashar	Completed	Pending	January, 2022	TRIPURA	
32	132 kV PK Bari-Kamalpur	Completed	Pending	January, 2022		
33	132 kV Kamalpur-Dhalabil	Completed	Pending	January, 2022		
34	132 kV Rabindranagar-Monarchak	Completed	Pending	January, 2022		
35	132 kV PK Bari-Ambasa	Completed	Pending	January, 2022		
36	LILO of 132 kV Agartala-Teliamura at Baramura	Completed	Pending	January, 2022		
37	132kV 79 Tilla Agartala - Rokhia			March, 2022		
38	132kV PK Bari - Mission Tilla			March, 2022		
39	132kV PK Bari - Kumarghat (PG)			March, 2022		

With reference to CEA (Technical standards for Communication system in Power System Operation) Regulation, 2020, in the special meeting with NERPSIP in December, 2021 the following points were decided:

1. State utilities to confirm the fulfillment of scalability to cater to the future requirements viz AMR.. with joint FAT
2. Immediate installation of end equipments and integration with NMS. Existing links also to be integrated in NMS.
3. Demonstration of data reporting to sLDCs for OPGW over existing lines by Feb, 22.
4. Completion of all links by March, 22.

**b. Comprehensive Scheme for strengthening of Transmission & Distribution in Arunachal Pradesh**

Detailed status is given in **Annexure B.7b**.

The status of OPGW in existing line is as follows:

SN	Lines	Target	OPGW Stringing	Equipment Installation
<b>ARUNACHAL PRADESH</b>				
1	220kV Tinsukia-Kathalguri		Completed	Pending
2	220kV Kathalguri-Deomali		Completed	Pending
3	132kV Along-Pasighat old	Dec'22	Yet to start	
4	132kV Daporijo-Along	Dec'22	Yet to start	
5	132kV Ziro-Daporijo	Dec'22	Yet to start	
6	132kV Balipara-Nechipu	Dec'22	Completed	Pending
7	132kV Khupi-Nechipu	Dec'22	Under progress	

In continuation of the special meeting with Comprehensive Scheme for strengthening of Transmission & Distribution in Arunachal Pradesh in January, 2022 the following points are proposed:

1. For the existing lines at Daporizo, Along, Pasighat, Nechipu, Khupi, Deomali stations are having RTUs. Integration and re-prting of the above stations over FO to be done by March, 22.
2. FAT by Febuary, 22 in presence of DoP, AP.
3. All installation to be completed by march, 22.
4. NERTS has applied for stringing of OPGW on 132kV Pasighat-Roing, 132kV Roing-Tezu, 132kV Tezu-Namsai from 01.03.2022 to 31.03.2022. In the meeting on 18.02.2022 it was agreed by PGCIL Comprehensive team to immediately apply for matching with other lines in the corridor.

***NERTS may please intimate the status.***

**B.8 Status of Connectivity of OPGW from 132kV Badarpur Kumarghat LILO point to Karimganj Substation.**

In the MoM of 19<sup>th</sup> NETeST it was decided that under the scope of AEGCL OPGW laying LILO point to Karimgaj along with necessary SDH and Drop Insert Mux. for OPGW

communication was required. This is an important ULDC link and data via PLCC from Karimganj is not reliable.

***AEGCL may please intimate the status.***

**B.9 Selected cases of sub-stations for rectification of corresponding data/communication related issues:**

Utility	Station	Latest Status/ Issues
NEEPCO	Ranganadi-2 <sup>nd</sup> channel	It was decided that second channel for Ranganadi will be provided once 132kV Pare-Chimpu Fiber-Optic link is completed. Also Unit side (LV of GT) data needs to telemetered from site.
NEEPCO	Doyang	NERLDC submitted to forum that CT upgradation and corresponding changes in RTU should have been carried out simultaneously. Also Unit side (LV of GT) data needs to telemetered from site.  NEEPCO informed that LOA for correction of RTU and MFTs database has been placed but OEM is not able to visit due to COVID-19 pandemic situations.
OTPC	Palatana	Unit side (LV of GT) data needs to be telemetered. Was to be done in sync with RGMO/FGMO target deadline of April 2022.

***NEEPCO and OTPC may please intimate the status.***

**B.10 VSAT For Roing Tezu Namsai:**

The present status of data availability from above mentioned stations is stated in table below.

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

***NERTS may please intimate the status.***

**B.11 Status of RTUs reporting in NER:**

The latest status is as follows:

Central Sector	No. of RTUs Installed	RTUs Reporting		State Estimator value of non Reporting RTUs	Comments/ Non reporting RTUs
		No.	%		
<b>NEEPCO</b>	7	7	100%		
<b>NHPC</b>	1	1	100%		
<b>NTPC</b>	1	1	100%		
<b>OTPC</b>	1	1	100%		
<b>PGCIL</b>	23	23	100%		
<b>KMTL</b>	1	1	100%		
<b>INDIGRID</b>	2	2	100%		
<b>State Sector</b>					
<b>Arunachal Pradesh</b>	9	2	22.2%	Highly Inaccurate	Along, Daporijo, Deomali, Khupi, Lekhi, Pasighat, Dikshi.
<b>Assam</b>	70	55	78.6%	Highly Inaccurate	Agia, Bordubi, Ghoramari, Gauripur, Haflong, Hailakandi North lakhimpur, Khaloigaon, Majuli, Margherita, Sonabil, Sonari, Srikona, Teok Umrangshu.
<b>Manipur</b>	13	11	84.6%	Highly Inaccurate	Hundung, Tipaimukh
<b>Mizoram</b>	5	3	60%	Highly Inaccurate	Lungmual, Sihhmui,
<b>Meghalaya</b>	26	24	92.3%	Highly Inaccurate	Cherapunjee, Mawngap
<b>Nagaland</b>	13	4	30.8%	Highly Inaccurate	Ganesh nagar, Kiphire Lhep, Meluri, Mon, Nagnimora, Power house, Tizit, Tuensang.
<b>Tripura</b>	17	6	35.3%	Highly Inaccurate	Amarpur (amarp_te) Ambassa (ambas_te) Badharghat (badha_te) Belonia (belon_te) Boxanagar (boxan_te) Budhjungnagar

					(budhj_te) Dhalabill (dhala_te) Gamaitila (gamai_te) Gournagar (gourn_te) Sabroom (sabro_te) Satchand
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**Members may please discuss.**

**B.12 Non Reporting RTUs of State Utilities of NER (which are installed):**

The presentation on telemetry status for the month of February-2022 is attached as **Annexure-B.12**.

The utility-wise discussion is tabulated below:

SN	Utility	Stations Not Reporting	Latest Status/ Issues
1	<b>Assam</b>	SAS upgradation	AEGCL informed that the project is expected to be completed by September 2022.
2	<b>Tripura</b>	Dhalabil,	TSECL representative was not present in the meeting.
		Ambassa	
		Sabroom, Satchand	
		13 station not covered by NERFO expansion project	
3	<b>Meghalaya</b>	Procurement of DI card from PSDF.	MePTCL informed the forum that it is waiting for reply form PSDF committee for approval.
4	<b>Manipur</b>	Churachandpur, Kongba and Kakching	MSPCL will place LoA to M/s GE T&D to integrate the new bays in the existing RTUs.
6	<b>Mizoram</b>	Zuangtui	FO link has been completed, however RTU data is reporting partially.
		Luangmual	PE&D, Mizoram will look into the matter for restoration of GPRS connectivity.
		Kolasib	RTU is reporting partially.
6	<b>Ar. Pradesh</b>	VSAT installation	DoP, Arunachal Pradesh will take up the matter with OEM to expedite the project within a month.

**Members may please discuss.**

**B.13 Wrong status of Isolators and CB status at 132 kV SM Nagar S/s:**

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

Sl. No.	Name of the bay	Status
1.	Comilla Bay - 1	Line Isolator status is wrong.
2.	Comilla Bay - 2	Line Isolator status is wrong.
3.	Palatana Line	Line Isolator status is wrong.
4.	Bus Coupler	CB and Isolator status is reporting wrong value.
5.	SM Nagar (Indigrid) Line	CB and Isolator status is reporting wrong value.
6.	BJ Nagar Line	CB and Isolator status is reporting wrong value.
7.	Agartala Line-1	CB and Isolator status is reporting wrong value.
8.	Agartala Line-2	CB and Isolator status is reporting wrong value.
9.	132/33 kV ICT - 1	CB and Isolator status is not reporting.
10.	132/33 kV ICT - 1	CB and Isolator status is not reporting.

***TSECL and NERTS may update the status.***

**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 summarised in the table given below:

Sl. No.	Name of Generating Station	Status of Telemetry data
1.	LRPP (Lakwa Replacement Power Project)	<ul style="list-style-type: none"> <li>• All digital data are reporting wrong.</li> <li>• 132/11 ICT 1 and 2 LV side data re not reporting.</li> <li>• Unit 2 data is not reporting.</li> </ul>
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>
3.	NRPP (Namrup Replacement Power Project)	All digital and analog data are reporting.
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 if Unit 6 is not reporting.</li> </ul>
5.	Langi 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>

***APGCL may please intimate the status.***

**B.15 Integration of Dikshi HEP real time data and pending Voice communication:**

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

***DoP, AP and M/s Devi Energies Pvt. may please intimate the status.***

**Any other item:**

**Date and Venue of next NETeST:**

It is proposed to hold the 23<sup>rd</sup> NETeST meeting of NERPC on second week of June 2022. The date & exact venue will be intimated in due course.

