



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya

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No. NERPC/SE (O)/OCC/2020/3792(A)

Dated: October 29, 2020

To,

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

Sub: Minutes of 171st OCC Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 171st OCC Meeting held at NERPC's Conference Hall, Shillong on the **16th October, 2020** for your kind information and necessary action. The minute is also available on the website of NERPC, **www.nerpc.nic.in**.

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

Encl: As above

भवदीय / Yours faithfully,

बी. लिंगखोइ

बि. लिंगखोइ / B. Lyngkhoi
निदेशक / Director (O & P)

Copy to:

1. CGM, AEGCL, Bijuli Bhawan, Guwahati – 781001
2. CGM, APGCL, Bijuli Bhawan, Guwahati – 781001
3. CGM, DISCOM, Bijuli Bhawan, Guwahati – 781001
4. Head of SLDC, MeECL, Lumjingshai, SR Road, Umjarain, Shillong – 793022
5. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar – 791111
6. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur – 797103
7. Head of SLDC, MSPCL, Imphal – 795001
8. Head of SLDC, P&E Deptt. Govt. of Mizoram, Aizawl – 796 001
9. Head of SLDC, TSECL, Agartala – 799001
10. Chief Engineer(Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
11. DGM (O&M), OTPC, Badarghat Complex, Agartala, Tripura – 799014
12. Director, NETC, 1st Floor, Corporation Tower, AMBIS Mall Complex, NH-8, Gurgoan – 122001.

वी. लिंगरॉड
निदेशक / **Director (O & P)**

North Eastern Regional Power Committee

MINUTES OF THE 171st OPERATION COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 16/10/2020 (Friday)
Time : 10:30 hrs
Venue : “NERPC Conference Hall”, Shillong.

The List of Participants in the 171st OCC Meeting is attached at **Annexure – I**

Member Secretary, NERPC welcomed the participants to the 171st OCC meeting. He thanked the members for regularly attending the meeting over Video-Conferencing to resolve crucial issues of the region.

Thereafter Member Secretary requested Sh B. Lyngkhai, Director(O&P), NERPC to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 170th MEETING OF OPERATION COORDINATION SUB-COMMITTEE OF NERPC.

The minutes of 170th meeting of Operation Sub-committee held on 11th September, 2020 at Shillong were circulated vide letter No. NERPC/SE (O)/OCC/2019/2674-2711 dated 30th September, 2020.

NERLDC vide letter dtd. 05.10.2020 has requested for modification for item No. **D.21** of the 170th OCC minutes:

Deliberation of the 170th OCCM:

D.21 Requirement of RIO clearance for Shutdown:

GM(SO-II), NERLDC informed that for any shutdown involving configuration change(temporarily/permanently) RIO clearance must be obtained. After detailed deliberation the forum decided the following:

- a. For temporary configuration change to facilitate any shutdown, RIO clearance may not be obtained.
- b. For elements which were in shutdown/outage for a period greater than 6 months, RIO clearance would have to be obtained before putting the element back into service.
- c. For permanent configuration change (where the change would be for a period greater than 6 months) RIO clearance would have to be obtained.

Comments from NERLDC vide letter no.: NERLDC/2020-21/SO-II/22 dated 05.10.2020:

As per Clause no 43(4) of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010.

"**The** owner of any installation of voltage exceeding 650 V who makes any addition or alteration to his installation shall not connect to the supply his apparatus or electric supply lines, comprising the said alterations or additions unless and until such alteration or addition has been approved in writing by the Electrical Inspector"

Also as per Clause no. 43.1(a) of CEA (Measures relating to Safety & Electric Supply) Amendment Regulations, 2018

"Every electrical installation of notified voltage and below shall be inspected, tested and self-certified by the owner or supplier and consumer, as the case may be, of the installation before commencement of supply or recommencement **after shutdown of 6 months and above** for ensuring observance of safety measures specified under these regulations and such owner or supplier or consumer, as the case may be, shall submit the report of self-certification to the Electrical Inspector in the formats as framed and issued by the Authority.

Provided that the electrical installation so self-certified shall be considered fit for the commencement of supply or recommencement after shutdown for six months only after the report of self-certification is duly received by the office of Electrical Inspector.

Further provided that the owner or supplier or consumer, as the case may be, has the option to get his installation inspected and tested by the electrical Inspector of the Appropriate Government."

Hence, from the above clauses, RIO clearance is to be furnished to RLDC in the following cases:

- a) For any configuration change to facilitate any shutdown (even in case of temporary change in configuration)
- b) Prior to restoration of an element which was under shutdown/outage for a period greater than 6 months
- c) In case of replacement & upgradation work of any substation equipment.
- d) Prior to First Time Charging of any new element

Also, please find attached Letter from Chief Engineer, CEA issued to NRPC regarding mandatory inspections of all elements under CEA (Measures relating to Safety and Electric Supply) amendment Regulations, 2015 for kind reference.

It is requested to make necessary modifications in the deliberation pertaining to Item no. D.21 Requirement of RIO clearance of 170th OCC Meeting Minutes in line with the provisions of CEA (Measures relating to Safety & Electric Supply) Regulations, 2010 and amendments thereof, mentioned above.

Deliberation in the 171st OCC forum:

ED, NERLDC stated that for any configuration change (whether temporary/permanent) for e.g. Diversion of line, reconductoring, element (breaker, isolator) replacement, bypass arrangement etc. Inspectorate clearance is required. Further, he mentioned that blanket approval for non-requirement of Inspectorate Clearance for temporary configuration change is not agreeable, however, case to case analysis shall be considered by NERLDC.

CGM(AM), NERTS opined that change of place should not be treated as change of configuration and Inspectorate clearance should be avoided in such cases. He illustrated with an example: In case of 132kV Doyang-Dimapur, to restore power supply at the earliest line diversion with change of tower locations was done with ERS. If Inspectorate clearance was insisted, then power supply could not be restored. He requested the forum to take an in-principle decision that undertaking from concerned utility may be obtained in such cases without Inspectorate Clearance.

DGM, NEEPCO intimated the forum that in case of defective breaker requiring replacement, the process takes more than 6 months. In the meantime bypass arrangement is resorted to, so Inspectorate clearance is to be avoided in such cases as no change in configuration is involved.

DGM, SLDC, AEGCL stated that in those cases where only 3-4 tower locations are involved in diversion, reconductoring etc. Inspectorate clearance may be avoided to restore power supply at the earliest.

Member Secretary summed up the deliberations with the following remarks:

- a. No amendment of CEA regulations is desired and should not be a subject matter of discussion of the forum.
- b. The safety of the electrical system should be of paramount importance.
- c. The concerns raised by the constituents during the deliberation should be honored by NERLDC.
- d. NERLDC should carefully scrutinize all submitted documents/undertaking/certification and ascertain whether Inspectorate clearance is required on a case-to-case basis in view of the above deliberation.

The Sub-committee confirmed the minutes of 171st OCCM of NERPC with the above modifications as no other comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

B.1. ACTION TAKEN:

1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 171st OCC:

State	R&U scheme	ADMS	Capacitor Installation	SAMAST**	Line Differential Protection
Ar. Pradesh	Package-I (Diagnostic tools) Materials supplied. 30% payment released. Utilization certificate for 60% to be sent. P-II (for PLCC & communication) LOA issued. P-III (Substation equipment) NIT by Oct'20 Work delayed due to COVID situation. Station-wise status to be updated	Second tranche of 60% disbursed and payment made. Requisition to be sent for remaining 10%.	-	TESG approval awaited	-
Nagaland	All completed except for PLCC package. Delayed due to COVID situation. Station-wise status to be updated.	Second tranche of 60% received. To be disbursed by DoP Nagaland by Oct'20.	-	TESG approval awaited	Lines identified. Under DPR preparation stage.
Mizoram	Completed. 10% remaining claim to be submitted ASAP.	2 nd tranche 60% funds disbursed. Final 10% requisition to be submitted immediately.	To reply to TEGS queries.	TESG approval awaited.	Lines identified for installation of DPR viz. 132kV Aizawl - Luangmual and 132kV Kawmzawl - Khawiva.

Manipur	Package-II: completed Package-I: WIP Delayed due to COVID situation Station-wise status to be updated.	60% disbursed. Final 10% requisition to be sent immediately.	PSDF approved. NIT to be floated.	TESG approval awaited.	Lines identified. LDP for 132kV Imphal-Imphal and 132kV Jiribm-Jiribam proposed. Under DPR preparation stage.
	33kV System Integration with SLDC	In tendering stage			
	Reliable Communications for grid connectivity	In tendering stage			
Tripura	Work completed. 10% remaining claim to be sent ASAP. Station wise status to be updated.	10% fund disbursed. Requisition to be sent for 20% immediately.	Study results to be submitted alongwith DPR	TESG approval awaited.	Only single line 132kV 79Tilla to Budhjangn agar. DPR to be prepared.
Assam	LOA issued. WIP, delayed due to COVID situation Station-wise status to be submitted.	30% funds disbursed. Requisition to be sent for 60% immediately.	-	Under finalization stage for LOA.	Lines identified. Under DPR preparation stage.
Meghalaya	MePTCL Completed in all respects. MePGCL - 10% claim to be submitted ASAP.	Final tranche of 10% disbursed. Project complete in all respects.	-	Under finalization stage for LOA.	WIP. Delayed due to COVID situation

Deliberation of the sub-Committee:

Director(O&P), NERPC requested Smt. Rishika Saran, Member Secretary, NPC to highlight the status of the PSDF projects in NER.

Member Secretary, NPC stated that a number of projects chief among them being R&U projects for Arunachal Pradesh and Assam are delayed considerably. She requested all the state utilities to expedite PSDF funded projects particularly in those cases where tendering has not been completed. She requested all the NER Constituents to furnish the detailed progress of PSDF projects (Physically & Financially) regularly. For SAMAST project Member Secretary, NPC assured that by first week of Nov'20 Appraisal Committee and Monitoring Committee meetings would be held and SAMAST would be approved for remaining 5 (five) States of NER.

The Sub-Committee noted as above.

Action: All state utilities/NERPC.

B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING SEPTEMBER, 2020

As per the data made available by NERLDC, the grid performance parameters for September, 2020 are given below:

NER PERFORMANCE DURING SEPTEMBER, 2020

States	Energy Met (MU)		w.r.t. Aug,20 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Aug,20 % inc (+) /dec (-)	% surplus (+) /shortfall (-) of energy In Sep,20
	Sep-20	Aug-20		Sep-20	Aug-20		
Ar. Pradesh	64.98	58.95	10.23	65.23	59.19	10.20	-0.38
Assam	989.37	1060.42	-6.70	1026.97	1095.42	-6.25	-3.66
Manipur	81.8	82.79	-1.20	82.15	83.12	-1.17	-0.43
Meghalaya	164.05	163.46	0.36	164.05	163.46	0.36	0.00
Mizoram	57.25	57.51	-0.45	57.68	57.77	-0.16	-0.75
Nagaland	69.94	70.84	-1.27	70.31	71.08	-1.08	-0.53
Tripura	252.01	247.17	1.96	252.13	247.31	1.95	-0.05
Region	1679.4	1741.14	-3.55	1718.52	1777.35	-3.31	-2.28

States	Demand Met (MW)		w.r.t. Aug,20 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Aug,20 % inc (+) /dec (-)	% surplus (+) /shortfall (-) of demand In Sep,20
	Sep-20	Aug-20		Sep-20	Aug-20		
Ar. Pradesh	129	128	0.78	157	157	0.00	-17.83
Assam	1964	1943	1.08	2073	1943	6.69	-5.26
Manipur	213	200	6.50	243	200	21.50	-12.35
Meghalaya	334	320	4.38	334	320	4.38	0.00
Mizoram	108	101	6.93	108	101	6.93	0.00
Nagaland	154	149	3.36	154	149	3.36	0.00
Tripura	315	301	4.65	315	301	4.65	0.00
Region	3104	3069	1.14	3271	3098	5.58	-5.11

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	Sep-20	Aug-20
Total Generation in NER (Gross)	1796.79	1821.39
Total Central Sector Generation (Gross)	1439.50	1446.88
Total State Sector Generation (Gross)	357.29	374.51
Inter-Regional Energy Exchange		
(a) NER-ER	0.00	0.00
(b) ER-NER	363.99	456.26
(c)NER-NR	411.51	471.69
(d)NR-NER	0.00	0.00
© Net Import	-47.52	-15.43

AVERAGE FREQUENCY (Hz)

Month---->	Sep-20	Aug-20
	% of Time	% of Time
Below 49.9 Hz	2.10	1.55
Between 49.9 to 50.05 Hz	80.45	79.10
Above 50.05 Hz	17.45	19.35
Average	50.01	50.01
Maximum	50.14	50.17
Minimum	49.98	49.97

Deliberation of the sub-Committee:

NER grid performance for the month of September'20 was presented by NERLDC. (Attached at **Annexure-B.2**)

The Sub-Committee noted as above.

C. ITEMS- STATUS REVIEW

C.1 Auto-reclosure issues at Azara:

In 169th OCCM, the following works were decided to be completed by Aug'20:

- (i) Checking of PLCC panel wirings at 400kV Azara S/S.
- (ii) Investigating reasons for Channel 1 for 400kV Silchar going into disabled mode at times
- (iii) Thorough testing of carrier communication channel end-to-end for 400kV Silchar-Azara

Deliberation of the sub-Committee:

Director(O&P), NERPC informed that the matter was discussed in detail in the Sub-group meeting on 15.10.2020, with the gist that some counter issues in the PLCC panel at Azara still persist. The same has to be jointly checked and rectified by AEGCL & OEM (M/s ALSTOM) by Oct'20.

The Sub-Committee noted as above.

Action: AEGCL

C.2 Restoration of Assets damaged at Kopili HEP due to failure of Penstock:

As per decisions in previous meeting(s):

- (i) Detailed ownership and scope of work finalized in the 168th OCC meeting
- (ii) Immediate restoration of one 220kV line, one 132kV line and 160MVA ICT at Kopili S/S via AIS by NERTS as temporary measure – deadline: November'20.
- (iii) Kiosk arrangement/ hardware which is being presently used and shall also be a part of permanent restoration shall be jointly decided by NERTS/NEEPCO.
- (iv) Prior to permanent restoration the BoQ shall be shared by NERTS with the forum.

