



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/ **6332-6369**

Dated: 28th February, 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. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
16. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
17. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
18. ED, NERTS, PGCIL, 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. GM, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
24. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
25. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066
26. Chief Engineer (NPC), NRPC Complex, Katwaria Sarai, SJSS Marg., New Delhi - 110016

Sub: Minutes of 165th OCC Meeting.

Sir/Madam,

Please find enclosed herewith the minutes of 165th OCC Meeting held at “Hotel Nandan”, Guwahati on the **14th February, 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,

B. Lyngkhoi
Director/ SE

Copy to:

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



Director/ SE

North Eastern Regional Power Committee

MINUTES OF THE 165th OPERATION COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 14/02/2020 (Friday)
Time : 12:00 hrs
Venue : “Hotel Nandan”, Guwahati.

The List of Participants in the 165th OCC Meeting is attached at **Annexure – I**

Shri A.K. Thakur, Member Secretary, NERPC welcomed the participants to the 165th OCC meeting. He thanked the members for participating in good numbers in the meeting. He expressed concerned about the delay in signing the TPA for ADMS by Assam & Tripura and requested them to complete the same immediately. He announced that PDMS project was declared “Go Live” on 14.02.2020 forenoon by Hon’ble Chairman, NERPC & Power Minister, Govt. of Meghalaya. Further Member Secretary informed the forum that subsequent to his discussions with NTPC, NTPC has agreed to impart training at any location in NER. He requested members to take full advantage of this initiative and pursue the matter with higher authorities. He then requested Shri B. Lyngkhoi, Director(O&P), NERPC to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

**CONFIRMATION OF MINUTES OF 164th MEETING OF OPERATION COORDINATION
SUB-COMMITTEE OF NERPC.**

The minutes of 164th meeting of Operation Sub-committee held on 21st January, 2020 at Shillong were circulated vide letter No. NERPC/SE (O)/OCC/2019/2674-2711 dated 6th February, 2020.

Sr. Manager, OTPC requested that in the minutes of 164th OCC the opening remarks of Member Secretary, NERPC may kindly be modified with removal of "OTPC Management". Since opening remarks are not part of the discussion of the meeting it was decided to keep the minutes unchanged.

The Sub-committee confirmed the minutes of 164th OCCM of NERPC as no other comments/observations received from the constituents.

ITEMS FOR DISCUSSION

B.1. ACTION TAKEN:

1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 165th OCC:

State	R&U scheme	ADMS	Capacitor Installation	SAMAST**	Line Differential Protection
Ar. Pradesh	Package-I Materials supplied. P-II(for PLCC & communication) Contract signed P-III updation of BoQ being undertaken. Floating of tender by March'2020. Station-wise status to be updated *	TPA to be signed **	-	All TESG queries replied to. except BoD approval	-
Nagaland	All completed except for PLCC package. By Feb'20 Station-wise status to be updated.	First tranche of 30% funds to be released and requisition for second tranche of 60% to be submitted.	-	Reply against TESG queries sent except BoD approval.	Lines identified. Under DPR preparation stage.
Mizoram	Completed. 10% remaining claim by Feb'20	Original TPA to be sent to NLDC. By Feb'20	To reply to TESG queries.	To reply to TESG queries.	Lines identified for installation of DPR viz. 132kV Aizawl - Luangmual and 132kV Kawmzawl - Khawiva.
Manipur	Package-II: completed Package-I: WIP Status report to be submitted	TPA signed.	Approval awaited for NIT	Reply against TESG queries sent except BoD approval.	Lines identified. LDP for 132kV Imphal-Imphal and 132kV Jiribm-Jiribam proposed. Under DPR preparation stage.

Tripura	All LOAs issued. Station-wise status to be updated *	Contract agreement signed. Draft TPA with MD, TSECL. TPA & A/C opening by Feb'20.	Study to be carried out in consultation with NERLDC.	Reply against TESG queries sent except BoD approval.	Lines not yet identified. To be taken up in Sub-group.
Assam	Balance LoA by Feb'20. Station-wise status to be submitted.	Contract Agreement signed. TPA to be approved by govt by Feb'20.	-	Appraisal Committee approved.	Lines identified. Under DPR preparation stage.
Meghalaya	MePTCL R&U works Completed. Final 10 % released MePGCL – 10% claim by Feb'20. Station-wise status to be updated.	Requisition sent for second tranche. Work at completed.	-	Appraisal Committee approved.	60% claim submitted

Deliberation of the sub-Committee:

**SE(SO&PSC), DoP Ar. Pradesh referring to the non-signing of TPA by NLDC that:

- While returning the unsigned TPA to DoP Ar. Pradesh a particular officer of DoP Ar. Pradesh was singled out.
- The officer was blamed for making unauthorized changes to the TPA.
- Making such personal accusations is not proper on part of NLDC.
- The consequences could be disastrous for the officer's career.