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## CYBER SECURITY MEASURES IMPLEMENTATION STATUS FOR NER SLDCs (AS ON 10.02.22)

SN	Cyber Security Measures	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
1	Preparation and approval of Cyber Crisis Management Plan (CCMP) for SLDCs	Draft CCMP submitted to CERT-GO on 20.07.21. Revised CCMP after incorporation of comments from CERT-GO and based on new template is under process.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.	Final CCMP approved by CERT-In with comments for incorporation.
2	Implementation status of Information Security Management System (ISMS) i.e., ISO 27001 and certification audit for ISO-27001	Under Process	Tender has been floated and tender evaluation is under process.	LOA issued to CDAC, Hyderabad on 3rd Nov'21 for Implementation of ISMS (ISO-27001). Work is going on for implementation of ISMS	LOA issued to Prime Infoserv for ISO-27001 (ISMS) certification. Compliance procedures in progress.	Budgetary offers from various CERT-IN empanelled vendors have been received and are being processed for approval of Management.	Approval received for award of contract to M/s AKS (against quotations received from 3 vendors). But kept on hold at present due to issues with finalization of source of funding.	Offer received from CDAC, Kolkata for ISMS and VAPT combined; which is in the process of approval by Management.
3	Status of VA-PT on OT systems	Done for FY 20-21.	Done for FY 20-21 as part of the AMC of SCADA/EMS project awarded to M/s GE T&D India Ltd. SLDC will be going for ISMS and VA-PT jointly for AEGCL. VA-PT of SCADA for the FY 21-22 has been done during 11/01/2022 - 17/01/2022. Final report of the VA-Pt is yet to be submitted by M/S GE T&D India Ltd.	Phase -1 of VAPT Audit for IT and OT systems of SLDC, Manipur was conducted by CDAC-Hyderabad from 21.12.2021 to 24.12.2021. Phase-1 of VAPT for OT systems of SLDC by ASK Technology Services (part of GE Scada) from 12-15 Jan 2022	Cyber Audit by GE to be conducted after NERLDC visit on 18.01.2022. Phase -1 of Cyber Security Audit by C-DAC between February and March 2022.	Done once for FY-21-22	Done for FY 20-21.	Done once for FY-21-22
i	Date of Last VA-PT (OT):	Done on 13th, 15th & 16th March, 2021	Last VAPT was conducted during 11/01/2022- 17/01/2022.	Audit by CDAC-Hyderabad on 21, 22,23 Dec 2021 Audit by ASK Services, Noida on 12-15 Jan 2022	Done on 10th March 2021	3rd April 2021	Done on 18th -22nd March 2021.	7th April 2021
iii	Due date for Next Audit / Plan for next audit within 6 months	08.09.2021		20.09.2021/ Contacted C-DAC	30.09.2021	30.09.2021	17.09.2021	04.10.2021

SN	Cyber Security Measures	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
4	Status of VA-PT on IT systems	Under Process	Tender has been floated and tender evaluation is under process.	Phase -1 of Cyber Security Audit for IT systems of SLDC, Manipur was conducted from 21.12.2021 to 24.12.2021 by CDAC-Hyderabad.	LOA issued to CDAC. Phase -1 of Cyber Security Audit by C-DAC between February and March 2022.	Budgetary offers from various CERT-IN empanelled vendors have been received and are being processed for approval of Management.	Approval received for award of contract to M/s AKS (against quotations received from 3 vendors). But kept on hold at present due to issues with finalization of source of funding.	Offer received from CDAC, Kolkata for ISMS and VAPT combined; which is in the process of approval by Management.
5	Notification of IT & OT systems at SLDCs as Critical Information Infrastructure (CII)	Not done yet.	STU, AEGCL has already sent template for CII in December, 2020 considering SLDC, SCADA system. However, a separate draft template for CII was prepared considering only the CIIs present at SLDC. Preliminary CII Identification and Assessment Report was submitted to NCIIPC at email id <coord.power@nciipc.gov.in> on 25/06/2021. (Copy of forwarding letter received). Latest review meeting with East Zone held on 23/08/21. No pending submission. Approval awaited. <b>A meeting was held with Dir. EZ, NCIIPC on 30/12/2021, in which a consolidated template for CII Assessment of SLDC and AEGCL was provided. Modifications to the same has been incorporated as per organizational requirement and forwarded to Dir. EZ, NCIIPC on</b>	CII documents submitted to NCIIPC on 18/08/21. 1st review meeting with East Zone was held on 24.08.21. Modified assessment report after incorporating Review comments along with Part-II document is yet to be submitted.	Identified Systems of SLDC, Meghalaya have been declared as CII by NCIIPC. Notification of CII as Protected Systems shall be issued by State Govt.	CII documents submitted to NCIIPC for review on 09.11.21 email id coord.power@nciipc.gov.in. Email forwarded to us for record.	Identified Systems of SLDC, Nagaland have been declared as CII by NCIIPC. Notification of CII as Protected Systems shall be issued by State Govt.	CII is already identified and sent to advisory@nciipc.gov.in on 6th April 2021 (29 nos of Windows Servers and 3 Nos of Linux Servers). 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.
	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

SN	Cyber Security Measures	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
iii	Compliance of advisories from Cyber Swachhta Kendra (CSK)	Being Resolved. Clarification sent to CERT-In; but alerts are being received again.	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.	Alerts are being received.
7	Status of Nomination of CISO:	Done	Done	Done	Done	Done	Done	Existing for TS

No. 15/3/2017-Trans-Pt(1)  
Government of India  
Ministry of Power  
Shram Shakti Bhawan, Rafi Marg, New Delhi- 110001

Dated, 09<sup>th</sup> March, 2022

To

1. Chairperson, Central Electricity Authority, Sewa Bhawan, RK Puram, New Delhi.
2. CMD, POWERGRID Corporation of India Ltd, Gurugram
3. Chief Operating Officer, Central Transmission Utility of India Ltd, Gurugram
4. Member Secretaries of all Regional Power Committees
5. Chief Executive Officer, REC Power Development and Consultancy Ltd, Gurugram
6. Chief Executive Officer, PFC Consulting Ltd, New Delhi
7. Chief Engineer, LD&T, Central Electricity Authority, New Delhi

**Subject: Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS)- reg..**

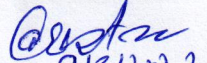
Sir,

I am directed to enclose herewith the Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS) approved by Ministry of Power for information and necessary action please.

2. This issues with the approval of the competent authority.

Encl: As stated

Yours faithfully,

  
9/3/22  
(Bihari Lal)

Under Secretary (Trans)  
Tele Fax: 011-23325242  
E-mail: transdesk-mop@nic.in

**Copy to:**

- 1) Sr PS to Secretary (Power)/ Joint Secretary (Transmission), Ministry of Power
- 2) Technical Director, NIC, MoP- for uploading in MoP website.

# **Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS)**

## **1. Introduction**

In order to achieve safe, secure, stable and reliable operation of the grid as well as its economical and integrated operation, communication system plays a critical role. The communication system may be treated as an integral part of the transmission system. Therefore, it is imperative to carry out the planning for Communication System in Power Sector.

For planning, and coordination for development of communication system for inter-State transmission system, Central Transmission Utility is designated as the nodal agency.

Ministry of Power has formulated this guidelines named as “Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS)”. This guidelines defines the categories of Communication System Schemes for ISTS and their corresponding approval procedure.

## **2. Objective**

Considering the critical role of Communication System in ISTS, a separate guidelines for its planning is essential. This guideline on Planning of Communication System for Inter-State Transmission System (ISTS) is being formulated with the objective to help in efficient, coordinated, smooth, economical and uniform planning of Communication System for ISTS.

## **3. Applicability**

- i. This guideline shall come into force from the date of its issuance by the Ministry of Power.
- ii. The guidelines shall be applicable for communication system for ISTS only.

#### **4. Categorization of Communication Schemes/Packages**

Communication Schemes/Packages under this policy are categorized as Category (A) and Category (B). The description of categories is as under:-

**Category (A):** Communication system directly associated with new ISTS as well as incidental due to implementation of new ISTS elements (e.g. LILO of existing line on new/existing S/s where OPGW/terminal equipment are not available on the existing main line/substations etc.)

**Category (B):** Upgradation/modification of existing ISTS Communication system pertaining to following:

- Missing Links
- Redundancy/ System Strengthening
- Capacity upgradation (Terminal equipment)
- Completion of life of existing communication system elements
- Other standalone project e.g. Cyber Security, Unified Network Management System (UNMS)
- Adoption of New Communication Technologies

#### **5. Procedure for approval of Communication Schemes/Packages**

**Category (A):** As planning of ISTS Communication System is an integral part of planning of new Inter-State Transmission System, the requirement for communication system linked with new ISTS shall be included in new ISTS package and combined proposal shall be approved as per the directions contained in MoP office order dated 28.10.2021 regarding Re-constitution of the "National Committee on Transmission" (NCT).

Further, Communication requirements which are incidental due to implementation of new ISTS elements (e.g. LILO of existing line on new/existing S/s where OPGW/Terminal Equipment are not available on the existing main line/substations etc.) are also to be approved alongwith that of respective transmission system package.

**Category (B):**

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

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

**6.** Communication system shall be planned in accordance with Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, Manual of Communication System Planning in Power System Operation published by Central Electricity Authority and other relevant regulations/guidelines/orders/policies issued by Government of India for development of reliable communication system for the power system.