Deliberation of the sub-Committee:

Director(O&P), NERPC informed that the matter was discussed in length in the 2nd NERPC-TP meeting wherein it was decided that the issue of temporary as well as permanent arrangement are pertained to restoration of existing element and not for planning of new element and hence not cover under TOR of NERPC-TP.

CGM, NERLDC stated that as per System Requirement the temporary restoration of one 220kV line, one ICT and one 132kV line is required for Meghalaya particularly for the lean hydro season.

Sr.GM, Misa, NERTS stated that temporary restoration at this stage would be difficult as there are many activities like earthing, construction of cable trench, construction of control room etc. those are of permanent in nature and will have its own lead-time like doing permanent restoration since it involves new procurement and construction. Further, during 2nd NERPCTP Meeting members already opined non-requirement of Temporary restoration. Accordingly, Sr.GM, Misa, NERTS stated that the agenda for permanent restoration would be placed in 3rd NERPCTP meeting for necessary inclusion of additional scope in NERSS – III project.

EE, SLDC, Meghalaya stated that during winter i.e. lean hydro season Meghalaya would face shortfall if the link is not restored by 2nd week of Nov'20.

After detailed deliberation the following were decided:

- a.** Joint Study by Meghalaya SLDC and NERLDC by 23rd Oct'20 to assess the impact of the unavailability of the Misa-Kopili-Khandong link on Meghalaya drawal during the lean hydro season.
- b.** For the proposal for permanent restoration, agenda will be in 3rd NERPCTP Meeting for necessary inclusion of additional scope in NERSS – III project.

The Sub-Committee noted as above.

Action: NERTS, NEEPCO, NERPC.

C.3 Status update of important grid elements under prolonged outage impacting system operation:

Sl. No	Element	Owner	Status as informed in the 170 th OCCM	Latest status
1	63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	10% funds received. Tendering in process.	Tendering in process.
2	132kV Dimapur - Imphal	NERTS	Delayed due to ROW clearance issues. Expected to completed by October 20.	Loc No.350 RoW still to be cleared. By Nov'20
3	220kV Sonabil-Samaguri-I	AEGCL	Line is in idle charged condition from Sonabil end. RoW issue at location near Samaguri to be resolved shortly.	To be charged after inspectorate clearance.
4	132kV Srikona-Panchgram	AEGCL	Line to be rerouted through HPC Campus. Confirmation awaited.	DPR approval stage.
5	63MVAR L/R for 400kV Palatana-SilcharCkt-I	OTPC	Oct'20	1 st week of Nov'20
6	132kV Jiribam – Rengpang	MSPCL	Oct'20	Oct'20
7	220KV-Agia-BTPS-I	AEGCL	Line ready to be charged	**
8	132KV-Pare-Itanagar-1	Arunachal Pradesh	By 15.10.2020	Nov'20
9	132KV-Ranganadi-Itanagar-1	Arunachal Pradesh	By 15.10.2020	Nov'20
10	20MVAR tertiary reactors at Balipara	NERTS	Filtration and oil parameter healthiness to be checked by Sep'20.	Charged on 06 th Oct'20.

** SLDC Assam stated that 132 kV APM s/s is being fed from Agia substation by using 220 kV BTPS-Agia-1 line at 132 kV level.

NERLDC mentioned that Assam had not obtained prior approval from the forum before making the said modifications. Further, appropriate electrical inspector clearance was not obtained by Assam prior to energization of the modified line. As 132 kV Agia – BTPS D/C affects the TTC of NER, Assam was requested to revert back to the original configuration and restore 220 kV BTPS-Agia-1 line.

Director (O&P), NERPC also expressed displeasure over conversion of 220 kV Agia – BTPS-1 to 132 kV level and diversion of the same to APM s/s without any information to the forum.

After detailed discussion it was decided to charge 220kV Agia-BTPS D/C after return of 132kV Dhaligaon-APM to original configuration.

The Sub-Committee noted as above.

Action: All utilities as above.

C.4 Status of commissioning for Upcoming projects:

Status as updated in the 171st OCCM:

Sl. No	Name of the element	Utility	Status as informed in previous OCC meeting	Latest status
1	LILO of 132kV Surjamaningar-Budhjungnagar-I at Surjamaningar(ISTS)	TSECL	October'20	Nov'20
2	LILO of 132kV P.K.Bari-Ambassa at P.K.Bari(ISTS)	TSECL	October'20	Nov'20
3	400kV Palatana-Surjamaningar D/C	NERTS	Dec'20	Dec'20
4	400kV Silchar - P.K.Bari D/C	NERTS	Dec'20	Dec'20
5	PLCC for 132kV Loktak-Ningthoukong and 132kV Loktak-Rengpang	MSPCL	Dec'20	Dec'20
6	Construction of 2 nd bay at Balipara for 220kV Balipara-Sonabil-2	AEGCL	Estimate prepared.	NIT by Oct'20
7	Unit#3 & 4 of Kameng HEP	NEEPCO	-	Mar'21
8	Bay at 132kV Agia S/Sn for 132kV Agia-Nangalbibra-II	AEGCL	Oct'20	Bay ready, panel to be commissioned by 1 st week of Dec'20**
9	80MVAR B/R at RHEP	NEEPCO	Tender by May'20	##
10	Upgradation of 132kV Lumshnong - Panchgram line	MePTCL	TESG approved	Final PSDF approval by Nov'20
11	Diversion of 132kV Bawktlang-Sihmui	NERTS	June'20	WO placed. By Jan'20

**EE, SLDC, MeECL requested that early charging of 132kV Agia-Nangalbibra-II by Nov'20 would help Meghalaya Grid in view of the non-availability of the Misa-Kopili-Khandong link.

##DGM, NEEPCO informed the following w.r.t. Installation & Commissioning of 420kV 80MVAR Bus Reactor at RHEP:

- i. Tender has not been floated.
- ii. Flaws identified by the Design wing viz. (a) Space- With existing space very difficult to place the reactor, (b)Transportation of reactor- Weight of the reactor

is 120 ton (approx) without oil, it would be very difficult to bring the reactor at site with the existing road.

The forum noted the difficulties faced by NEEPCO and decided that another fresh System Study would be done by NERLDC, NERPC considering the commissioning of Subansiri HEP.

The Sub-Committee noted as above.

Action: all utilities as above.

C.5 Re-conductoring of 220kV BTPS-Salakati D/C:

In 170th OCCM, CGM(AM), NERTS informed that for re-conductoring of 220kV BTPS-Salakati D/C currently cost estimates are being prepared

Deliberation of the sub-Committee:

CGM(AM), NERTS informed that MoP has included the re-conductoring under NERSS-XII. NERLDC enquired about implementation of SPS related to tripping of both circuits of 220 kV BTPS-Salakati by Assam. Assam assured that the status will be updated prior to OCC meeting.

The Sub-Committee noted as above.

Action: NERTS.

C.6 Implementation of SPS-1&3 for Bangladesh:

In Sub-group meeting held on 10.09.2020 the scheme for SPS-1&3 for Bangladesh was discussed in detail and NERTS was requested to explore any additional infrastructure required for implementation of the Indian part of SPS-1&3.

Deliberation of the sub-Committee:

CGM, NERLDC informed that after commissioning of 400kV Palatana-Surjamaninagar the above SPS's may not be required. The forum decided to keep the implementation of the above SPSs' in abeyance and review all SPS in NER in Jan'21.

The Sub-Committee noted as above.

Action: NERPC.

C.7 Mapping of NERLDC Tripping portal and PDMS tripping portal:

In 170th OCCM NERPC informed that Techno-Commercial offer has been received from M/s PRDC. Following are the activities for integration:

1. Mapping of NERLDC fields to PDMS Tripping incident fields (that are required for PDMS)
2. Identification of RESTful end points for each Create/Update/Delete operation performed in Tripping incident portal

3. Development of RESTful API
4. Setting up an integration with SFTP for attachment association Techno Commercial Proposal for NERPC tripping portal integration
5. Integration & Testing
6. Deployment
7. Acceptance Testing

Further upon suggestion of Member Secretary i/c, NERPC it was decided that the quoted amount of INR 12lakh may be booked under PDMS project subject to PSDF approval.

Deliberation of the sub-Committee:

Director(O&P), NERPC intimated that for the Mapping of the two portal NLDC- PSDF approval is yet to be obtained.

The Sub-Committee noted as above.

Action: NERPC.

C.8 Preparation of List of Important Grid Elements:

In the Special Meeting (for improvement of Data Availability) held on 18th August,2020 it was decided that List of Important Grid Elements has to be prepared by NERLDC (for ISTS and important intra-state elements) and by SLDCs (for intra-state elements).

In 170th OCC meeting NERLDC presented the List of Important Grid Elements as prepared by NERLDC. The 170th OCC forum ratified the decision of the Special Meeting and requested all the SLDCs to prepare the List of Important Grid Elements for the respective Intra-state elements.

Deliberation of the sub-Committee:

The following status of submission was updated in the 171st OCC meeting:

Assam- By Oct'20

Manipur- By Oct'20

Meghalaya – to be resubmitted

Mizoram – to be resubmitted

Nagaland – to be resubmitted.

Tripura – By Oct'20

The Sub-Committee noted as above.

Action: all SLDCs.

D. ITEMS FOR DISCUSSION

D.1 Generation Planning (ongoing and planned outages)

a. Present per day MU and projected number of days of operation.

Plants	Reservoirs level in meter (as on 14/10/20)	MU content	Present DC (in MU)	No of days as per current generation
Khandong + Kopili stg II	722.15	32	0	-
Kopili	-	-	0	Will be "0" until further intimation.
Doyang	320.3	25	1.12	22
Loktak	768.72	250	2.48	100

The outage of other generating stations may be approved considering the present water levels in reservoirs.

Deliberation of the sub-Committee:

NERLDC highlighted that due to unavailability of Kopili HEP and Khandong HEP, constituents should plan for procurement of power for proper portfolio management.

NERLDC also highlighted that proper planning of Hydro Generation needs to be done Based on number of days of water availability.

The Sub-Committee discussed and approved the proposed shutdown by Generating Stations as given in Annexure – D.2 which is available in NERPC website.

D.2 Outage Planning Transmission elements

It was agreed in the 99th OCC meeting that shutdown will be availed only after approval is given by the OCC forum. It was also agreed that deferment/revision of outages elements other than already approved in OCC will be henceforth put/displayed in the website of NERPC (**under Operational Activities/OCC Approved shutdown**) as per CERC regulations/ CEA guidelines etc for ensuring smooth & secure grid operation.

Furnishing request of shut down of the element, which was approved by NERPC, by Indenting Agency (ISTS licensees/STUs/Generating Companies) to NERLDC:

In 160th OCCM NERLDC presented a report on the shutdown approval timeline(s) followed in OCC of other regions. It was observed that M+2 month's shutdown was

approved in Mth month. For eg. shutdowns from 01.11.2019 to 30.11.2019 is approved in the OCC of September, for which requisition has to be submitted by 5th of September,2019 i.e. 5th day of the Mth Month, M being the month in which OCC Meeting is held. By following this practice there will be no overlapping of shutdown dates as happening at present. Members unanimously agreed to the practice in other RPCs. In order to further ease the process of shutdown planning by the constituents, it was agreed in subsequent OCC meetings that shutdown should be discussed and approved for month of M+1 (instead of M+2) in Mth Month OCC meeting.

Deliberation of the sub-Committee:

The sub-Committee discussed and approved the transmission line outages proposed by Constituents for November, 2020 which is available in the website of NERPC.

The Sub-Committee noted as above.

Action: All utilities.

D.3 Estimated Transmission Availability Certificate (TAC) for the month of September,2020:

NETC and POWERGRID have submitted the outage data for the month of September,2020. The attributability of outage of the said elements may be finalized.

The Sub-Committee noted as above.

D.4 Charging of 132kV Sihhmui S/S and related issues:

Decisions as per deliberation in previous meeting(s):

- Present condition of idle charging from Melriat end as anti-theft measure to remain in place. For charging of 132 kV Bays of Melriat – Sihhmui D/C at Sihhmui Substation, 132 kV Sihhmui Bus and 132/33 KV, 12.5 MVA Transformer at Sihhmui Substation, fresh application is to be applied to NERLDC and approval to be obtained.
- NERTS-POWERGRID to apply afresh for charging clearance/First Time Charging and Trial operation certificate for 132kV Melriat-Sihhmui including bays at both ends after obtaining clarification from NERPCTP, CEA.
- NERTS, P&ED Mizoram to inform about the conclusions of their bilateral discussions regarding tariff.
- Subsequently a special meeting to be held.
- Meanwhile till the matter is resolved, NERTS and P&ED Mizoram to abide by the decisions of the Special Meeting held on 24.07.2020

Deliberation of the sub-Committee:

Director(O&P), NERPC regrettably informed that NERTS, P&ED Mizoram have not yet informed the decisions taken in their bilateral discussion. He stated that another Special Meeting would be held in the event of the two parties not informing about conclusion of their bilateral discussions by Oct'20.

The Sub-Committee noted as above.

Action: P&ED Mizoram, NERTS, NERPC.

D.5 RGMO analysis for events dated 11th June, 2020

Decisions as per discussions in previous meetings:

- OTPC- Discussions ongoing with OEM for anomaly in unit response.
- NTPC – All three units tuned in July'20.

Deliberation of the sub-Committee:

Sr. Manager, OTPC informed that discussions are still ongoing with OEM.

The Sub-Committee noted as above.

Action: OTPC.

D.6 Charging of 33kV Khupi-Kimi line at 132kV:

The following were decided in the 54th PCC Meeting held on 22.01.2020 at Guwahati:

1. 132kV Khupi-Kimi line charged at 33kV presently, shall be converted to 132kV.
2. 132kV Seppa bay at Khupi to be used for 132kV Khupi-Kimi (Kameng).
3. Insulator, line inspection to be carried out by DoP, Arunachal Pradesh.