SE(SO&PSC), DoP Ar. Pradesh requested that the letter be withdrawn and a formal apology be made by POSOCO/NLDC.

Member Secretary, NERPC stated that this type of direct allegation against any officer definitely down the moral of the executing officer and impairs him from taking action. NERLDC after due consultation with NLDC informed that date has been changed in the agreement by a non-signatory to the agreement.

The forum requested NLDC through NERLDC to withdraw the letter and also requested DoP Ar. Pradesh to make necessary changes to the TPA.

MSPCL informed that 33kV system integration, Reliable Communications is still in tendering stage.

The forum requested the concerned utilities to issue LOAs by March'2020 so that funds are not de-allocated.

The Sub-Committee noted as above.

Action: All state utilities/NERPC.

2. Long Outage of Important Grid Elements:

Name of the Element	Name of Utility	Status as informed in 164 th OCC	Status as informed in 165 th OCC
63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	Sanction order awaited.	Sanction order received.
132kV Dimapur - Imphal (out since 25.07.18)	NERTS	Present status Foundation: 22/34 Erection : 22/34 Stringing:3.536/14Km	Present status Foundation: 22/35 Erection : 22/35 Stringing:6.6/14.6Km DC, Kohima has been instructed to assist NERTS. PG may follow up.
220kV Sonabil-Samaguri-I	AEGCL	Jul'2020	Tender floated. Completion time 3 months. By 01.03.20 LOA.
132kV Srikona-Panchgram (out since 14.01.2019)	AEGCL	Soil testing by NIT Silchar. Line if re-routed then rivers can be avoided and route shortened. Restoration may be delayed by 9 months due to rerouting.	Srikona-Panchgram two river crossings
63MVAR L/R for 400kV Palatana-Silchar Ckt-I (out since Apr'19)	OTPC	Technical difficulty. Extension required. Filter machine not able to work due to humid conditions. 15.02.20 target	PPM value for moisture still high. 15.03.2020
OTPC Module-I (out since 07.10.2019)	OTPC	Rotor reached GE facility. 45 days for maintenance, 15min days fixing. 31.03.2020.	
50 MVAR L/R at Misa of 220 kV Misa – Mariani	NERTS	Jan' 2020	The Old Mariani Line Reactor is taken in to service on 25.01.20 and the New Mariani Line Reactor is taken in out of service, which is expected to come in to service by 31.03.20

The Sub-Committee noted as above.

Action: MePTCL, NERTS, AEGCL, OTPC.

3. Follow up of recommendations of PCC/Sub-group:

SN	Name of element	Actions to be taken	Concerned Utilities	Status as informed in the 164 th OCC Meeting	Status as informed in the 165 th OCC Meeting
1	132 kV AGTCCPP - Agartala D/C	Installation of Line Differential in 132 kV AGTCCPP - 79 Tilla D/C & Review of impedance setting of both ends as a temporary measure.	NERTS/ NEEPCO	Commercial evaluation done. Award to be placed on M/s GE T&D by 31.01.20	LOA to be placed by 29.02.20
2	132kV AGTCCPP-Kumarghat	GPS to be procured and time synchronization of relay to be done	NEEPCO	Completed. 2 nos STG NR not synchronized due to non-availability of ports.	By Feb'2020
3	132kV P.K. Bari-Kumarghat	Installation of Line differential relay	NERTS	Commercial evaluation done. Award to be placed on M/s GE T&D by 31.01.20	LOA to be placed by 29.02.20

The Sub-Committee noted as above.

Action: NEEPCO, NERTS.

4. Furnishing of various data for reliable operation of grid:

SN	Data reg.	Target deadline	Status as informed in the 164 th OCC Meeting	Status as informed in the 165 th OCC Meeting
1	Furnishing Technical and Commercial data for computation of PoC Charges and Losses for January to March'20 (Q4 of 2019-20)	15.10.19	Manipur, Mizoram, Nagaland & NEEPCO submitted	
2	Furnishing details regarding GT Tap Positions of ISGS and other generators. Required for studies related to reactive power capability testing	15.10.19	Received all the ISGS. State generators are required.	State generators data not received
3	Furnishing Nodewise half hourly data monthly Required for studies pertaining to Real Time Market	By 10 th of the month	From 01.04.20 the RTM would be introduced. Meghalaya to submit to SO-II	

The Sub-Committee noted as above.

Action: All utilities as above.