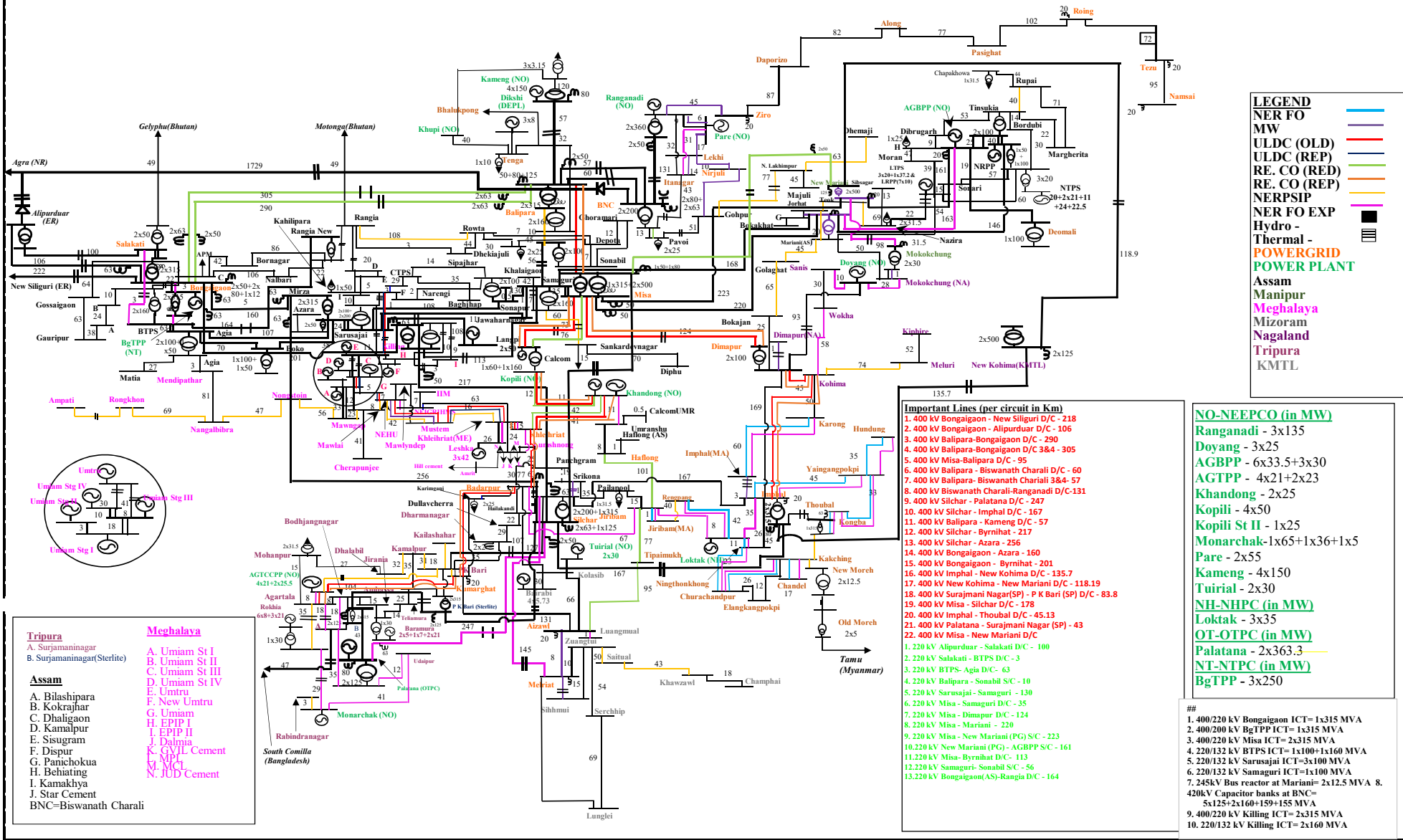
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Sl. No.	Name of the link	Length of OPGW	Status as in 17th RPC/TCC	Status as in 18th RPC/TCC	Status in 18th NETeST Meeting	Status in 19th NETeST Meeting	Status as in 21st NETeST Meeting	
							OPGW Status	End Equipment Status
1	132 kV Silchar - Hailakandi (Part of line)	17 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	Stringing work is under progress.	Work under progress
2	132 kV Roing – Pasighat	103 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	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.
3	132 kV Roing – Tezu	73 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	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.
4	132 kV Tezu – Namsai	96 KM	NA	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	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.
5	132 kV Tuirial – Kolasib	70 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	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.
6	400 kV Balipara – Kameng	75 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	Completed.	SDH/PDH installed but DCPS (DC Power Supply) is yet to deliver.
7	400 kV Bongaigoan – Killing (Brynihat)	200 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	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.
8	400 kV Silchar – Killing (Brynihat)	217 KM	Approved	Approved	Supply of material hampered due to COVID19	Material yet to reach site. <b>Target date: December'21</b>	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.

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

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

# Single Line Diagram (Communication) of North Eastern Region



**LEGEND**

- NER FO
- MW
- ULDC (OLD)
- ULDC (REP)
- RE. CO (RED)
- RE. CO (REP)
- NERPSIP
- NER FO EXP
- Hydro -
- Thermal -
- POWERGRID
- POWER PLANT
- Assam
- Manipur
- Meghalaya
- Mizoram
- Nagaland
- Tripura
- KMTL

- Important Lines (per circuit in Km)**
1. 400 kV Bongaigaon - New Siliguri D/C - 218
  2. 400 kV Bongaigaon - Alipurdar D/C - 106
  3. 400 kV Balipara-Bongaigaon D/C - 290
  4. 400 kV Balipara-Bongaigaon D/C 3&4 - 305
  5. 400 kV Misa-Balipara D/C - 95
  6. 400 kV Balipara - Biswanath Charali D/C - 60
  7. 400 kV Balipara - Biswanath Charali 3&4 - 57
  8. 400 kV Biswanath Charali-Ranganadi D/C-131
  9. 400 kV Silchar - Palatana D/C - 247
  10. 400 kV Silchar - Imphal D/C - 167
  11. 400 kV Balipara - Kameng D/C - 57
  12. 400 kV Silchar - Byrnhat - 217
  13. 400 kV Silchar - Azara - 256
  14. 400 kV Bongaigaon - Azara - 160
  15. 400 kV Bongaigaon - Byrnhat - 201
  16. 400 kV Imphal - New Kohima D/C - 135.7
  17. 400 kV New Kohima - New Mariani D/C - 118.19
  18. 400 kV Surajmani Nagar (SP) - P K Bari (SP) D/C - 83.8
  19. 400 kV Misa - Silchar D/C - 178
  20. 400 kV Imphal - Thoubal D/C - 45.13
  21. 400 kV Palatana - Surajmani Nagar (SP) - 43
  22. 400 kV Misa - New Mariani D/C
  23. 220 kV Alipurdar - Salakati D/C - 100
  24. 220 kV Salakati - BTPS D/C - 3
  25. 220 kV BTPS - Agia D/C - 63
  26. 220 kV Balipara - Sonabil S/C - 10
  27. 220 kV Sarusajai - Samaguri - 130
  28. 220 kV Misa - Samaguri D/C - 35
  29. 220 kV Misa - Dimapur D/C - 124
  30. 220 kV Misa - Mariani - 220
  31. 220 kV Misa - New Mariani (PG) S/C - 223
  32. 220 kV New Mariani (PG) - AGBPP S/C - 161
  33. 11/220 kV Misa - Byrnhat D/C - 113
  34. 12/220 kV Samaguri - Sonabil S/C - 56
  35. 12/220 kV Samaguri - Sonabil S/C - 56
  36. 12/220 kV Bongaigaon (AS) - Rangia D/C - 164

- NO-NEEPCO (in MW)**
- Ranganadi - 3x135
  - Doyang - 3x25
  - AGBPP - 6x33.5+3x30
  - AGTTP - 4x21+2x23
  - Khandong - 2x25
  - Kopili - 4x50
  - Kopili St II - 1x25
  - Monarchak-1x65+1x36+1x5
  - Pare - 2x55
  - Kameng - 4x150
  - Tuirial - 2x30
- NH-NHEPC (in MW)**
- Loktak - 3x35
- OT-OTPC (in MW)**
- Palatana - 2x363.3
- NT-NTPC (in MW)**
- BgTTP - 3x250

- Tripura**
- A. Surjamaninagar
  - B. Surjamaninagar (Sterilite)
- Assam**
- A. Bilashipara
  - B. Kokrajhar
  - C. Dhalgaon
  - D. Kamalpur
  - E. Sisugram
  - F. Panichokua
  - H. Behating
  - I. Kamakhya
  - J. Star Cement
  - BNC=Biswanath Charali
- Meghalaya**
- A. Umiam St I
  - B. Umiam St II
  - C. Umiam St III
  - D. Umiam St IV
  - E. Umtru
  - F. New Umtru
  - G. Umiam
  - H. EPIP I
  - I. EPIP II
  - J. Dalmia
  - K. GVL Cement
  - L. MPTL
  - N. JUD Cement