NEEPCO vide mail dated 31.08.2020 has expressed willingness to charge the line at 132kV level.

In this respect in addition to the completion of the above works at Sl.No.(1) to (3) the following are also pre-requisites:

- (i) Availability of Distance Protection at both ends
- (ii) Healthiness of PLCC system.

In 170th OCC meeting AE, SLDC, DoP Ar. Pradesh informed the forum that insulator, line inspection for 132kV Kimi-Khupi line shall be carried out by Oct'20. However, for handing over/taking over, he requested that the matter may be discussed with the highest level of DoP Ar. Pradesh. DGM, NEEPCO stated that NEEPCO is ready for handing over and charging of the line at 132kV level. The forum noted that the following sequence of events may be followed for charging of the line at 132kV level:

- (i)Handing over/taking over of the line
- (ii) Application for FTC to NERLDC.

Deliberation of the sub-Committee:

AE, SLDC, DoP Ar. Pradesh informed that Insulator, Line Inspection has been delayed due to COVID restrictions. He assured that the same would be completed at the earliest. Regarding handing over of the line DGM, NEEPCO informed that the highest levels of Govt. of Ar. Pradesh have been approached but to no avail. He requested the intervention of the forum in this matter.

The Sub-Committee noted as above.

Action: DoP Ar. Pradesh, NEEPCO.

D.7 Immediate restoration of 220kV Bus-Coupler Bay at Samaguri(AEGCL) & keeping both buses in service at 220kV Sub-stations in Assam power system:

Emergency shutdown of both 220 kV buses at Samaguri S/S was availed by AEGCL on 27.08.20 for restoration of 220 kV elements at Samaguri by bypassing bus coupler. Bypassing was done due to problem in 220 kV bus coupler bay.

Single bus operation of 220 kV Samaguri is affecting the safe and secure operation of the NER grid especially Assam Power System.

Also, Single bus operation is observed in other 220 kV substations of Assam Power system like Mariani (AEGCL), Sarusajai etc.

In 170th OCC meeting, DGM, SLDC, AEGCL informed that double bus is present in all 220kV S/Sn of Assam. However, the exact reason for operation on Single bus would be informed by him at the earliest.

Deliberation of the sub-Committee:

AGM, SLDC, AEGCL informed that the matter has been intimated to the headquarters for early implementation. The forum requested Assam to furnish the substation wise issues and reasons for keeping the Bus Coupler in open condition for all 220 kV Substation where Bus Coupler has been kept open. NERLDC requested that the mapping of Bus Coupler bay to SCADA has to be completed for all the stations.

The Sub-Committee noted as above.

Action: AEGCL.

D.8 Renewal of Maintenance and Support Contract for PSS/E user licenses:

During the 159th OCCM of NER, NERLDC informed that Maintenance and Support(M&S) Contract for PSS/E User Licenses used by NLDC/RLDCs/SLDCs had expired in 2018 and requested all SLDCs to give their consent for price negotiation by NLDC with M/s Siemens on their behalf.

Accordingly, consent had been received from the SLDCs and the same had been forwarded to NLDC, POSOCO for taking up with M/s Siemens for the price. The price had been negotiated with M/s Siemens. The same had been communicated with the utilities by NERLDC vide letter NERLDC/SO-II/270 dated 02.07.2020.

POSOCO has already procured for 5 RLDCs and 1 NLDC at the negotiated price and hence the updated versions of PSS/E are available with POSOCO.

SLDCs are requested to mention the status of the plan of procurement so that the updated versions are available for all. This would enable smooth system studies for safe and secure operation of the Grid.

In 170th OCC meeting NERLDC informed the forum that only Assam and Meghalaya have taken the initiative for contract procurement.

POWERGRID vide mail dated. 09.10.2020 has intimated that POWERGRID has renewed the M&S services of PSS@E license by SIEMENS Ltd. for further 5 years starting from August, 2020 for CERC, RPCs, CEA & STUs and POWERGRID shall bear the cost of above renewal alongwith issue of new dongles for PSSE ver 35(with back compatibility feature). The following details are required for the same:

Entity name:
Dispatch Address:
Primary contact:
Secondary contact:
Email Id:
Mobile Number:

Details attached at **Annexure-D.8.**

Deliberation of the sub-Committee:

NERPC informed that M&S (alongwith upgradation) for the list of dongles as attached in Annexure would be done by CTU free of cost. In this respect all the SLDCs were requested to intimate whether they would opt to switch to the dongles mentioned in the Annexure to avail the scheme offered by POWERGRID. EE, SLDC, Meghalaya informed that Meghalaya has already opted for the same and the mentioned dongles are in custody of SLDC, Meghalaya. All the other SLDCs were requested to intimate likewise.

The Sub-Committee noted as above.

Action: all SLDCs.

D.9 Monitoring of Schemes funded from PSDF:

Status of the schemes in NER on 31.08.2020 is as given below:

POWER SYSTEM DEVELOPMENT FUND**State wise -Status of proposals funded from PSDF as on 31.08.2020(amount in Rs. Cr)**

Sl No	State	No of proposals Sanctioned	Grant Sanctioned	Grant Released	% of Grant Drawn	Completed
1	Arunachal Pradesh	2	20.18	3.49	17.29%	-
2	Assam	4	366.4	175.10	47.79%	-
3	Manipur	5	74.96	35.32	47.12%	-
4	Meghalaya	6	122.40	96.61	78.93%	1
5	Mizoram	2	28.81	27.31	94.79%	1
6	Nagaland	2	42.08	34.06	80.93%	-
7	Tripura	2	33.37	26.10	78.21%	-
8	NERPC	2	24.5	21.91	89.42	2
	Total proposals	23	712.70	419.90	58.91%	4

The following Schemes of NER are delayed and may be expedited. The status of the same may also be communicated to NPC, Division, CEA (cenpcea@gmail.com):

S. No	Name of State/Entity	Name of Entity	Name of Scheme and Unique ID No	Grant Approved (Rs. Cr)	Date of 1 st Instalment Released	Proposed Completion date as per sanction order	Grant Disbursed (Rs. Cr)	% of Grant disbursed
1	Assam	AEGCL	R&U of protection system. (11)	299.37	31-Mar-16	30-Sep-17	149.87	50.06%
2	Assam	AEGCL	Installation of BCU. (47)	53.52	25-Nov-16	25-May-18	24.63	46.02%
3	Manipur	Manipur SLDC	33kV system Integration with SLDC system in Manipur. (093)	13.37	27-Mar-18	27-Sep-19	1.34	10.02%
4	Manipur	Manipur MSPCL	Implementation of Automatic Demand Management proposal (ADMS) Pilot Projects at Three Power Substation in Manipur(140)	2.24	1-Jan-20	1-Oct-20	1.25	55.63%
5	Manipur	Manipur MSPCL	Implementation of Reliable Communication and data Acquisition system upto 132kV substations in Manipur. (152)	4.08	25-May-18	25-Nov-19	0.408	10.00%

6	Manipur	MSPCL	Installation of Reactive Power Solution on 33/11kV Substation in Manipur. (204)	21.77	26-Aug-20	1-Oct-20	2.177	10.00%
7	Meghalaya	MePTCL	Replacement of the 400kV, Bus Reator at 400/220/132 kV Substations, Killing, Meghalaya. (199)	6.86	-	-	-	-
8	Nagaland	DOP	R&U of protection system	39.96	15-Mar-16	15-Sep-17	32.90	82.33%
9	Tripura	TSECL	Implementation of Automatic Demand Management System (ADMS) in Tripura. (226)	2.32	-	-	-	-

Deliberation of the sub-Committee:

Pls refer to discussion item No. **B.1.**

The Sub-Committee noted as above.

Action: all state utilities.

D.10 Proposed Capital Expenditure for Palatana GBPP:

As a prudent power plant operator, OTPC has been trying to maintain an uninterrupted power supply from Palatana Plant to the beneficiary States. To maintain this uninterrupted power supply to the states, OTPC has submitted to Hon'ble CERC to allow additional expenditure on the following preventive works to be undertaken for the Palatana plant machines. The expenses to be undertaken are listed in table as below.

OTPC team has been facing several geographical constraints in repairing of its machines at Palatana as procurement and maintenance of damaged parts at a short notice is a challenge due to the remote location of the plant. The geographical constraints are beyond the control of OTPC and unforeseen/unpredictable events may occur at any time, causing technological and machine failures at Palatana plant. Thus, acting as a prudent power plant operator is required by OTPC to necessarily invest in technological advancements that can help in early identification of the issues and accordingly prevent the machine failures through preventive maintenance.

S.N	Description	Estimated Amount (Rs. In Lacs)
1	Feed to GBC from 400 kV Transformer	75.00
2	Online GTG Rotor Flux Monitoring	150.00
3	Change of Obsolete Relays at OTPC Plant Switchyard	30.00
4	Replacement of Sodium Lights with LED Lights at Palatana Premises	30.00
5	GTG Rotor	1,382.00
6	Compressor Enhancement Package	4,380.64
7	Online Condition Monitoring of Transformers/Reactors	250.00
8	Upgradation of DCS and MARK-6 Software	2562.00

Details of each expenditure attached at **Annexure-D.10**.

It is humbly submitted to the OCC Forum of NERPC that OTPC is undertaking all the above expenses to improve the reliability and availability of the plant and the OCC forum is therefore requested to kindly provide their consent for the above works in the best interest of Palatana Plant of OTPC and the Beneficiary States.

Deliberation of the sub-Committee:

DM, APDCL stated that most of the items proposed under capital expenditure are to increase the reliability of the plant. The cost for increasing reliability is huge (INR 88Cr. Approx.). He suggested that the bare minimum may be booked under O&M of the plant and the rest may be postponed for the meantime.

Sr. Manager, TSECL informed that Third Party Verification may be done to assess the requirements of all the proposed items under CAPEX.

DGM, NEEPCO stated that CEA rules clearly mention the spares to be maintained in Coal Based Power Stations, however no clear guideline is present for hydro or gas based power stations. He further informed that NEEPCO is presently maintaining spare rotor at AGBPP.

AGM, NTPC stated that for NTPC pooling of spares are possible due to a number of plants under operation.

Sr. Manager, OTPC clarified in detail the requirement of the various items under CAPEX.

The forum noted the requirement of spares and the other proposed modifications/upgradation under CAPEX from an operational perspective.

Director(O&P), NERPC opined that since petition has already been filed to CERC, the beneficiaries of Palatana GBPP may submit their representations in this regard to the Hon'ble Commission.

The Sub-Committee noted as above.

D.11 Reconciliation of ZCV:

OTPC was charged ZCV in following week...

- 13th July 2020 to 19th July 20" OTPC was charged Rs 2682/- for one ZCV violation on dated 15th July 2020. On 15th July 2020 OTPC Palatana Block-2 was tripped due tripping of GT-2 on loss of flame.
- "DSM Report from 27.07.2020 to 09.08.2020 (2Weeks)" OTPC was charged Rs 7390/- for one ZCV violation on dated 5th Aug, 2020. On 5th Aug 2020 OTPC Palatana Block-1 was tripped due tripping of GT-1 on "Exhaust Temp High".
- "DSM Report from 31.08.2020 to 06.09.2020, OTPC was charged Rs 21,056/- for one ZCV violation on dated 2nd Sept, 2020. On 2nd Sept 2020 at 00:07 Hrs OTPC Palatana Block-1 was tripped due tripping of GT-1 on "loss of Flame".

Kindly refer proviso of clause 4.5 of DSM 5th Amendment,

Quote

"Provided also that payment of additional charge for failure to adhere to sign change requirement as specified under clauses (a) & (b) of this regulation shall not be applicable to:

- a. renewable energy generators which are regional entities
- b. run of river projects without pondage
- c. any infirm injection of power by a generating station prior to CoD of a unit during testing and commissioning activities, in accordance with the Connectivity Regulations.
- d. any drawal of power by a generating station for the start-up activities of a unit.
- e. any inter-regional deviations.
- f. forced outage of a generating station in case of collective transactions on Power Exchanges." Unquote

OTPC is falling under point d. and f. of proviso of clause 4.5 of DSM 5th Amendment, and additional charges for ZCV may not be applicable to OTPC. Mail communication in this regard sent to NERLDC and NERPC.

In the view of above it is our humble request to kindly review the ZCV charges of mentioned period, and issue necessary guideline.

Deliberation of the sub-Committee:

Director (Comml.), NERPC clarified that the Cl.4.5(d) refer to the start-up activities prior to CoD of the unit and Cl.4.5(f) refer to the complete outage of generating station and not any particular unit or module. The forum decided to drop the agenda item.

The Sub-Committee noted as above.

D.12 Utilization of Transfer Bus and Bus Coupler Breaker during rectification of Main Circuit Breaker of 132 kV Dimapur-Doyang line 2 on 5th October'20:

The emergency shutdown of 132 kV Dimapur-Doyang line 2 was availed by Doyang HEP from 22:30 Hrs of 05/10/2020 to 12:00 hrs of 06/10/2020 for attending to leakage in main CB of the said line. Shutdown of the line for availing outage of CB could have been avoided by utilizing the Bus Coupler Breaker for protection of the line during the unavailability of the main CB. Hence, necessary action is to be taken to utilize the Bus Coupler Breaker at Doyang HEP for avoiding unwanted outage of lines. NERLDC vide letter no. NERLDC/S.O.-1/NEEPCO/DHEP/2020/28 dated 06-10-2020 had expressed the above mentioned concerns to Doyang HEP (NEEPCO).

Deliberation of the sub-Committee:

DGM, NEEPCO informed that the wiring of Selector Switch to the BC is yet to be done and also Trip Transfer scheme has to be completed. Further LBB has to be commissioned for all the feeders. For the said activities OEM is involved and due to COVID situation the work is delayed although every effort is being made for an early completion.

NERLDC mentioned that the unwanted outage of the line should be avoided and Bus Coupler CB must be utilized as and when the issues are resolved.

The Sub-Committee noted as above.

Action: NEEPCO.