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

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

NER PERFORMANCE DURING JANUARY, 2020

States	Energy Met (MU)		w.r.t. Dec,19 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Dec,19 % inc (+) /dec (-)	% surplus (+) /shortfall (-) of energy In Jan,20
	Jan-20	Dec-19		Jan-20	Dec-19		
Ar. Pradesh	69.12	65.69	5.22	69.43	65.98	5.23	-0.45
Assam	685.07	653.7	4.80	700.17	663.14	5.58	-2.16
Manipur	82.78	79.02	4.76	83.22	79.48	4.71	-0.53
Meghalaya	194.22	184.93	5.02	209.12	188.25	11.09	-7.13
Mizoram	55.67	64.6	-13.82	55.99	64.89	-13.72	-0.57
Nagaland	69.23	66.84	3.58	69.64	67.15	3.71	-0.59
Tripura	170.37	104	63.82	170.8	104	64.23	-0.25
Region	1326.46	1218.78	8.84	1358.37	1232.89	10.18	-2.35

States	Demand Met (MW)		w.r.t. Dec,19 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Dec,19 % inc (+) /dec (-)	% surplus (+) /shortfall (-) of demand In Jan,20
	Jan-20	Dec-19		Jan-20	Dec-19		
Ar. Pradesh	117.24	139	-15.65	125	146	- 14.38	-6.21
Assam	1366.46	1380	-0.98	1366	1508	-9.42	0.03
Manipur	218.21	216	1.02	221	224	-1.34	-1.26
Meghalaya	371.49	365	1.78	371	364	1.92	0.13
Mizoram	126.92	125	1.54	127	107	18.69	-0.06
Nagaland	158.5	153	3.59	182	150	21.33	-12.91
Tripura	229	224	2.23	229	257	- 10.89	0.00
Region	2587.82	2530	2.29	2746	2714	1.18	-5.76

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	Jan-20	Dec-19
Total Generation in NER (Gross)	1334.1 56	1447.2 82
Total Central Sector Generation (Gross)	1068.9 87	1078.3 43
Total State Sector Generation (Gross)	265.169	368.939
Inter-Regional Energy Exchange		
(a) NER-ER	106.62	271.34
(b) ER-NER	39.84	2.44
(c)NER-NR	0.17	0
(d)NR-NER	228.27	299.59
© Net Import	161.32	30.69

AVERAGE FREQUENCY (Hz)

Month---->	Jan-20	Dec-19
	% of Time	% of Time
Below 49.9 Hz	6.48	6.48
Between 49.9 to 50.05 Hz	75.01	71.67
Above 50.05 Hz	18.51	21.85
Average	50.00	50.00
Maximum	50.27	50.34
Minimum	49.69	49.65

Deliberation of the sub-Committee:

NERLDC highlighted the following points in their presentation. The presentation is attached as Annexure B.2:

1. Max/Min Demand met in the Month : 2538 MW/2226 MW
2. Max/Min Energy met in the Month : 42.15 MU/36.67 MU
3. Frequency Profile: Within IEGC band : 75 %
4. Voltage issue: Max voltage at 400 kV RHEP – 431 kV. Voltage above 420 kV at 400 kV RHEP-27.11% of time
5. Network Issues: GD – 12 no. of times & GI-2 no. of times
6. 4 no. of times GD has occurred at Ningthoukhong area of Manipur And 4 no. of times GD has occurred at Khupi area of Arunachal Pradesh.
7. At Balipara FSC automatically goes out of service/ bypassed due to unbalance current. NERTS informed that the same has been studied and is due to harmonics generated by HVDC.
8. Restoration of 220 kV Mariani – Mokokchung 1 line as per original configuration: NERTS mentioned that the line will be restored to its original configuration by end of Feb' 2020.
9. Generation forecast on D-2 basis for computation of TTC/ATC: NERLDC informed that the same is being received only from: LRPP, LTPS, AGBPP, AGTCCPP, OTPC, Tripura state generations. All ISGS were again requested to furnish their forecasted generation by 10 hrs on D-2 basis as approved in 164th OCCM.
10. Submission of DR/EL by State Utilities: The status of submission of DR/EL data was shown by NERLDC. The high number of non-submission of data was highlighted. All constituents were requested to ensure to submit the data within 24 hrs after each tripping as per IEGC in Tripping Portal of NERLDC.
11. Delay in Shutdown returning: Delay in availing and returning of shutdown by NERTS was highlighted in the presentation. Powergrid was requested to take necessary action to reduce the time difference between the scheduled revival time and actual time of revival after any shutdown.

NERLDC intimated that GD at Ningthoukhong and down stream areas has occurred 4 times since 1st January, 2020 which also affected the international connectivity of 11kV Moreh-Tamu.