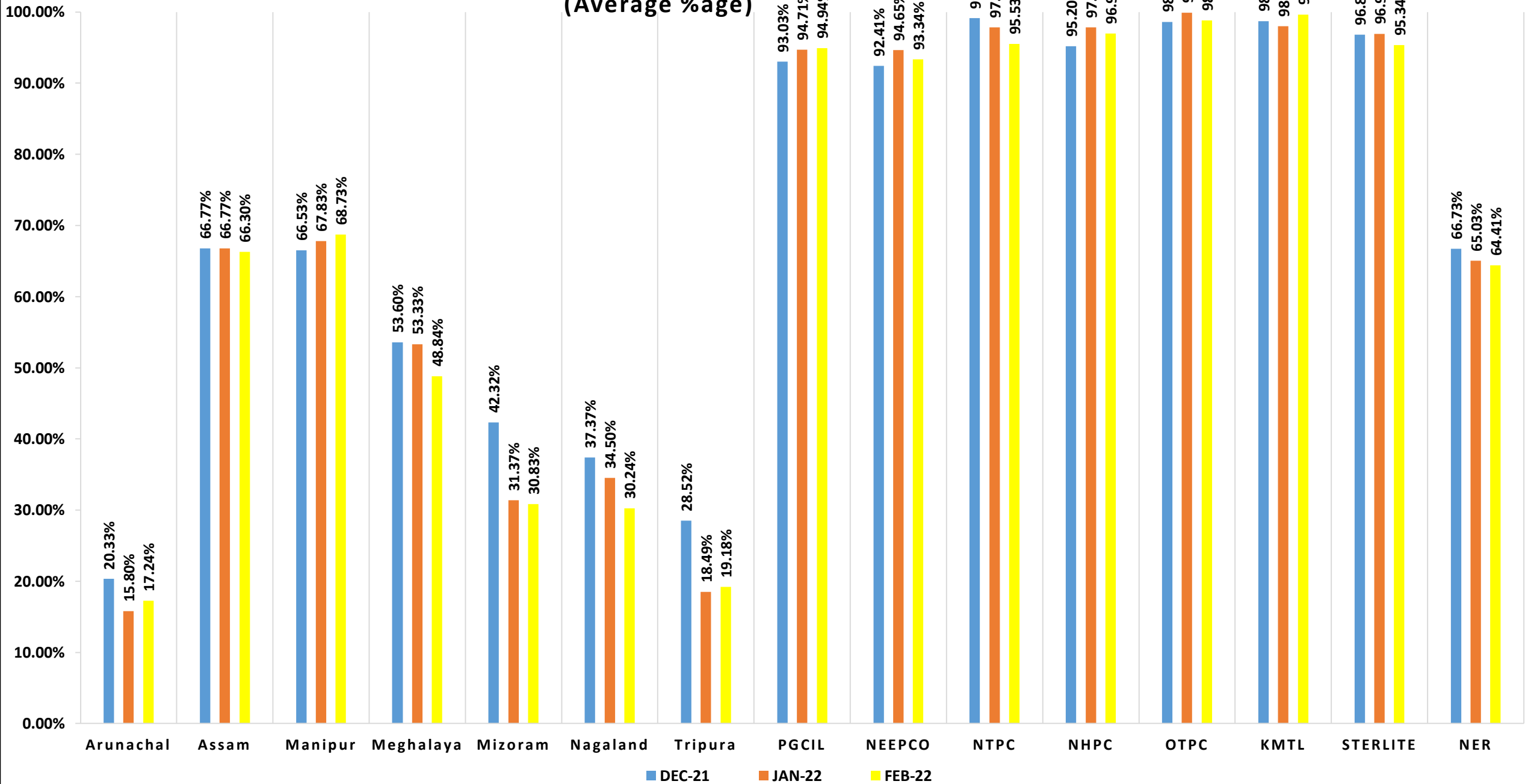
- ##**
1. 400/220 kV Bongaigaon ICT= 1x315 MVA
  2. 400/200 kV BgTTP ICT= 1x315 MVA
  3. 400/220 kV Misa ICT= 2x315 MVA
  4. 220/132 kV BTPS ICT= 1x100+1x160 MVA
  5. 220/132 kV Sarusajai ICT=3x100 MVA
  6. 220/132 kV Samaguri ICT=1x100 MVA
  7. 245kV Bus reactor at Mariani= 2x12.5 MVA 8.
  - 420kV Capacitor banks at BNC= 5x125+2x160+159+155 MVA
  9. 400/220 kV Killing ICT= 2x315 MVA
  10. 220/132 kV Killing ICT= 2x160 MVA

Status of OPGW Installation in 220/132kV EHV lines under Comp. T & D Scheme in Arunachal Pradesh												
No of Packages	Pkg Name	Agency	Name of Line	NOA DATE	Target date of Completion	Line Length (KM)	Total Tower Location	No of Foundations	No of Tower Erection	Kcm of Stringing	OPGW INSTALLATION WORKK	
1	ARP-SS-1B	M/s Tata Project	132/33kV Ziro (PG)-Ziro(New)	28.02.2018	Dec'22	12.29	42	0	0	0	Yet to start	
2			LILO 132/33 kV Daporijo-Along at Basar		March,22	2.5	12	11	10	0	Yet to start	
3	TW-01	M/s. Angeliq International Ltd	132kV Likabali-Niglok TL	18.05.2017	March,22	66.052	226	67	36		Yet to start	
4	TW-02	M/s. Angeliq International Ltd	132kV S/C Pasighat (old) - Mariang	18.05.2017	Dec'22	51.36	185	9	4		Yet to start	
5	TW-03	M/s. Angeliq International Ltd	132kV S/C Niglok- Pasighat New	05.06.2017	March,22	20.49	72	68	58		Yet to start	
6			132kV S/C Pasighat New (Napit) – Pasighat old		March,22	13.149	46	30	9		Yet to start	
7	TW-05	M/s. PLR Project Ltd	132kV Seppa - Rilo Line (56 Kms.)	11.09.2017	Dec'22	45.685	130	0	0		Yet to start	
8	TW-06	M/s Mohan Energy Ltd	132kV Rilo to Sejjosa Line (60 Kms.)	31.03.2017	Dec'22	44.015	176				Yet to start	
9	TW-08	M/s Vishal System Pvt Ltd	132kV Sagali -Naharlagun S/C Line on D/C Towers	15.06.2017	Dec'22	32.95	106	0	0	0	Yet to start	
10	TW-09	M/s Kec International ltd	132kV Chimpu to Holongi line	18.05.2017	Dec'22	14.712	57	0	0	0	Yet to start	
11			132kV Naharlagun- Banderdewa		Dec'22	14.951	32	0	0	0	Yet to start	
12	TW-10	M/s KEC International Ltd	132kV Rilo – Sagalee	18.05.2017	Dec'22	33.165	141	0	0	0	Yet to start	
13	TW-11	M/s. PLR Project Ltd	132 kV Gerukamukh-Likabali TL	21.09.2017	Dec'22	52.274	178	12	0	0	Yet to start	
14	TW-12	M/s JV of AsterTamachi	132kV Naharlagun-Gerukamukh	21.09.2017	Dec'22	85.35	305				Yet to start	
15	TW-13	M/s Tata projects Limited	132kV S/C on D/C Ziro-Palin	22.05.2021	March,23	43	99	0	0	0	Yet to start	
16			132kV S/C on D/C Palin-koloriang		March,23	34	91	0	0	0	Yet to start	
17			132kV S/C on D/C Daporijo-Nacho		March,23	70	1234	0	0	0	Yet to start	
18	TW-19	M/s Hi-tech & Aster	Jairampur - Miao (132KV S/C Line)	23.10.2017	Dec'22	34.26	121	0	0	0	Yet to start	
19	TW-21	Unitech Power Transmission Ltd	132kV S/C on D/C Roing-Dambuk	22.05.2021	March,23	35.95		0	0	0	Yet to start	
20			132kV S/C on D/C Roing-Anini		March,23	78		0	0	0	Yet to start	
21			132kV S/C on D/C Tezu-Haliapani		March,23	92		0	0	0	Yet to start	
22	TW-24	KEC international limited	132 KV S/C Khupi - Seppa	28.09.2018	Dec'22	29.591	147	0	0	0	Yet to start	
23			132 KV Seppa-Bameng		Dec'22	48.46	118	0	0	0	Yet to start	
24			132 KV Tawang - Lumla		Dec'22	26.73	99	0	0	0	Yet to start	
25	TW-26	M/s Larsen & Toubro Limited.	132kV S/C on D/C Along-Kambang	01.04.2021	Oct'23	35.37	152	0	0	0	Yet to start	
26			132kV S/C on D/C Along-Yingkiong		Oct'23	95.1	199	0	0	0	Yet to start	
27			132kV S/C on D/C Yingkiong-Tuting		Oct'23	81.4	0	0	0	0	Yet to start	
28			132kV S/C on D/C Kambang-Mechuka		Oct'23	93.5	315	0	0	0	Yet to start	
29	TW-29B	Vikran engineering & EXIM pvt ltd	Deomali-Khonsa (132 KV S/C Line) (40 Kms.) Actual line length: 29.528 Kms.	09.03.2021	March,23	29.528	88	0	0	0	Yet to start	
30			Khonsa- Changlang (132 KV S/C Line)		March,23	26.005	155	0	0	0	Yet to start	
31			Khonsa-Longding (132 S/C on D/C Line)		March,23	24.312	86	0	0	0	Yet to start	
32	TW-30B	Vikran engineering & EXIM pvt ltd	Jairampur-Changlang (132KV S/C Line)	26.02.2021	March,23	50.54	205	0	0	0	Yet to start	
33			Miao-Namsai (132KV S/C on D/c Line)		March,23	41.045	138	0	0	0	Yet to start	
34	TW-31	M/s Salasar Techno Engineer Limited.	132kV S/C on D/C Bomdila-Kalaktang		May'23	53.29	0	0	0	0	Yet to start	
			<b>Sub Total (A)</b>			<b>1511.024</b>	<b>4955</b>	<b>197</b>	<b>117</b>			
35	Ten dot	AEGCL (Existing line)	220kV Tinsukia-Kathalguri			25					Installed	
36		DoPAP (Existing line)	220kV Kathalguri-Deomali			25					Installed	
37		DoPAP (Existing line)	132kV Along-Pasighat old			Dec'22	76				Yet to start	
38		DoPAP (Existing line)	132kV Daporijo-Along			Dec'22	80				Yet to start	
39		DoPAP (Existing line)	132kV Ziro-Daporijo			Dec'22	90				Yet to start	
40		NEEPCO (Existing line)	132kV Balipara-Nechipu			Dec'22	27				Installed	
41		NEEPCO (Existing line)	132kV Khupi-Nechipu			Dec'22	40				Under progress	
42		DoPAP (U/constn)	132kV S/C on D/C khupi- Bomdila			May'23	44.86					Yet to start
43		DoPAP (U/constn)	132kV S/C on D/C Bomdila-Tawang			May'23	69.096					Yet to start
			<b>Sub Total (B)</b>			<b>476.956</b>						
			<b>Total length (A+B)</b>			<b>1987.98</b>						
Status of Supply of OPGW with H/W						459.932					77	