D.13 Ensuring reliability of 132 kV Palatana-Surajmani Nagar 1 line:

Tripping of 132 kV Palatana-Surajmani Nagar 1 line was observed several times due to operation of overreaching protection (Z-2/Z-3) for fault in Tripura system. Recently,

same was observed during grid disturbance in Tripura Power System on 14.08.20 & 31.08.20.

NERLDC vide its letter dated 01.10.19 suggested few solutions in this regard and accordingly NERPC vide letter NERPC/Protection/ 5653-5655 dated 04.10.19 suggested TSECL to implement the same to avoid unwanted tripping of the line during upcoming festive season in Tripura state. As the festive season is approaching in Tripura, it is requested to attend the issue at the earliest as unwanted tripping of 132 kV Palatana-Surajmani Nagar disconnects Bangladesh load (as per SPS) and poses severe threat to reliability of the Tripura Power System.

Deliberation of the sub-Committee:

NERLDC informed that the item has been discussed and resolved in the Sub-group meeting on 15th October, 2020

The Sub-Committee noted as above.

Action: NERLDC.

D.14 Furnishing of data sheet on daily basis for preparation of daily PSP report:

In compliance to Regulation 5.5.1 (b) of IEGC 2010, NERLDC is preparing Daily Power Supply Position (PSP) report pertaining to NER. Most of the NER constituents are furnishing the data required for preparation of PSP report in formats agreed in 148th OCC Meeting on Sept.'18, apart from the following:

- (i) Manipur
- (ii) Mizoram
- (iii) Nagaland
- (iv) Arunachal Pradesh
- (v) Pare HEP
- (vi) Kameng HEP
- (vii) BGTPP*

*Data is being received but format is required to be changed as agreed in 148th OCCM. All the above-mentioned constituents are requested to furnish the data for PSP report as per the formats circulated by NERLDC.

Deliberation of the sub-Committee:

NERLDC requested all the constituents to submit the daily data as per revised format.

The Sub-Committee noted as above.

Action: all utilities as above.

D.15 SEMs to be Procured

In 170th OCCM NERTS informed that Procurement of 100 SEMs and 20 DCDs have been completed.

Quantity variation order for procurement of 50 more SEMs has been given to mitigate the requirement of new Sterlite & KMTL projects

Deliberation of the sub-Committee:

NERTS informed that the internal process is ongoing for procurement of additional 50 SEMs.

The Sub-Committee noted as above.

Action: NERTS.

D.16 SEM time drift:

In 170th OCCM NERTS informed that they would try to replace the SEMs as listed in 170th OCC Meeting by Sep'20 but due to restricted movement, pace of works has been severely hampered. Director (Comml.), NERPC requested NERTS to study and table exhaustive report in the OCC forum for quick resolution of time drift issues.

Deliberation of the sub-Committee:

The Sub-Committee noted as above.

Action: NERTS.

D.17 Integration of SEMs with laptop/PC for data downloading:

Decisions as per deliberation in the previous OCC forum:

- i. Implementation of RS-485 scheme for data downloading in one station preferably a generating station
- ii. If trial operation is successful then the scheme is to be extended to all stations where SEM quantity is greater than 10.
- iii. Trial/Pilot to be set up at OTPC Palatana.
- iv. OEM support to be sought by NERTS.

Deliberation of the sub-Committee:

Forum requested NERTS to co-ordinate with OEM for early implementation of the scheme.

The Sub-Committee noted as above.

Action: NERTS.

D.18 Second Meter List for replacement:

In 170th OCCM NERLDC presented a second list of 29 SEMs (in addition to first list of 22 SEMs approved in 169th OCC Meeting) consisting of 25 Elster make SEMs & 4 defective SEMs. NERLDC requested to replace all the Elster make SEMs as procurement of same was blacklisted in 2015 and vendor support is not available.

The Sub-Committee noted as above.

Action: NERTS.

D.19 New Meter and CMRI requirement:

In 170th OCCM NERLDC submitted a list of requirements of SEM and CMRI for new locations. It was agreed that meters will be installed in new locations where check/backup meters are not available, and DCD will be provided from the recent procurement. Also, NERTS will give the details of meter requirement for their substation from where they draw power for aux. consumption and will install the meters (as decided in 39th CCM).

Deliberation of the sub-Committee:

Forum requested NERTS to expedite the process of replacement/new installation of meters as listed in 169th and 170th OCCM.

The Sub-Committee noted as above.

Action: NERTS.

D.20 SEM data collecting Laptop related issues:

In 170th OCCM NERLDC presented the details collected from sites related to problem faced at sites regarding use of laptops, time drift correction problems with DCD etc.

After detailed discussion, it is decided that Laptops will be used for data collection only and time drift correction provision in the software will be kept disabled for safety of the meters. Time drift correction must be done through DCD. The required new DCD will be procured for the sites.

NERTS will resolve all the issues related to laptops which is under warranty period. The life span of laptop was decided as 5 years from the date of procurement. Post warranty period the maintenance of laptop shall be undertaken by the constituents.

****DCD REQUIREMENT**

Substation	State	New DCD Requirement	Final Requirement to be filled
Lekhi	Ar. Pradesh	Y	
Deomali	Ar.	Data Not Sent*	

	Pradesh		
Agia	Assam	Y	
Azara	Assam	Y	
Sarusajai	Assam	Y	
Old Marani	Assam	Y	
Pailapool	Assam	Y	
Hailakandi	Assam	Y	
Btps	Assam	Y	
Kahilipara	Assam	Y	
Rangia	Assam	Y	
Gohpur	Assam	Y	
Tinsukia	Assam	Y	
Dullavchera	Assam	Y	
Pavoi	Assam	Y	
Srikona	Assam	Y	
Panchgram	Assam	Y	
Bokajan	Assam	Y	
Yurembam	Manipur	Y	
Umtru	Meghalaya	Y	
Khlieriat Meg	Meghalaya	Y	
Lumshnong	Meghalaya	Y	
Dimapur Ng	Nagaland	Y	
Imphal PG	Powergrid	Y	
Jiribam PG	Powergrid	Y	
Dimapur PG	Powergrid	Y	
Agartala	Tripura	Information Not Provided*	
Dharmanagar	Tripura	Data Sent By Powergrid*	
Surjamani Nagar	Tripura	Information Not Provided*	
Udaipur	Tripura	Data Not Sent*	
Pk Bari	Tripura	Data Sent By Powergrid*	

*Other Substations included in this List may be discussed for the Requirement of New DCD

New Location Requirement as decided in 170th OCCM = 6

Total Requirement of DCD as reported by SLDC = 25

Number of Newly Procured DCD = 20

Distribution from Newly Procured 20 Nos. DCD may be Finalized

Deliberation of the sub-Committee:

Forum requested NERTS to expedite process of resolving all laptop related issues. Dir. Commercial, NERPC advised NERLDC to list the distribution of the 20 nos DCD based on priority of requirement. NERTS agreed to do the time drift correction activities of the SEM installed at State S/S from where they collect and send the data to NERLDC and DCD shall not be provided to those S/S.

The Sub-Committee noted as above.

Action: NERTS, NERLDC.

D.21 Procurement of SEM & DCD/Laptop for future requirements:

In 170th OCCM NERLDC presented the estimation 125 nos. SEMs and 15 nos. CMRIs shall be required for future projects and maintaining spare. List of SEMs and CMRIs was presented by NERLDC.

Regarding procurement of meter, the issue of black listing of M/s Elster was discussed and NERLDC highlighted various problem in Elster make meters. In view of this, the Forum already decided to replace all existing Elster meters. It was also mentioned by all utilities that L&T meters has been working well since numbers of year. There has been a plan to make RS-485 scheme with L&T meters in a location for which meter of one make is preferable. Also, DCD spread over the region are compatible with L&T meters and laptops distributed are loaded with L&T software.

In view of all above, Forum decided that procurement will be done on single tender basis from L&T to synchronize with the existing metering system.

Deliberation of the sub-Committee:

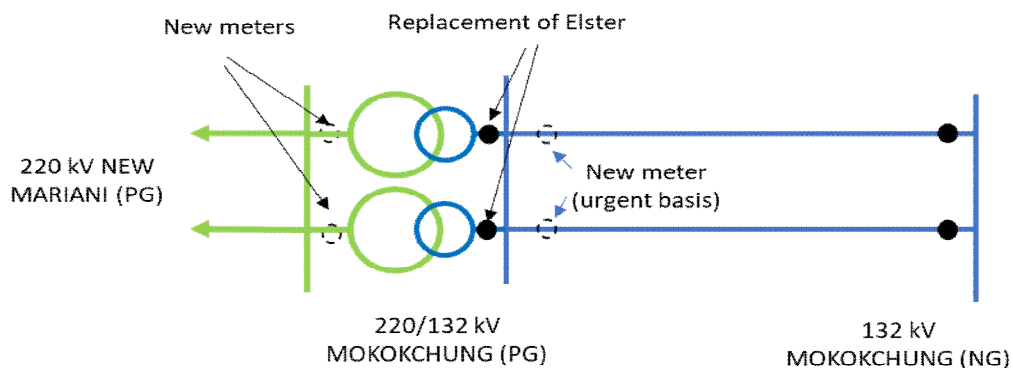
Forum request NERTS to initiate the process of procurement.

The Sub-Committee noted as above.

Action: NERTS.

D.22 Replacement/Installation of new SEM at Mokokchung sub-station:

Replacement/ New installation of SEM at Mokokchung-PG Substation shall be done as per the diagram below:



The Sub-Committee noted as above.

Action: NERTS.

D.23 Sign Reversal Problem:

Sign reversal problem is persisting in the following lines:

- a. Imphal (Man) end (NP-9544-A) of 132 kV Imphal (Man) - Imphal (PG) -I. Reported as per intimation received from Manipur SLDC and comparing with SCADA data.
- b. Karong end (NP-9667-A) of 132 kV Karong - Kohima line. Also, Kohima end of 132 kV Karong - Kohima line reads appx. 20-25% less than that of Karong end.

Matter was discussed in 170th OCCM (D-19 of MoM) and it was decided that Nagaland will explore different CT core for SEM connection as there is no error with SCADA data.

Deliberation of the sub-Committee:

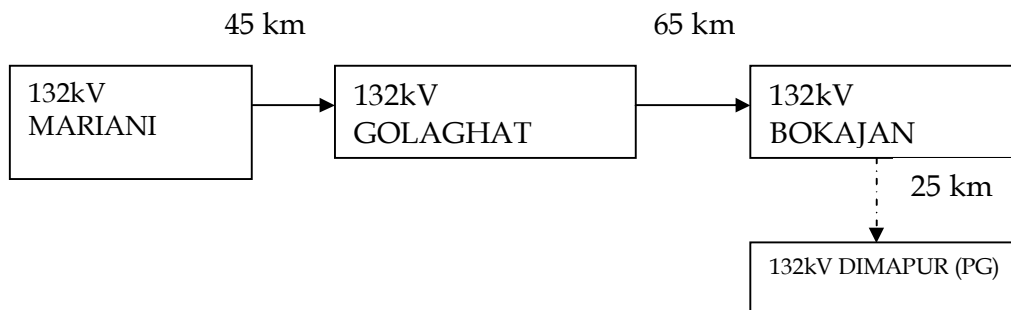
After detailed deliberation it was decided that: For (a) MSPCL to rectify the connections by 23rd Oct'20, for (b) DoP Nagaland to replace the CT at Kohima by Oct'20.

The Sub-Committee noted as above.

Action: MSPCL, DoP Nagaland.

ADDITIONAL AGENDA FROM AEGCL

D.24 Low Voltage Profile at 132kV Bokajan GSS:



Due to unavailability of ICT at Dimapur (PG) GSS, Bokajan GSS is being fed radially from Mariani GSS via Golaghat GSS. Low voltage profile is being observed at Bokajan GSS (mostly industrial load suffering in off peak hours). It is requested to consider radial loading of 132kV Bokajan-Dimapur (PG) line for voltage improvement at Bokajan GSS (132kV Golaghat - Bokajan may then be kept open).

Deliberation of the sub-Committee:

After detailed deliberation it was decided that NERLDC would do a System Study considering the worst contingency in Nagaland System and revert back to the forum.

The Sub-Committee noted as above.

Action: NERLDC.

ADDITIONAL AGENDA FROM NTPC:

D.25 PG Test of various elements at BgTPP:

NTPC BgTPP is planning for PG tests of the following Equipments in the month of October & November 2020 which entails requirement of Schedule.

1. U#3 Mills
2. CT #3 Cooling Tower
3. Fan Margin U#3
4. C&I System PG Test
5. BFP PG Test of U#1 & U#3

Deliberation of the sub-Committee:

After detailed deliberation it was decided that NTPC would intimate (for PG test) via email at least 3 days in advance to all the beneficiaries with a copy to NERLDC. The intimation email must contain details of testing activity to be conducted along with the desired load support (minimum generation schedule) required and date & time period of testing activity. After receiving consent of all beneficiaries at least 2 days ahead, NERLDC would approve the schedule for PG test one day prior to the testing activity.

After approval for the whole period is received from NERLDC, NTPC must provide prior information regarding start and end of testing on the day of testing.

The Sub-Committee noted as above.

Action: NTPC.

ADDITIONAL AGENDA FROM NERTS:

D.26 Shut down of 800 kV HVDC BNC-APD Pole-2 for OPGW work:

The balance stringing of 21 Km of OPGW in 800 kV HVDC BNC-APD, which could not be done during construction of the line was completed with the help of district administration from 07.09.20 to 20.09.20, with continuous shut down of the Pole-2. After completion of the above work communication could not be established and it was found that OPGW was sabotaged at five other sections by miscreant's activity. The damaged OPGW at these five sections are now to be replaced with new OPGW.

Sections : Loc. 500 to Loc. 504 = 1.5km,

Loc. 523 to Loc. 525 = 1.2km,

Loc. 528 to Loc. 530 = 1.2km,

Loc. 565 to Loc. 570 = 2.0km,

Loc. 579 to Loc. 582 = 1.2km,

It may be mentioned that these five sections traverse through areas having ROW problems. The damages could be identified with the help of police security and replacement / rectification shall have to be done with the help of police security only.