The Sub-Committee noted as above.

C. ITEMS- STATUS REVIEW

1. Status of Generating Units, Transmission Lines in NER:

During 165th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 164 th OCC Meeting		Status as given in 165 th OCC Meeting	
		Timeline for completion	Timeline for completion	Timeline for completion	Furnishing of detail parameters
a. New elements					
1	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	Jan'20	Already submitted	DoCO on 23.01.2020	Already submitted
2	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	Jan'20	CEA clearance available	Feb'20	CEA clearance available
3	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	Test charging shall be delayed due to damage to the Power House and Switchyard after failure of Penstock at Kopili.	To be submitted to NERLDC.	Damage assessment done on 07.02.20.	To be submitted to NERLDC.
4	Dedicated 33kV feeder at Khliehriat Substation from Lumshnong.	Date to be finalized.	Not applicable.	Date to be finalized.	Not applicable.
5	220kV Balipara-Sonabil-2	Jan'20	To be submitted to NERLDC.	Less sanction than DPR. By June'20 the work would be completed.	To be submitted to NERLDC.
6	Bay at Agia S/S for 132kV Agia-Nangalbibra Ckt #II by AEGCL	By Jan'20	To be submitted to NERLDC.	By Feb'20	To be submitted to NERLDC.
7	80MVAR B/R at RHEP by NEEPCO	Price validation of old offers being done. Tender by May'20	To be submitted to NERLDC.	Tender by May'20	To be submitted to NERLDC.
b. Elements under breakdown/upgradation					

8	Up-gradation of 132 kV Lumshnong-Panchgram line	TESG queries submitted	Not applicable.	TESG queries submitted	Not applicable.
9	PLCC Panels at Loktak end of Loktak - Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder	Jan'20	Not applicable.	By Feb'20	Not applicable.
10	Upgradation of 132 kV Bus Bar at Umiam Stg- III to ACSR Zebra	DPR submitted. Other upgradation works to be included in DPR	Not applicable	Revised DPR to be submitted	Not applicable
11	Upgradation of 132kV Karong-Kohima (till Mao) by MSPCL	By Feb'20	To be submitted to NERLDC.	By Feb'20	To be submitted to NERLDC.
12	Installation of LDP for 132kV AGTCCPP-Agartala D/C & 132kV PKBari-Kumarghat by NERTS	Commercial evaluation done. Award to be placed on M/s GE T&D by 31.01.20	-	LOA to be placed by 29.02.20	-
13	Procurement of GPS at AGTCCPP & time synchronization for 132kV AGTCCPP-Kumarghat by NEEPCO	Jan'20	-	By Feb'20	-
14	Diversion of 132kV Bawktlang-Sihhmui	Awarded on M/s DTE Const. Survey done. Work can be started subject to providing of stubs by P&ED Mizoram.	-	Tower materials awarded to M/s Skipper. Expected by : May'20	-

The Sub-Committee noted as above.

Action: All utilities as above.

C.2. Update on Real Time Energy Assessment for Effective Grid Management:

Data availability as updated in the 165th OCCM is given below:

Name of the state /utility	Data Availability (in%)	Issues	Status as updated in the 165th OCCM
DoP Ar. Pradesh	Not updated	-	-
Assam	62%	-	-
Manipur	80%	(i)Frequent hang of TARA device, resumes reporting upon reboot. (ii) Yurembam end of 132kv of Imphal(PG)-2 fdr, corresponding to SEM NP-8374-A not reporting. (iii) Jiribam 132/133kv ICT(manipur consumption), corresponding to SEM NP-8501-A not reporting	(i)Frequent hang of TARA device, resumes reporting upon reboot. (ii) Yurembam end of 132kv of Imphal(PG)-2 fdr, corresponding to SEM NP-8374-A not reporting. (iii) Jiribam 132/133kv ICT reporting after replacement of adapter
Meghalaya	0% detailed report to be submitted	After TARA devices are connected the SEMs they hang.	Same problems persisting. CDAC to visit critical locations immediately.
Mizoram	50%	Luangmual end of 132kV Aizawl(PG) not reporting; Kolasib end of 132kV Badarpur(PG) not reporting	
Nagaland	37.5%	Non-reporting: (i)Kohima end of 132kV Dimapur(PG)-2 (ii)Sanis end of 132kV DHEP (iii)Mokokchung end of Mokokchung(PG)-1 (iv) Mokokchung end of Mokokchung(PG)-2	

		(v) Mokokchung end of DHEP FDR	
Tripura	12.5%.	Network available 24x7. Device fault suspected.	