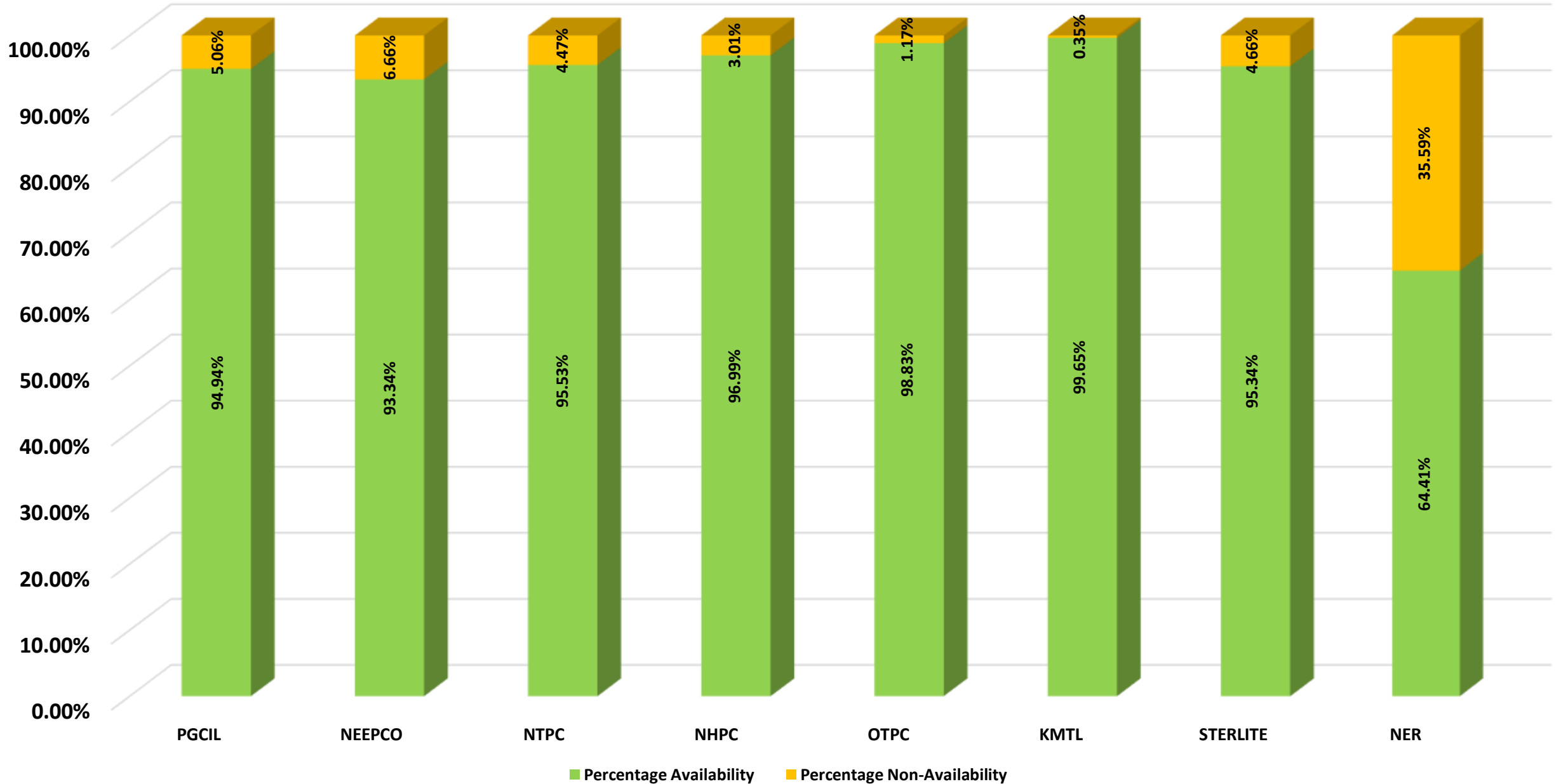
# Telemetry Statistics for the Month of February 2022

Sl. No.	Utility	Average Analog Percentage	Average Digital Percentage	Average Total Percentage	Average RTU Availability	Instantaneous Maximum of Total percentage
1	PGCIL	94.97	94.92	94.94	93.13	98.87
2	NEEPCO	88.03	96.75	93.34	96.75	96.48
3	NTPC	95.50	95.54	95.53	95.42	100.00
4	NHPC	96.99	96.99	96.99	96.99	100.00
5	OTPC	98.83	98.82	98.83	98.78	100.00
6	KMTL	99.68	99.64	99.65	99.91	100.00
7	IndiGrid	94.93	95.51	95.34	99.89	100.00
8	Arunachal Pradesh	25.28	12.17	17.24	32.67	28.40
9	Assam	71.16	63.15	66.30	80.31	72.19
10	Manipur	73.28	66.01	68.73	81.29	70.31
11	Meghalaya	68.35	34.16	48.84	75.65	58.44
12	Mizoram	40.67	22.67	30.83	52.12	36.02
13	Nagaland	23.99	35.10	30.24	23.81	33.13
14	Tripura	24.90	15.08	19.18	30.39	30.02
	NER	66.78	62.93	64.41	68.24	68.37

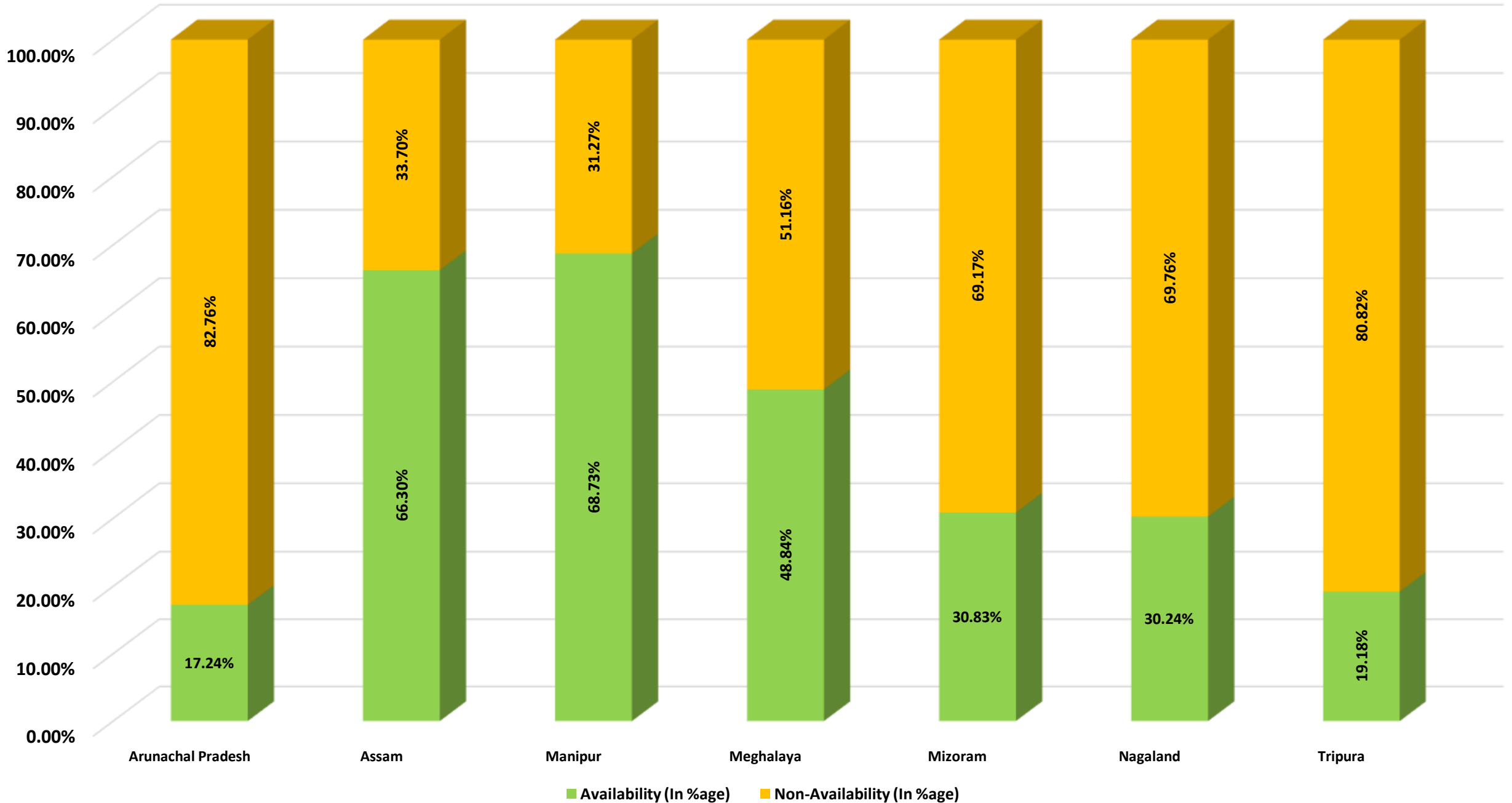
# Comparison of Telemetry Availability Statistics (Average %age)



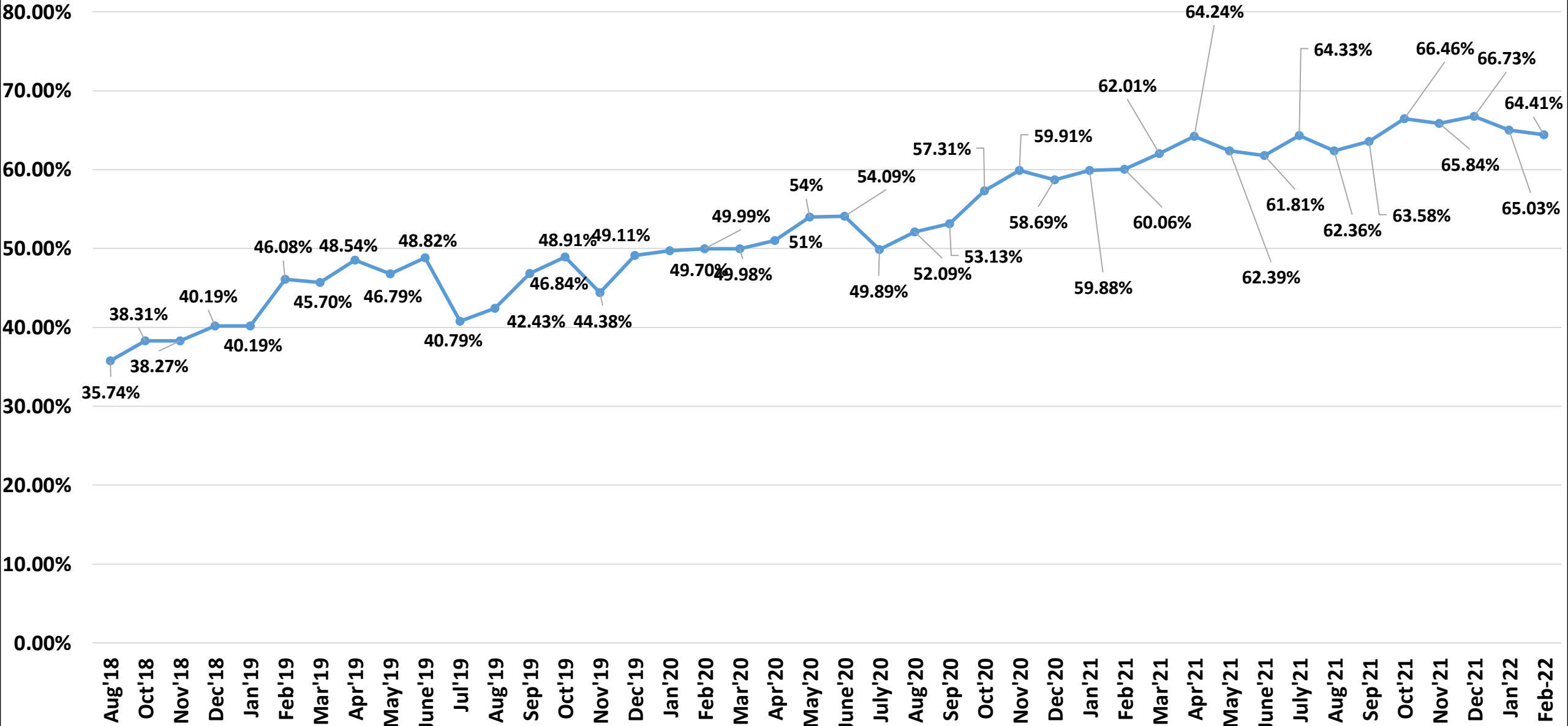
# Telemetry Statistics for Central Sector of NER (Average availability of data for the Month of February'22)