For attending construction related defect arising out of miscreant's activities of sabotaging and also for communication system improvement, the proposed shutdown of 800 kV HVDC BNC-APD Pole-2 is requested from 16.10.20 (08:00 Hrs) to 21.10.20 (18:00 Hrs) on continuous basis for completion OPGW communication link under construction (OPGW) and existing system improvement related shutdown. During this period, Pole-1 shall be in service with its full capacity to carry 1500 MW from BNC to Agra. Also, depending upon readiness of sections after each working day at site, if possible than shutdown of Pole-2 shall be returned in evening hours. It is further assured that effort shall be made to put the pole-2 in to service if work is halted for any reason.

Deliberation of the sub-Committee:

CGM(AM), NERTS informed that after completion of 21Km of OPGW laying in 800 kV HVDC BNC-APD with the help of district administration and security forces, communication via OPGW link could not be established due to signal drop arising out of OPGW conductor sabotage and theft activity by miscreants in severe ROW prone spans as mentioned above.

CGM(AM), NERTS informed the forum that to replace the OPGW spans, shutdown of 800 kV HVDC BNC-APD Pole-2 shall be required for 06 – 07 days (approximately) in the month of October / November 2020 as per availability of district administration and security forces support and resolving of severe ROW related obstruction in those areas.

CGM(AM), NERTS conveyed to the forum that, for attending this construction related defect arising out of miscreant's activities of sabotaging and also for communication system improvement, the proposed shutdown may be considered under deemed availability categorization.

The forum gave consent for the shutdown as proposed.

The Sub-Committee noted as above.

ADDITIONAL AGENDA FROM M/S KPTL:

D.27 First Time Charging of 400kV Imphal-Kohima-Mariani:

Deliberation of the 169th OCCM:

“Members were of the opinion that for 400kV Imphal-New Kohima D/C line there is no impediment for giving ToC, however for 400kV New Kohima- New Mariani D/C line, completion of line construction for all sections cannot be verified without data availability from New Mariani. In this event the forum requested NERLDC to desist from giving ToC, however idle charging permission as anti-theft measure may be accorded. Further all the beneficiary states in unison stated that giving ToC would enable the transmission utility to file tariff under PoC mechanism, which is undesirable as without completion of New Kohima downstream and bays at New Mariani the entire 400kV Imphal-New Kohima-New Mariani D/C line would remain unutilized.

NERLDC clarified that due to non-completion of downstream and bays at New Mariani, tariff for 400kV Imphal-New Kohima-New Mariani D/C will not be recovered through PoC mechanism and the element(s) will not be included in PoC unless there is actual power flow.”

First time charging of Imphal to Kohima and Kohima to Mariani line along with its associated Bays at Imphal S/S, Mariani S/S, Kohima S/S. Issuance of trial run certificate

Deliberation of the sub-Committee:

CGM, NERLDC informed that charging clearance of the 400kV Imphal (PG)-New Kohima (TBCB)-Mariani(PG) would be given by NERLDC after due verification of all documents required for FTC. It was also clarified that subsequent to completion of the entire 400kV Imphal-New kohima-Mariani- Misa link and also the downstream, the tariff would be booked to PoC. Till then partially completed assets would be commercialized under separate mechanism determined by Hon’ble CERC.

Sr.GM, Misa, NERTS informed that Mariani bays of 400kV New-Kohima- Mariani would be completed by Nov’20. Also, Misa end bays of 400kV Misa-Mariani would be completed by Dec’20-Jan’21.

The Sub-Committee noted as above.

Date & Venue of next OCC meeting:

It is proposed to hold the 172nd OCC meeting of NERPC on second week of November 2020. However, exact date and venue will be intimated in due course.

Annexure-I**List of Participants in the 171st OCC Meeting held on 16.10.2020**

SN	Name & Designation	Organization	Contact No.
1	Sh. G.Yinyo, JE	Ar. Pradesh	-
2	Sh. Bimal Borah, DGM (O)(SLDC)	Assam	-
3	Sh. Nabanit Hazarika, AGM	Assam	
4	Sh. Mriganka Bhuyan, AGM (SLDC), AEGCL	Assam	-
5	Sh. I. Tahbildar, DM, APDCL	Assam	-
6	Smti. Khoisnam Steela, DGM(SLDC),	Manipur	-
7	Smti. Jayela Wahengbam, DM, SLDC	Manipur	
8	Smti. Steffi Okram, Manager (E) (SLDC)	Manipur	
9	Smti. Sonia Yambem, DM SLDC	Manipur	
10	Sh. N. Romeo Singh, DM(IT), (SLDC)	Manipur	-
11	Sh. Haobam M. Chanu, Manager, (SLDC)	Manipur	-
12	Sh. Rokobeito Iralu, SDO	Nagaland	-
13	Sh. Shuwato Katiry, AE	Nagaland	
14	Sh. Asangba Tikhir, EE SLDC	Nagaland	-
15	Sh. Tiakaba, JE	Nagaland	-
16	Sh. G. Taka, JE	Nagaland	-
17	Sh. T. Gidon, EE (SLDC)	Meghalaya	-
18	Sh. A. Shullai, AEE, MePGCL	Meghalaya	-
19	Sh. R. Khongmalai, AEE, MRT, MePTCL	Meghalaya	-
20	Smti. Kristine Sailo, AE, SLDC	Mizoram	-
21	Sh. L. Sailo, JE, SLDC	Mizoram	-
22	Sh. Anil Debbarma, DGM (SLDC)	Tripura	09612589250
23	Sh. Mrinal Paul, Manager	Tripura	-
24	Sh. V. Suresh, ED	NERLDC	-
25	Sh. R. Sutradhar, CGM	NERLDC	-
26	Sh. S.C. De, Sr.GM	NERLDC	09436335369
27	Sh. Sourav Mandal, Dy. Mgr. (SO-I)	NERLDC	09402102354
28	Sh. Kritika Debnath, Engineer	NERLDC	09436930830
29	Sh. U. Kataki, CGM(AM), NERTS	PGCIL	09435505418
30	Sh. Devaprasad Paul, Ch. Mgr. (AM)	PGCIL	09435382360

31	Sh. Pinak Nandi, Mgr. (RTAMC)	PGCIL	09436335227
32	Sh. P.Kanungo, Sr.GM-Misa	PGCIL	
33	Sh. Joypal Roy, DGM	NEEPCO	08837200069
34	Sh. Narendra Kumar Gupta, Sr. Manager (O)	OTPC	09774233426
35	Sh. S. R Das, Sr. Manager	OTPC	
36	Sh. Kangkan Paul, DM (EEMG)	NTPC	-
37	Sh. P.R. Jena, AGM	NTPC	-
38	Sh. Susoban Das, AGM (EEMG)	NTPC	
39	Sh. Ratan Singh Basnet, Sr. Mgr.	NETC	-
40	Smti. Rishika Charan, CE, NPC	CEA	
41	Sh. Himanshu Lal, AD-I NPC	CEA	
42	Sh. Satish Kumar, AD-II NPC	CEA	
43	Sh. D. Chaliha	KALPATARU	-
44	Sh. Mahesh Bhagat, EE	STERLITE	-
45	Sh. Dhurjati Prasad Patra	STERLITE	-
46	Sh. A.K. Thakur, Member Secretary	NERPC	-
47	Sh. B. Lyngkhai, Director (O&P)	NERPC	09436163419
48	Sh. S.M. Aimol, Director (Comml.)	NERPC	-
49	Sh. S. Mukherjee, Dy. Director	NERPC	08794277306
50	Sh. S. Chatturvedi, AE	NERPC	-



उ.पू.क्षे ग्रिड प्रदर्शन

NER GRID PERFORMANCE

For the month September 2020

North Eastern Regional Load Despatch Centre

POSOCO, Shillong

**Highlights of
the Month**

**Frequency
Profile**

**Voltage
Related Issues**

**Transmission
Element Issues**

**Operational
Issues**

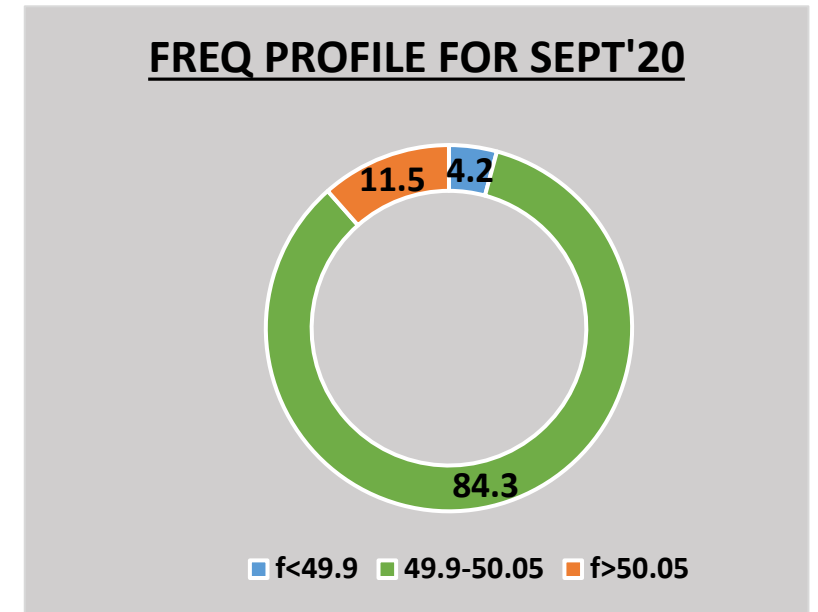
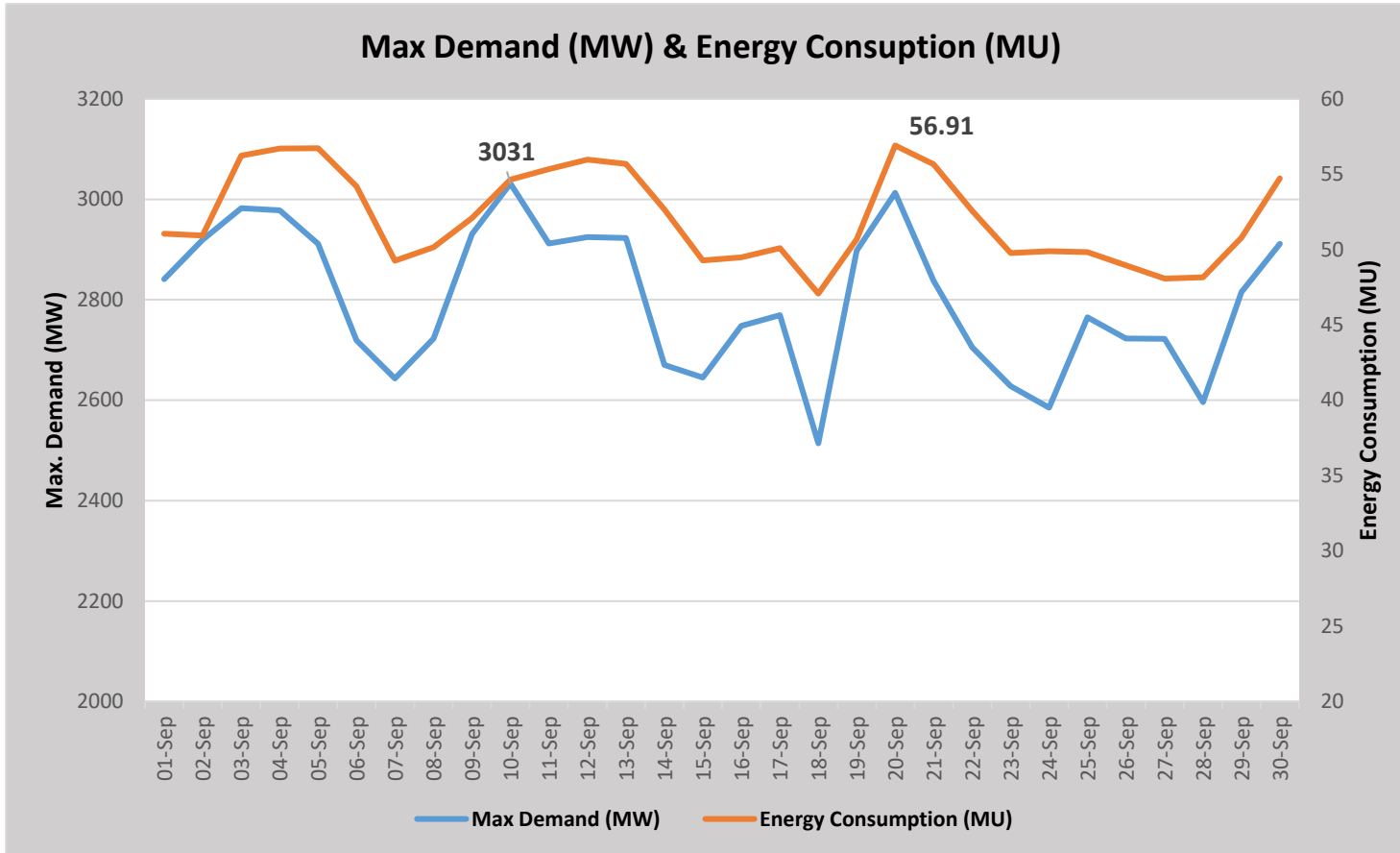
**Network
Related Issues**