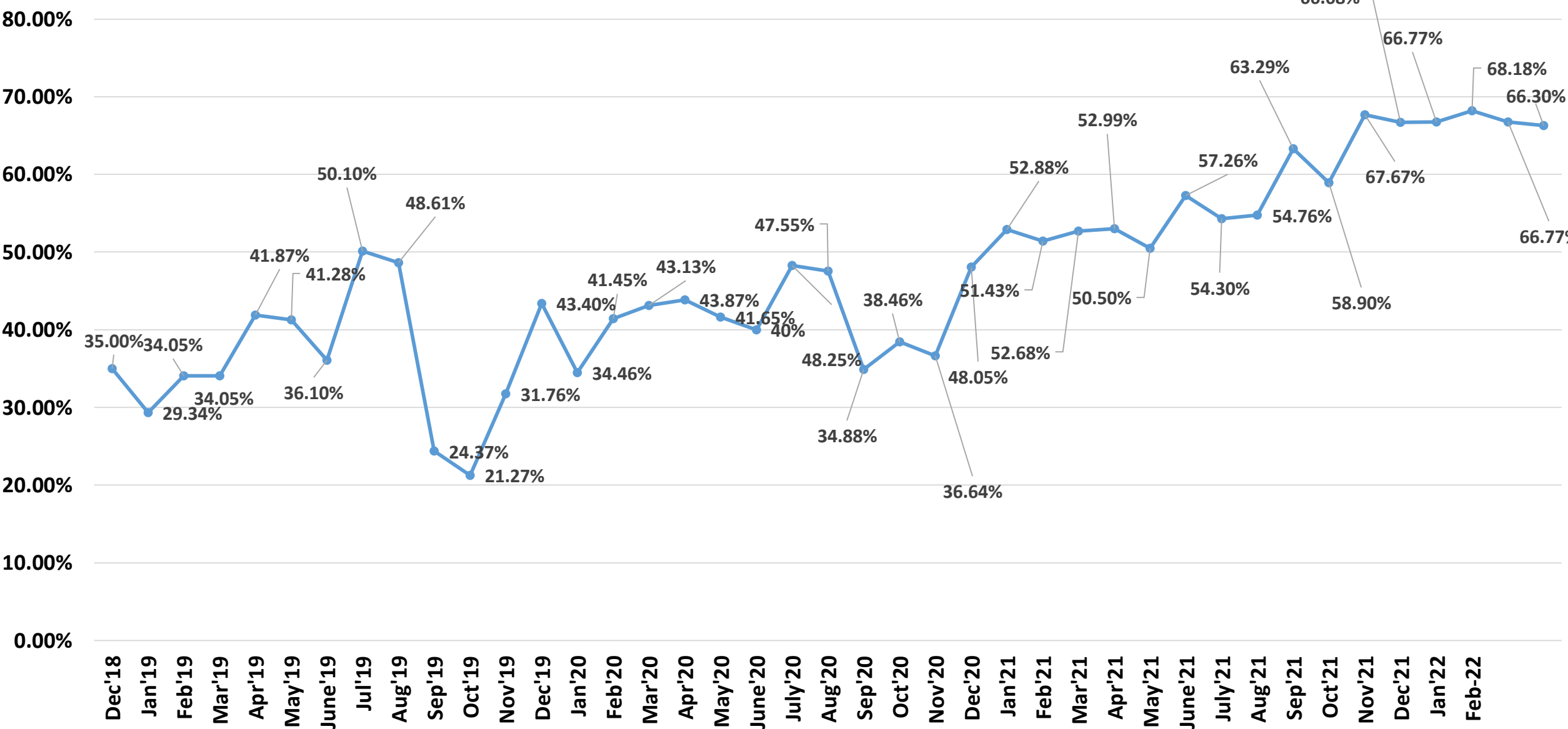
## Telemetry Statistics for NER States (Average availability of data for the Month of February'22)



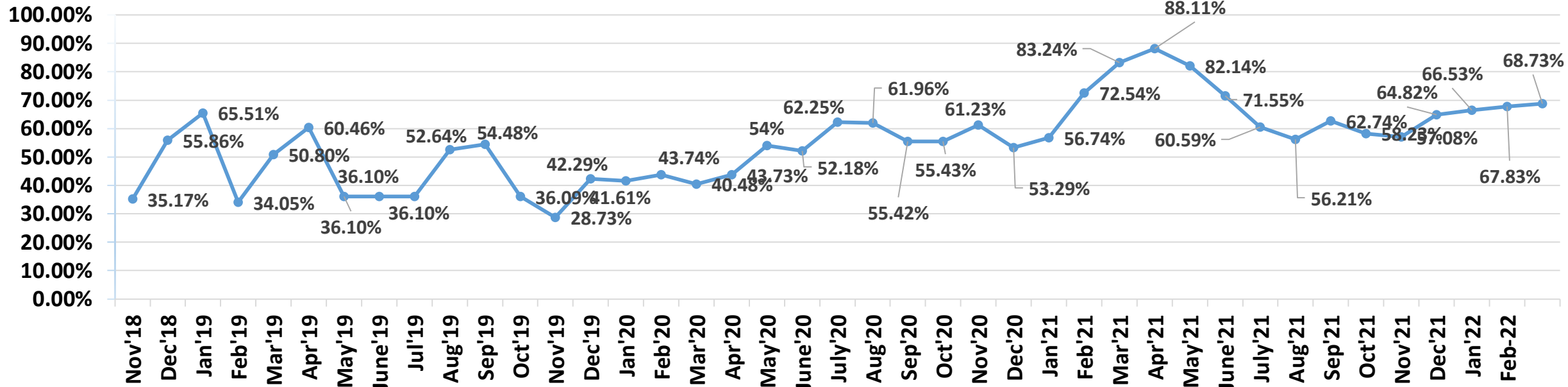
# Real Time Data Availability of NER (In Percentage)



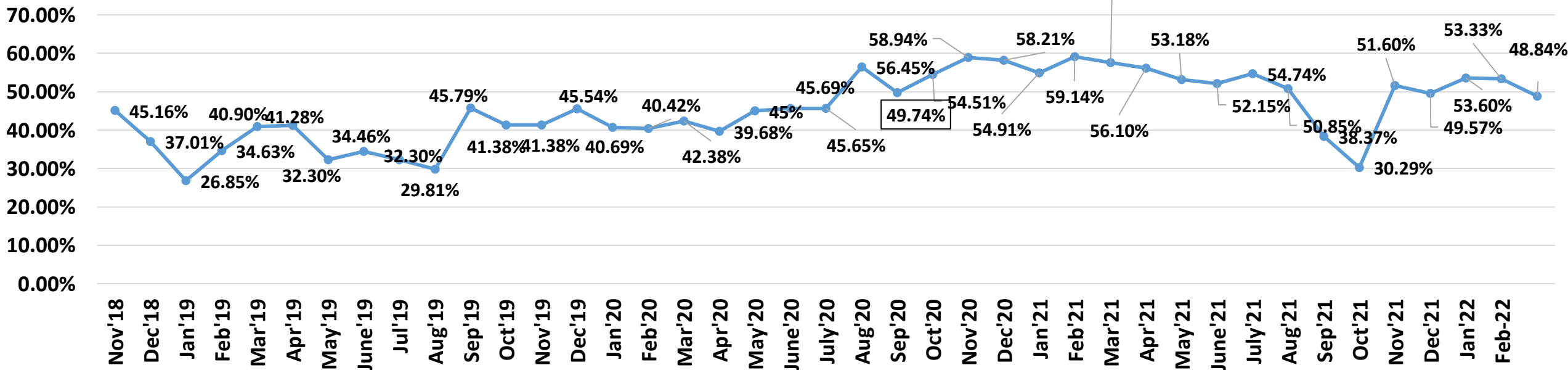
# Real Time Data Availability of Assam State (In Percentage)



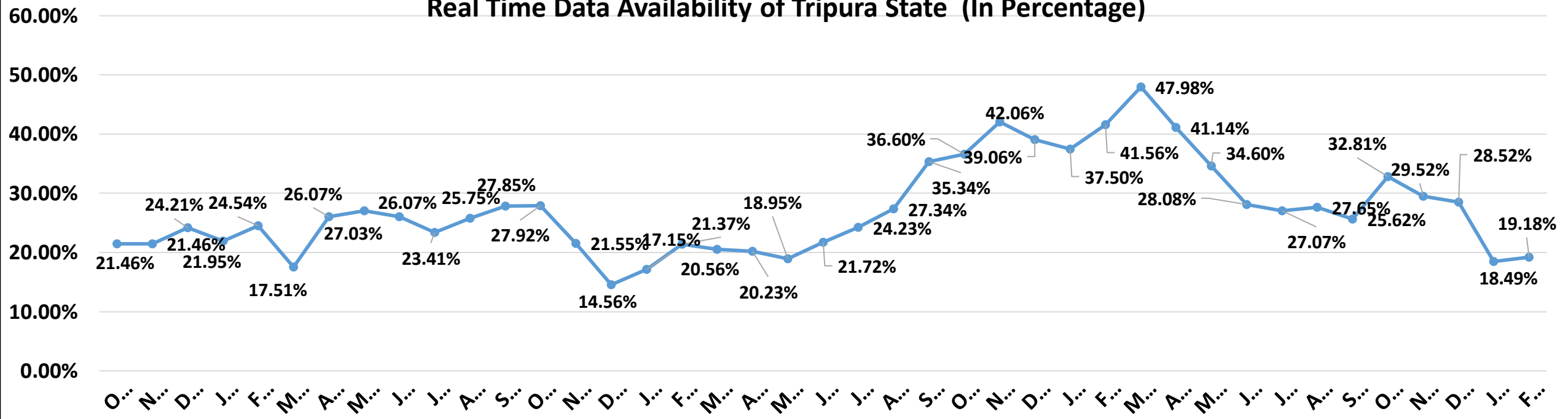
### Real Time Data Availability of Manipur State (In %)



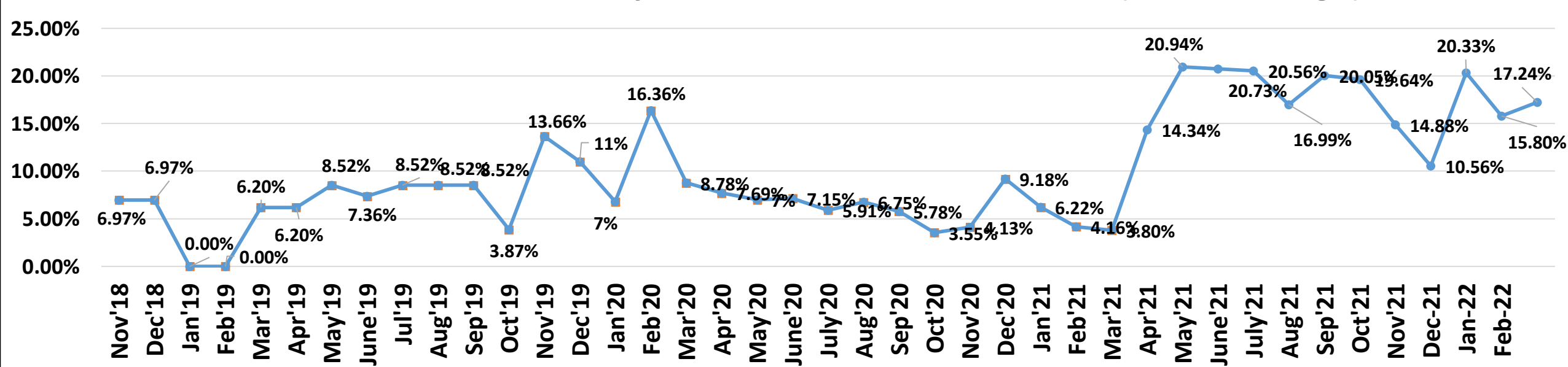
### Real Time Data Availability of Meghalaya State (In Percentage)



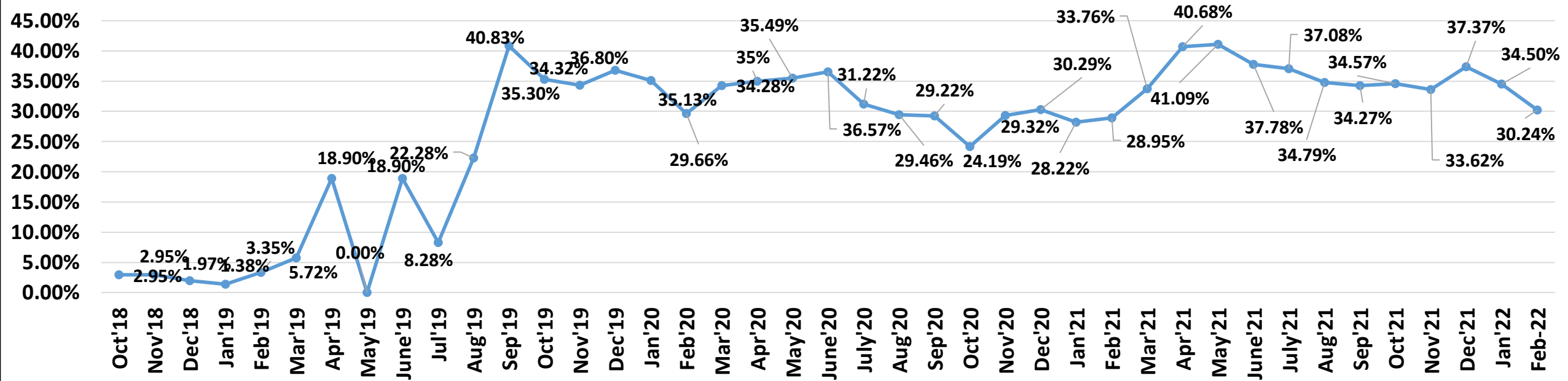
### Real Time Data Availability of Tripura State (In Percentage)



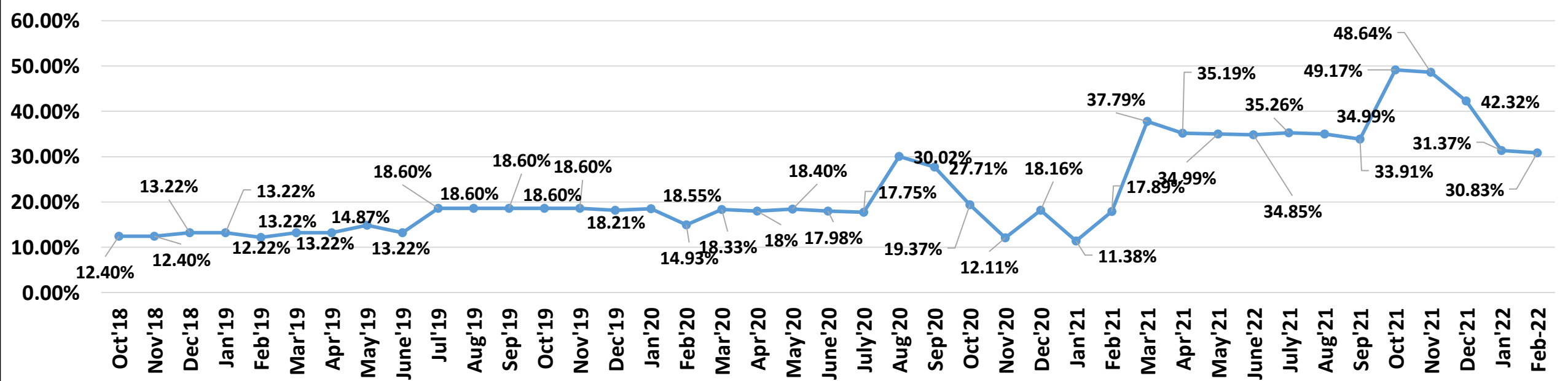
### Real Time Data Availability of Arunachal Pradesh State (In Percentage)



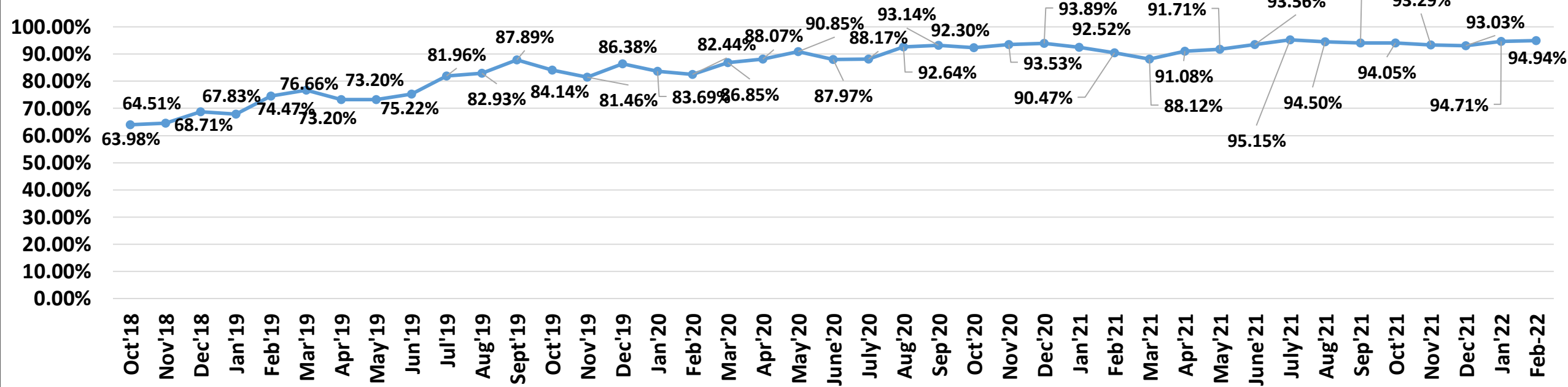
### Real Time Data Availability of Nagaland State (In Percentage)