**Hydro
Reservoir
Levels**

Metering Issues

**Telemetry
Availability
Status**

Maximum MW and MU in NER: Sept 2020



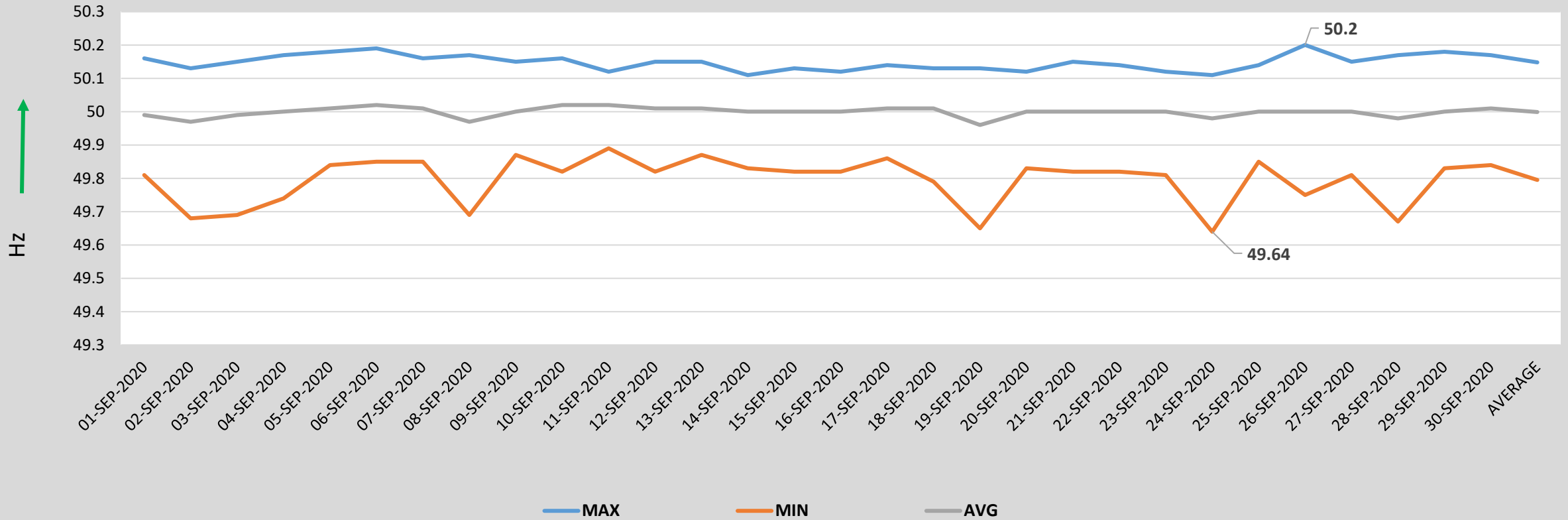
No. of GD	31
No. of GI	8

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Frequency Profile

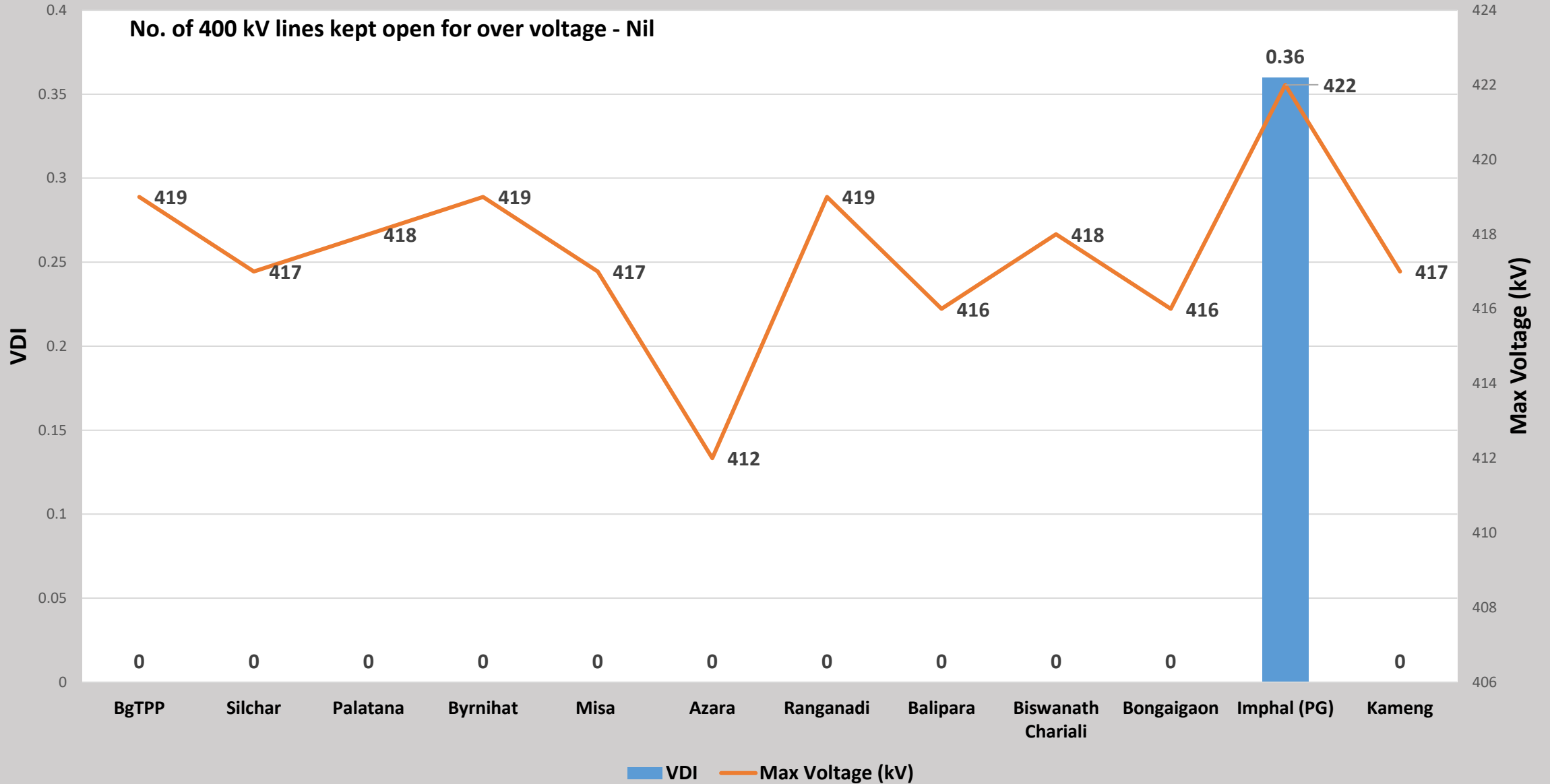


FREQUENCY PROFILE SEPT 2020



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VDI (400 kV) for Sept'20



C.3. Status update of important Reactors under prolonged outage:

- 63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor- By MePTCL
- 63MVAR L/R for 400kV Palatana-Silchar Ckt-I (Out since Apr'19) – by OTPC ~Target mentioned in 169TH OCCM –OCT'2020
- 25 MVAR Tertiary Reactor 1, 2 & 4 and Bay at BALIPARA (Out since 10.08.2020) – by NERTS ~Target mentioned in 170TH OCCM –SEPT'2020

Transmission Elements Issues



C.1. Auto-reclosure issues at Azara:

- In 169th OCCM, it was decided that by Aug'20, checking of PLCC panels wiring at 400 kV Azara S/S, investigating reasons for channel 1 for 400kV Silchar going into disabled mode at time , and thorough testing of carrier communication channel end-to-end for 400kV Silchar-Azara shall be completed. – *Status by Assam/NERTS*

C.3. Status update of important grid elements under prolonged outage impacting system operation

Sl. No	Element	Owner	Remarks	Status updated in 170th OCCM
1	132kV Dimapur - Imphal	NERTS	Out since 25.07.2018	By Oct'2020
2	220kV Sonabil-Samaguri-I	AEGCL	Out since 14.01.2019	By Sept'20
3	132kV Srikona-Panchgram	AEGCL	Out since 14.01.2019	By Sept'20
4	132kV Jiribam – Rengpang	MSPCL		By Oct.'20
5	220KV-Agia-BTPS-I	AEGCL	Out since 15.03.2020	Line is ready to be charged
6	132KV-Pare-Itanagar-1	Arunachal Pradesh	Out since 12.07.2020	By 15.10.2020
7	132KV-Ranganadi-Itanagar-1	Arunachal Pradesh	Out since 12.07.2020	By 15.10.2020

Transmission Elements Issues



D.6 Charging of 33kV Khupi-Kimi line at 132kV

- Status update from representatives from NEEPCO & SLDC AP- As discussed in 170th OCCM

D.7 Immediate restoration of 220 kV Bus Coupler bay at Samaguri (AEGCL) & keeping both buses in service at 220 kV substations in Assam power system:

- On 27.08.2020, Assam required Emergency shutdown for Bus 1 at Samaguri
- But due to problem in Bus Coupler shutdown of Both 220 Buses was availed for around 1 hour for offline transfer of all elements to Bus 2
- This could have been avoided by online transfer of all lines, if Bus Coupler was in healthy condition – Outage of all 220 kV Lines from 220 kV Sonabil could have been avoided.
- Single bus operation of 220 kV Samaguri is affecting the safe and secure operation of the NER grid especially Assam Power System.
- Single bus operation is observed in other 220 kV substations of Assam Power system by keeping Bus-Coupler in open condition:

- | | |
|-----------------|-------------|
| 1. Sarusajai | 5. Namrup |
| 2. Jawaharnagar | 6. Tinsukia |
| 3. Sonabil | 7. Samaguri |
| 4. Mariani | 8. Sonapur |

Transmission Elements Issues



D.12 Utilization of Transfer Bus and Bus Coupler Breaker during rectification of Main Circuit Breaker of 132 kV Dimapur-Doyang line 2 on 5th October'20:

- Bus Scheme at Doyang – Double Main Cum Transfer
- Outage of 132 kV Dimapur – Doyang-2 line during Shutdown of Main CB could have been avoided by using Transfer Bus and Bus Coupler Beaker.

D.13 Ensuring reliability of 132 kV Palatana-Surajmani Nagar 1 line :

- Issue Resolved in Sub Group Meeting on 15/10/2020

Operational Issues



C.5. Tripping of 220kV BTPS-Salakati D/C on 05.08.2020:

- 220 kV BTPS – Salakati 2 line tripped due to unbalance current at 20:33 Hrs on 05.08.20. Subsequently, 220 kV BTPS – Salakati1 line tripped on over current.
- AEGCL is requested to intimate the status of SPS related over loading of 220 kV BTPS – Salakati D/C
- Reconductoring of BTPS- Salakati 220kV D/c line with HTLS conductor along with requisite modification in bay equipment at both ends was agreed in 2nd NERSCT. Status of this project may be updated.

C.6 Implementation of SPS-1&3 for Bangladesh

- The SPS has been discussed and approved in Special SPS meeting on 20.02.2020 and further discussed in 167th & 169th OCC Meeting and Protection Sub-group meeting on 10.09.2020.
- NERTS may inform the Status

C.7 Mapping of NERLDC Tripping portal and PDMS tripping portal

NERLDC is in the process of placing LoA to M/S Kreate who is the developer of NERLDC Tripping Portal

Operational Issues



D.8. Renewal of Maintenance and Support Contract for PSS/E user Licenses:

- Consent for price negotiation given by all SLDCs in 159th OCCM for renewal of Maintenance & Support Contract with M/s Siemens
- Negotiated price from M/s Siemens was communicated to SLDCs vide letter NERLDC/SO-II/270 dated 02.07.2020.
- POSOCO has procured at negotiated price for 5 RLDCs and NLDC at negotiated price and hence updated version of PSS/E is available with POSOCO
- SLDCs may please mention plant of procurement at their end.

D.14 Furnishing of data sheet on daily basis for preparation of daily PSP report

- In compliance to Regulation 5.5.1 (b) of IEGC 2010, NERLDC is preparing Daily Power Supply Position (PSP) report pertaining to NER
- Most of the NER constituents are furnishing the data required for preparation of PSP report in formats agreed in 148th OCC Meeting on Sept.'18, apart from the following:

Pare HEP, Kameng HEP, BGTTP*, Manipur, Mizoram, Nagaland, Arunachal Pradesh

*Data is being received but format is required to be changed as agreed in 148th OCCM.

Operational Issues

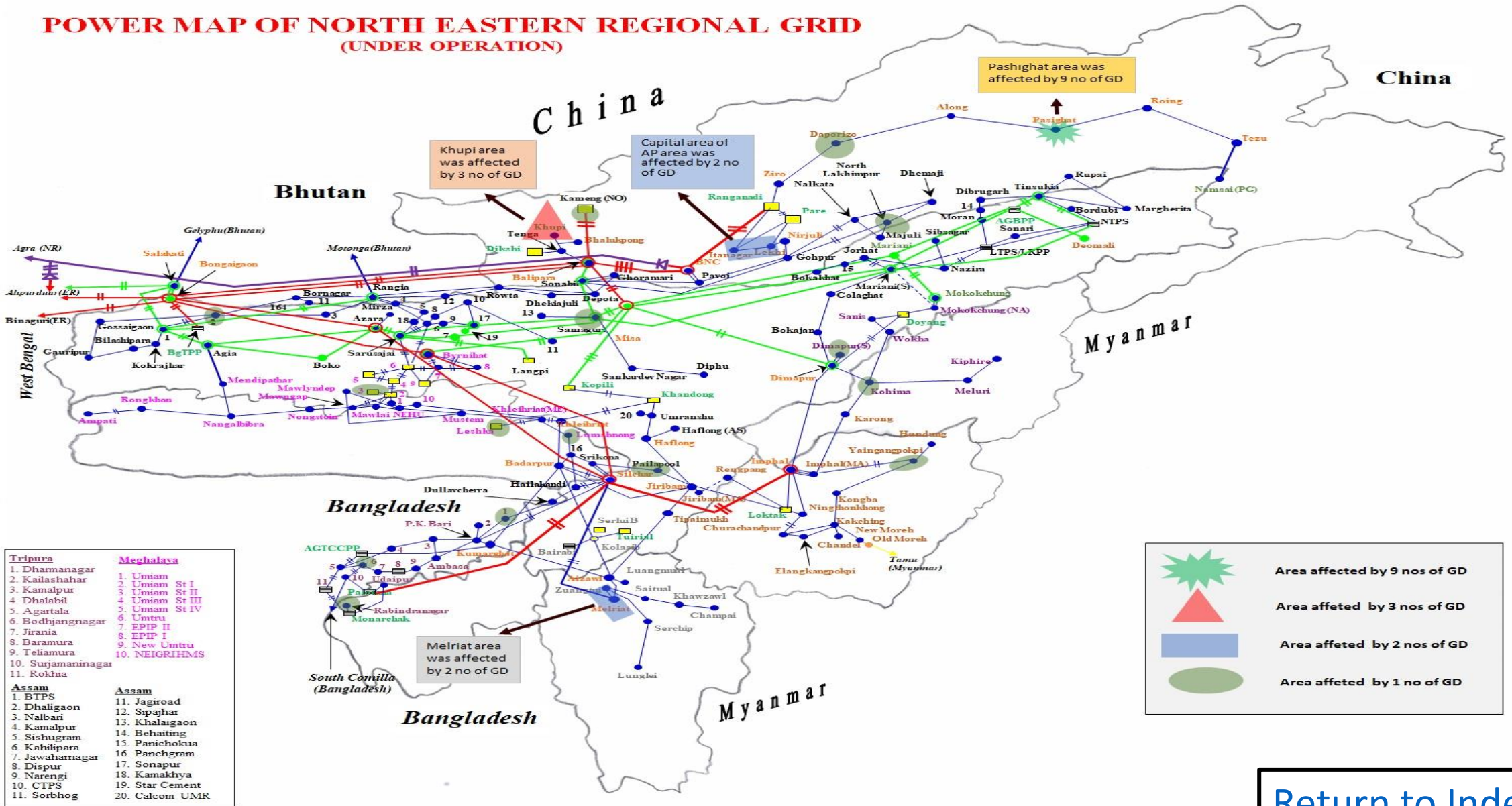
Accurate Load forecasting by SLDCs as per IEGC c1.5.3 for better system operation:

- RMSE for actual data in comparison to that forecasted data by the states for the month of Sept.'20 are as follows:

Day	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Median	18	12	9	10	36	9	18

Network Issues Grid Disturbance during June 2020

POWER MAP OF NORTH EASTERN REGIONAL GRID (UNDER OPERATION)



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Number of Days as per Current Hydro Generation

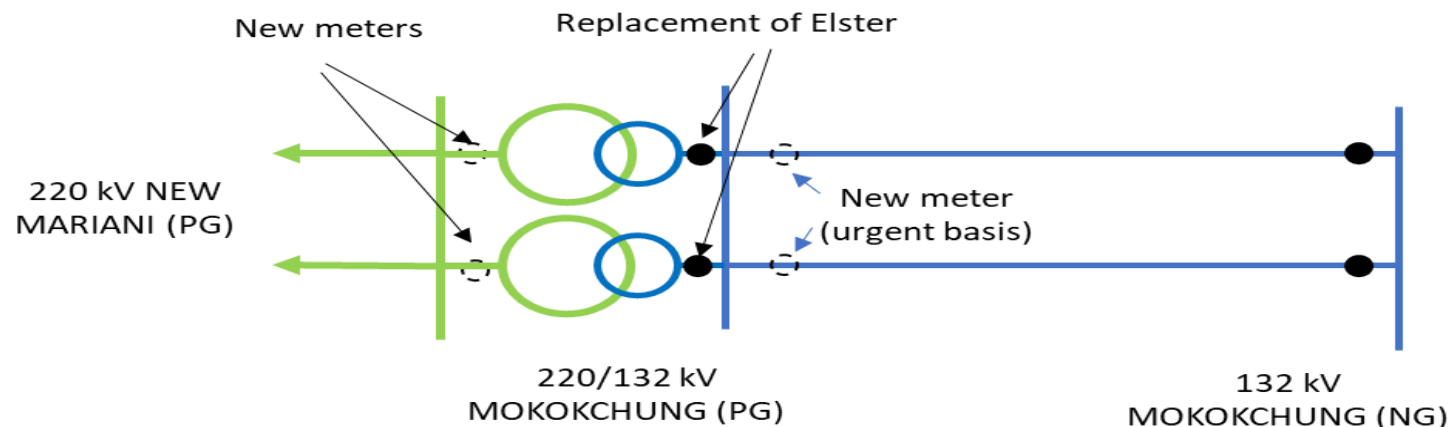


Plants	Reservoir Level in meters (as on 14/10/2020)	MU Content	Present DC (MU)	No of days as per current Generation
Khandong + Kopili STG II	722.15	32	0	-
Kopili	-	-	-	-
Doyang	320.3	25	1.12	22
Loktak	768.72	250	2.48	100

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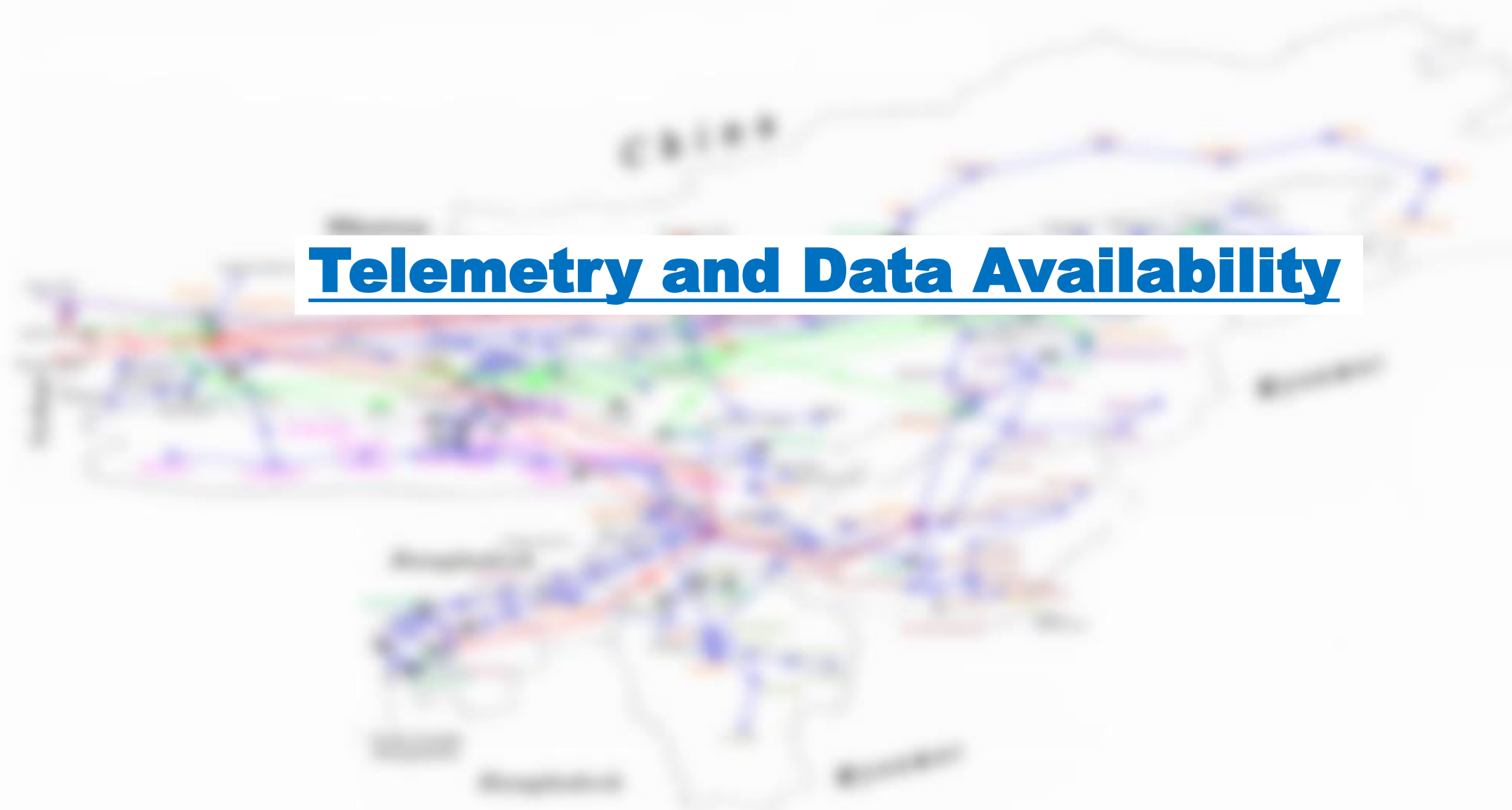
METER RELATED AGENDA

- D.15 SEMs to be Procured
- D.16 SEM time drift
- D.17 Integration of SEMs with laptop/PC for data downloading
- D.18 Second Meter List for replacement
- D.19 New Meter and CMRI requirement
- D.20 SEM data collecting Laptop related issues
- D.21 Procurement of SEM & DCD/Laptop for future requirements
- D.22 Replacement/Installation of new SEM at Mokokchung sub-station
- D.23 Sign Reversal Problem

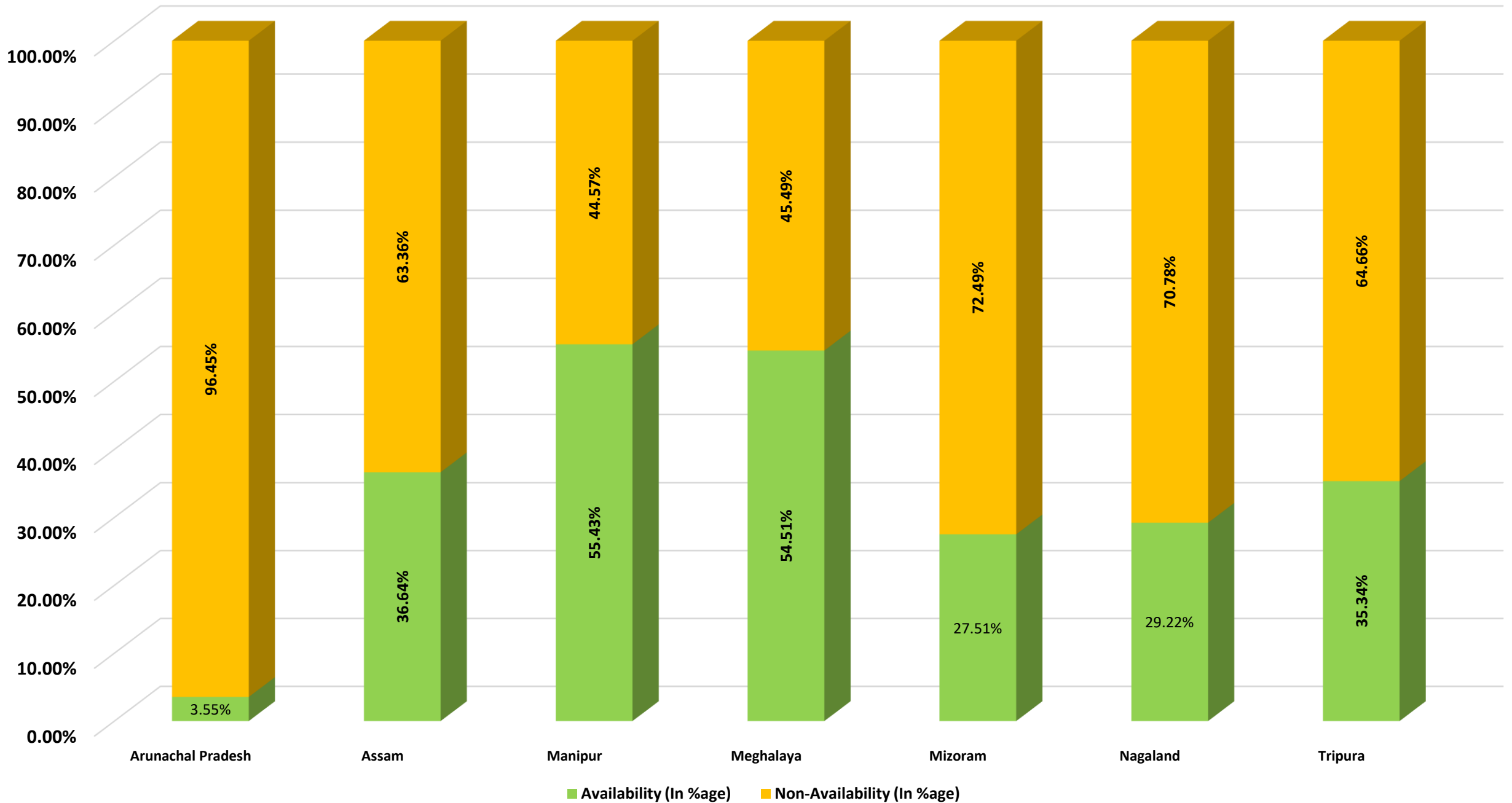


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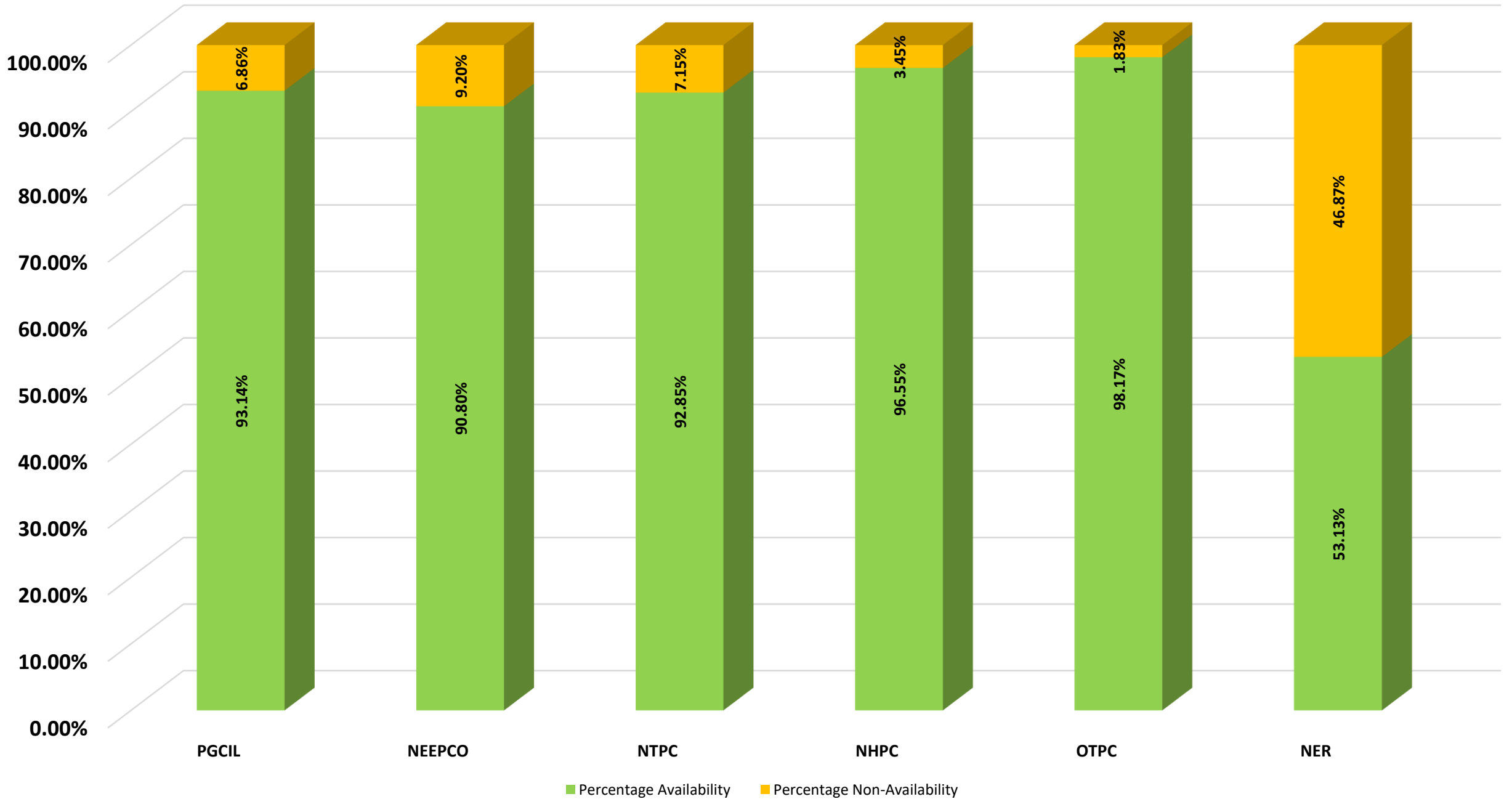
Telemetry and Data Availability



Telemetry Statistics for NER States (Average availability of data for the Month of Sept'20)

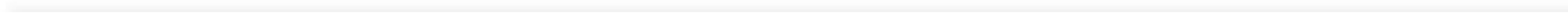


Telemetry Statistics for Central Sector of NER (Average availability of data for the Month of Sept'20)





Thank You



Annexure-1**List of Organizations / Entities / STUs considered for M&S for PSSE Licenses.**

Sl. No.	State transmission Utilities	Licenses considered	Dongle No
1	Power Grid Corporation of India Ltd.	35	16261, 16706, 17260 16262, 16708, 17264 16263, 16711, 17265 16287, 16712, 17277 16314, 16713, 17279 16315, 16714, 17281 16316, 16736, 17283 16621, 16737, 17288 16622, 16738, 17307 16623, 17210, 17309 16624, 17232, 17320 16690, 17248
2	Central Electricity Authority	11	16641, 16642, 16643, 16644, 16645, 16646, 16647, 16648, 16649, 16650, 17274,
3	Central Electricity Regulatory Commission	2	16606, 16607
4	Eastern Region Power Committee	2	16298, 17302
5	North Regional Power Committee	2	16320, 17208
6	North-Eastern Regional Power Committee	2	16280, 17265
7	Southern Regional Power Committee	2	16348, 17270
8	Western Regional Power Committee	2	16256, 17189
9	AP Transco	2	16344, 16345
10	Bhakra Beas Management Board	2	16338, 16339
11	Damodar Valley Corporation	2	16292, 16293
12	Delhi Transco Ltd	2	16324, 16325
13	Government of Arunachal Pradesh	2	16285, 16286
14	Government of Nagaland	2	16268, 16269
15	Government of Sikkim	2	16719, 16720
16	Gujrat Energy Transmission Company Limited	2	16259, 16260
17	HP Power Transmission Company Ltd	2	16317, 16318
18	Jharkhand State Electricity Board	2	16299, 16300
19	Karnataka State Power Transmission Corporation. Ltd.	2	16353, 16354
20	Kerala State Electricity Board	2	16340, 16341
21	Meghalaya Energy Corporation Ltd	2	16276, 16277
22	Odisha Power Transmission Company Ltd	2	16681, 16682

आमित कुमार

Singh Amit
Kumar

Digitally signed by Singh Amit
Kumar
DN: cn=Singh Amit Kumar,
o=Siemens,
email=singh.amit.kumar@siemens.com,
Date: 2020.07.27 16:23:17 +05'30'

Agarwal
Samir

Digitally signed by Agarwal Samir
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email=samir.agarwal@siemens.com,
Date: 2020.07.27 17:52:25 +05'30'

Gandhi
Manish

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email=gandhi.manish@siemens.com,
Date: 2020.07.27 17:52:25 +05'30'

Record Notes of Discussions in respect of Procurement of Maintenance & Support of Power System Analysis Software (PSS/E) from SIEMENS.

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अमित कुमार

अमित कुमार

23	Power Transmission Corporation Uttaranchal Ltd	2	16470, 16472
24	Punjab State Transmission Company Ltd	2	16332, 16333
25	Rajasthan Rajya Vidyut Prasaran Nigam Ltd.	2	16334, 16335
26	Union Territory Chandigarh	2	16585, 16586
27	Union Territory Dadar & Nagar Haveli	2	16674, 16675
28	Uttar Pradesh Power Transmission Company Ltd	2	16319, 16321
29	West Bengal State Electricity Company Ltd	2	16296, 16297
30	Assam Electricity Grid Corporation Ltd	2	16274, 16275
31	Bihar State Power Transmission Company Ltd	2	16294, 16295
32	Chhattisgarh State Power Transmission Company Ltd	2	16671, 16672
33	Government of Goa	2	16264, 16265
34	Government of Manipur	2	16272, 16273
35	Government of Mizoram	2	16356, 16357
36	Government of Puducherry	2	16342, 16343
37	Haryana Vidyut Prasaran Nigam Ltd	2	16322, 16323
38	Union Territory of Jammu & Kashmir	2	16336, 16337
39	Madhya Pradesh Power Transmission Company Ltd	2	16250, 16251
40	Maharashtra State Electricity Transmission Company Ltd	2	16248, 16249
41	Tamil Nadu Transmission Corporation Ltd	2	16346, 16347
42	Tripura State Electricity Corporation Ltd	2	16270, 16271
43	Union Territory of Daman & Diu	2	16257, 16258
	Total Licenses	128	

Note: The above dongle numbers are as per Siemens record as per the distribution in 2012/13 under the referred contract dated 12.08.2012. In case of any changes in dongle numbers, the same shall be re-validated by SIEMENS without any cost liability, however number of licenses per entity for M&S renewal remains same.

अमित कुमार
अमित

Singh Amit
Kumar

Digitally signed by Singh Amit
Kumar
DN: cn=Singh Amit Kumar,
o=SIEMENS,
email=singham4@siemens.com
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Agarwal
Samir

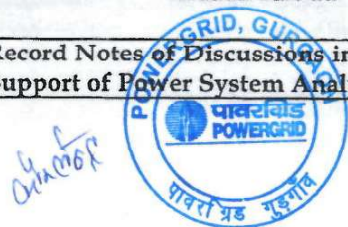
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Gandhi
Manish

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Date: 2020.07.27 17:52:47 +05'30'

Record Notes of Discussions in respect of Procurement of Maintenance & Support of Power System Analysis Software (PSS/E) from SIEMENS.

Page 2 of 2



The details of the expenses undertaken are as below:

1. **Feed to GBC from 400 kV Bus:** Presently power supply to GBC is done through 132 kV Bus. In case of any tripping in ICT as well as due to any tripping in Tripura System, the power supply to GBC is interrupted leading to the tripping of the Palatana Plant. As such, OTPC is proposing to arrange power supply to the GBC from 400 kV Bus with an estimated cost of Rs. 75 Lakhs.

2. **Online GTG Rotor Flux Monitoring system:** Palatana station was affected by a rotor fault recently which led to outage of one unit for an extended period of time. Transportation and repair from the remote location posed great challenge for OTPC to bring the machine back in operation at the earliest. To avoid recurrence of such faults and to continuously monitor the health of the Rotor, OTPC is proposing to install this system at an estimated cost of Rs. 150 Lakhs to enable OTPC to prevent any such eventuality in future.

3. **Compressor Enhancement Package:**
 - i) There are several instances of precedence of issues in the 9FA machines pertaining to the R0 blades, compressor stall, shim migration for stator vanes/blades and corrosion pitting and failure of other downstream blades. Such failures have also been observed in Dabhol project (now RGPPL operated by NTPC, “**Dabhol Plant**”) wherein three gas turbines had catastrophic failure due to failure of compressor blades and in Pragati Power Plant at Bawana (“**Bawana Plant**”) wherein there had been a major failure in one of the gas turbines. On account of the problems arising in the 9FA machines, power stations have accordingly adopted mitigation measures to avoid the same. For instance, in 2017 Bawana Gas Power Plant installed compressor enhancement packages in two of its gas turbines to avoid such failures.
 - ii) During the Borescope inspection in the compressor of OTPC Plant it was observed that there are dents on several blades of three rows. Further, some deposits were also observed on various downstream blades of the rotor & stator. This is likely to lead to collateral damages to other compressor blades, turbine buckets / nozzles etc. OTPC has currently grinded the blades to minimize damages since rotor repair at

site is not feasible. However, the operations cannot be sustained for a longer period and may result in a major outage of the OTPC Plant.

iii) Therefore, in view of importance of reliability in operations for this station and geographical constraints which leads to delay in rectification work, OTPC plans to install the Compressor Enhancement Package to avoid such failures in future. The overall expenditure on the installation of the Compressor Enhancement Package is INR 4,380.64 Lakhs which will be undertaken in a phased manner i.e. during FY 2020-21 to FY 2022-23.

4) Online Condition Monitoring of Transformers/Reactors:

Similarly OTPC is proposing to undertake expenses on online condition monitoring system to prevent any possible breakdown in the transformers and reactors at the plant and result in outage of the plant. The critical operational parameters monitored by the Transformer / Reactor online condition monitoring system are as below:

- a. Dissolved Gas Analysis for 09 gasses (DGA Report),
- b. Breakdown Voltage (BDV) of insulating Oil,
- c. Top/Partial Discharge of HV Bushing and Main Tank,
- d. Bottom Tank and OLTC Oil Temperature,
- e. Winding and Bushing Tan Delta and Capacitance value, and
- f. Oil Moisture (ppm) Content value.

In the event any fault is detected in the Transformer, the online condition monitoring system will give early warnings for undertaking corrective actions on the same and can save the transformer from any potential breakdown. It is hence proposed to install the system at Palatana plant at an estimated cost of Rs. 250 Lakhs.

5) Change of Obsolete Relays at OTPC Plant Switchyard:

OTPC is also proposing to replace obsolete 30 series relays to 40 series relays at the switchyard of the OTPC Plant. It is submitted that 30 series relays are an old and obsolete model and the OEM doesn't support its service. Settings cannot be changed in 30 series relays due to firm wire conflict and settings are polygon type. 30 series

relays don't have PSL facility and there is communication issue in all the installed 04 relays. Hence the 30 series relays face both O&M issues and &defectivity issues. Thus, it is proposed to replace the 30 series relays by 40 series relays which have excellent fault detection. It is submitted that the replacement of the 30 series relays by the 40 series relays will substantially improve the reliability and efficiency of the OTPC Plant and will also prevent any breakdowns which is likely to happen on account of the obsolete equipment in the switchyard. It is submitted that an expenditure of INR30.00 Lakhs is expected in the installation of the 40 series relays.

6. Replacement of Sodium Lights with LED Lights at Palatana Premises:

OTPC is envisaging a complete replacement of all the sodium lights at the plant premises to LED lights in line with the energy efficiency and energy saving measures being promoted by the Government of India. It is proposed to replace the Sodium Lights with LED in the Palatana Premises at an estimated cost of Rs. 30.00 Lakhs as per Government Guidelines for Energy Efficiency and Energy Savings.

7) GTG Rotor

It is known to all the beneficiaries that due to the damage of J-Strap of GTG Rotor of Unit -1 of Palatana, the Unit was under shutdown for 6 Months and could not supply power to the beneficiaries. Opening the rotor at plant site itself posed challenges and could have lead to ingress of dust in critical components. Further, given the constraints at the site related to non-availability of tools and tackles, the rotor had to be taken the Sanand facility of GE for repairs. There was substantial generation loss for OTPC due to the rotor fault and the beneficiaries were also affected by unavailability of the unit at Palatana. The rotor repair too had taken an extended period of time due to remote location of the plant and various transportation problems.

OTPC had also engaged the services of an expert who suggested that to deal with any such eventuality in future and due to transportation problems involved in rectification of such faults, it is advisable that OTPC may keep a spare rotor at hand. OTPC is hence proposing to procure a spare Rotor at an estimated cost of Rs. 1382.00 Lakhs.

8) Upgradation of DCS and MARK-6 Software :

The Control system plays a critical role in power plant operations. Operating the power plant on an obsolete software with no system support makes the plant vulnerable to potential operational issues and cyber threats which may lead to possible generation loss. Presently, OTPC has two control systems (MAXDNA and MARK-VI) and both systems are operating on Windows XP operating software (OS). The Windows XP OS got obsolete since 2009 and the extended support for the software also got expired in 2014. Further, the Ministry of Power (GOI) has issued Guidelines dated 9th October, 2018 for power sector entities to take preventive measures for Mitigation of risks arising out of Cyber Security Threats.

Considering the above aspects, OTPC is proposing to undertake capital expenditure to upgrade its operating system with a likely expense of Rs 2562 Lakhs.

It is humbly submitted to the OCC Forum of NERPC that OTPC is undertaking all the above expenses to improve the reliability and availability of the plant and the OCC forum is therefore requested to kindly provide their consent for the above works in the best interest of Palatana Plant of OTPC and the Beneficiary States.