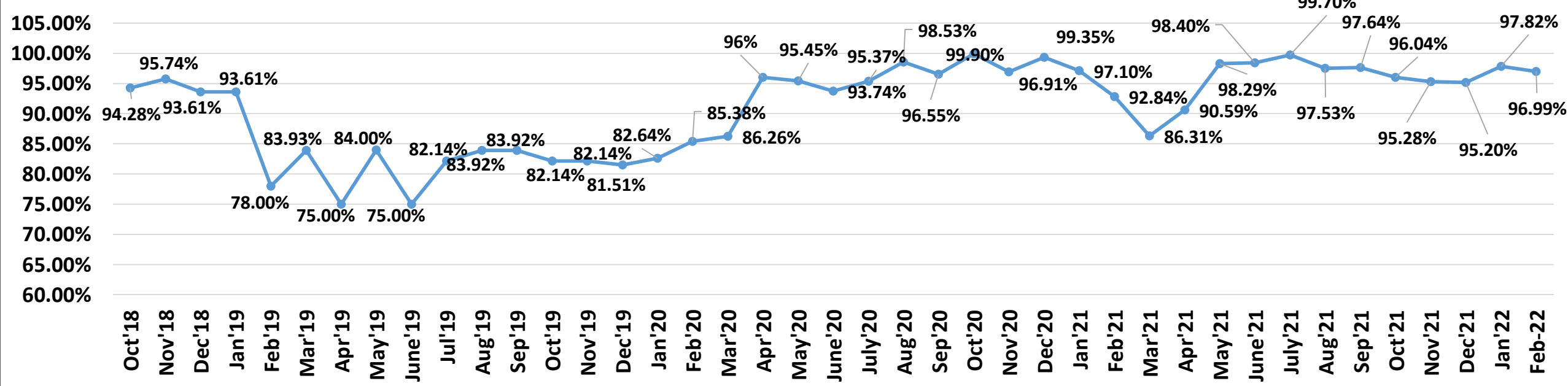
### Real Time Data Availability of Mizoram State (In Percentage)



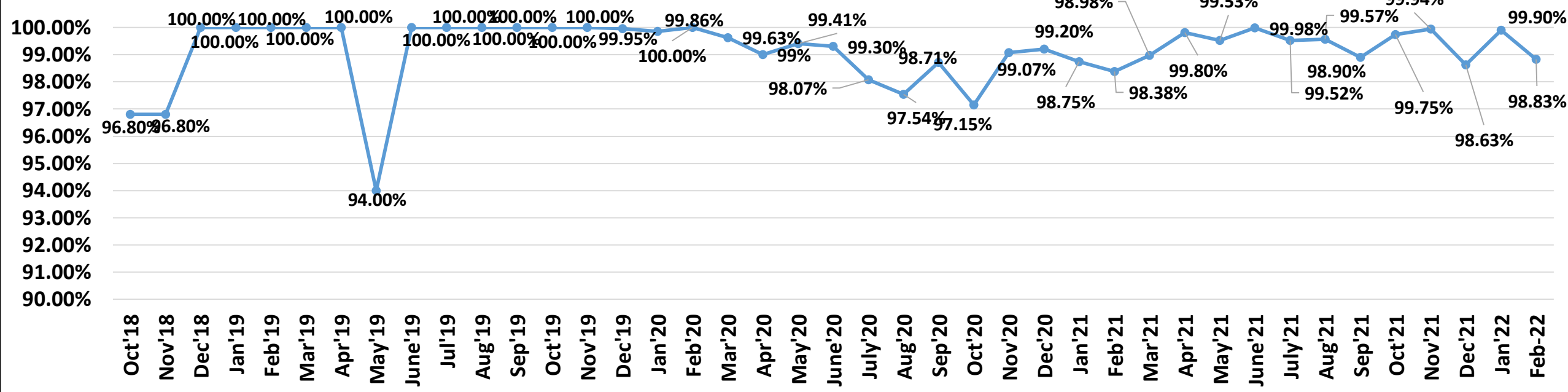
### Real Time Data Availability of PGCIL(In Percentage)



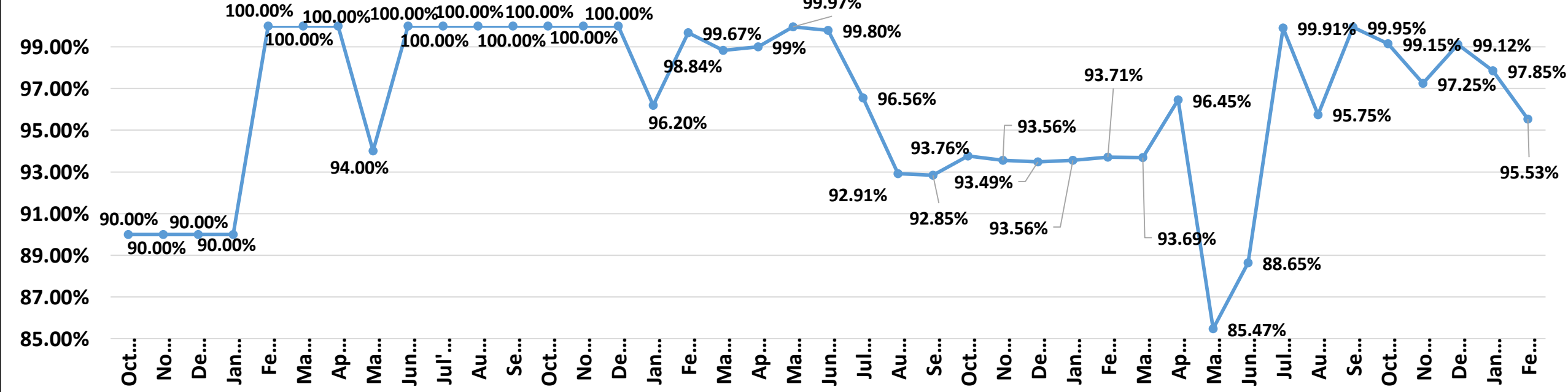
### Real Time Data Availability of NHPC (In Percentage)



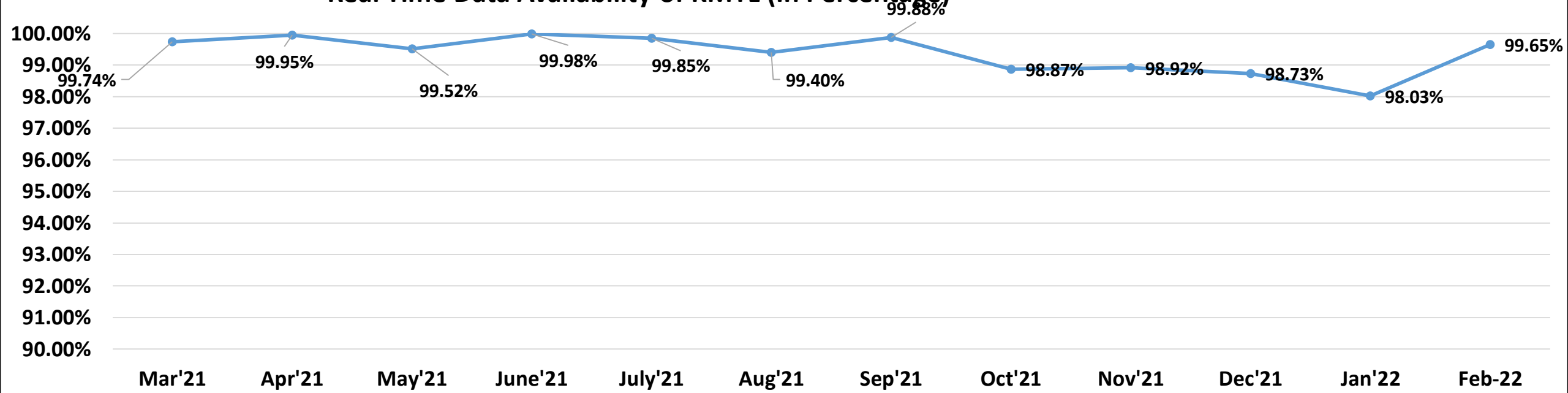
### Real Time Data Availability of OTPC (In Percentage)



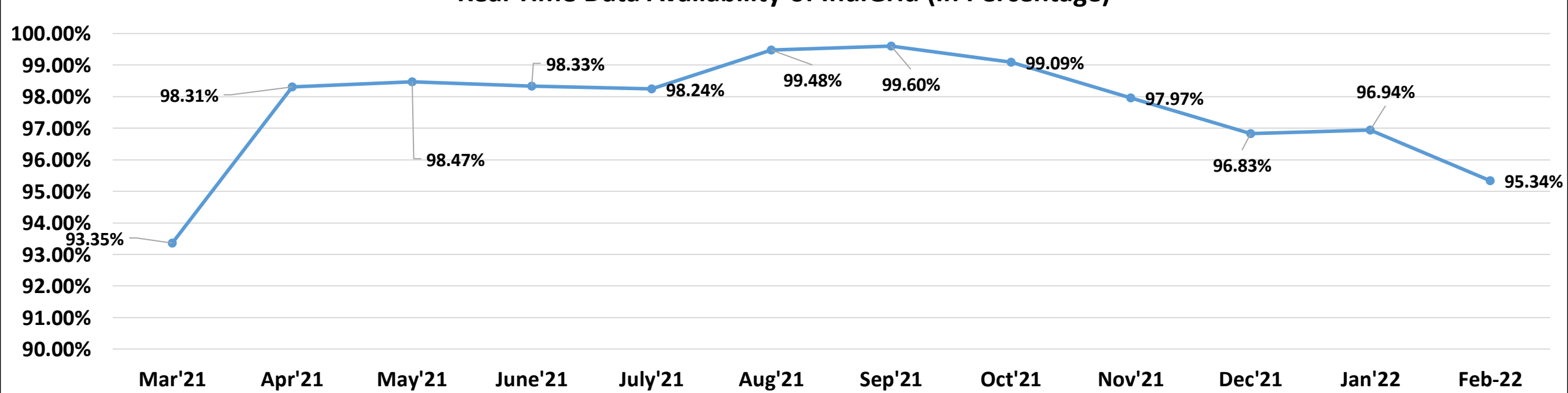
### Real Time Data Availability of NTPC (In Percentage)



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



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



# Real Time Data Availability of NEEPCO (In Percentage)