Deliberation of the sub-Committee:

DGM, SLDC, MSPCL informed that a new TARA device is required after commissioning of 132kV Imphal-Imphal Ckt#III. After due deliberation one TARA device was handed over to DGM, MSPCL from the spare stock.

Director, NERPC assured that the issues would be addressed expediently and CDAC would definitely attend the next OCCM.

The Sub-Committee noted as above.

Action: CDAC/All SLDCs/NERPC

C.3. Ensuring proper functioning of Under Frequency Relays(UFR) & df/dt Relays:

In 7th NPC meeting held on 08.09.17 it was agreed that mock test is good enough to test the healthiness of the UFR & df/dt relays. The frequency of site inspection was proposed to be upto six months. RPC may carry out periodic inspection, in line with provisions of IEGC and furnish inspection reports to NPC.

Deliberations in the previous meetings:-

- Status of recommendations subsequent to UFR Inspection:

TSECL

UFR location, No. of feeders	Recommendation	Status
132/33kV Surjamaninagar, 1no 33kV feeder	Relay to be replaced.	
132/33kV 79Tilla, 4nos 33kV feeders	Relay operation to be instantaneous with no time delay. To be taken up with OEM	
66/33/11kV Badarghat, 2nos 33kV feeders	Relay operation to be instantaneous with no time delay. To be taken up with OEM	
132/66/33/11kV Rabindranagar, 1nos 33kV feeder	Relay operation to be instantaneous with no time delay. To be taken up with OEM	

DoP Nagaland

UFR location, No. feeders	Recommendation	Status
132/66/33kV Dimapur, 2nos 33kV feeder	Relays to be retrofitted.	

Common recommendation for AEGCL, MePTCL, DoP Nagaland & TSECL - Separate records for UFR operation to be maintained at the respective Sub-station(s).

- UFR Inspection for Manipur in March'2020.

Deliberation of the sub-Committee:

After detailed deliberation, it was decided that UFR inspection for Mokokchung would be carried in March, 2020.

The Sub-Committee noted as above.

Action: DoP Nagaland, TSECL, MeECL, AEGCL, NERPC.

C.4. Extended C Band VSAT for power system communications in NER:

In 156th OCCM CGM, NERLDC informed that KPTCL has committed to go ahead with the Pilot Project. The readiness for immediate execution of the same will be communicated.

MePTCL raised apprehensions regarding the possibility of Cyber Security breach at Killing as fallout of this pilot. NERLDC informed that the same has already been taken care of, which will be addressed by GM(SL), NERLDC. In 157th OCCM, CGM, NERLDC informed that the queries have already been addressed by NERLDC. He also informed that Cyber Security aspects are taken care by the firewall. MePTCL requested that the same may be intimated to EE, Killing.

In 158th OCC Meeting it was informed that EE, Killing, MePTCL would resolve the issues with ABB at the earliest.

The 159th OCC forum approved implementation of the pilot project upon resolution of the security concerns.

In 160th OCCM Director, NERPC once again requested NERLDC to obtain the approximate cost of the project so that the same may be approved by TCC/RPC.

In 161st OCCM NERLDC informed that quotation has been requested from the concerned agency and the cost would be informed in the next OCCM.

In 162nd OCCM NERLDC informed that the cost for the pilot project would be around Rs.6, 85,000/- (Rupees Six lakhs eighty five thousands only). The forum noted and recommended for TCC/RPC approval.

Deliberation of the sub-Committee:

NERLDC informed that Killing VSAT is reporting and the expenditure has been waived off. The forum thanked NERLDC for the same.

The Sub-Committee noted as above.

Action: NERLDC/NERPC/MeECL.

C.5 Update on PDMS:

As per deliberation in the previous meeting(s) the following status/decisions:-

- SAT for Assam system completed. Data collection for Meghalaya, Tripura & Mizoram completed.
- Network to be finalised based on the feedback of Operational load flow given by NERLDC
- Data collection & database building completed for all utilities.
- Prospective Go Live by second week of Feb'20.
- All utilities (esp. nodal officers) to assign the roles and responsibilities as per the circulated format.
- Pending relay setting data to be submitted by the concerned utilities.

Deliberation of the sub-Committee:

Sr. Manager, Kopili HEP, NEEPCO informed that one No. laptop under PDMS was inundated in the Kopili accident. The same has been confirmed by M/s PRDC as beyond repair and of no use. The forum decided to scrap the same, the laptop would remain in custody of NEEPCO.

Director, NERPC informed that subsequent to Go Live on 14.02.2020, the following activities would be undertaken:

- The login credentials for PDMS would be shared with all the nodal officers.
- Training on PSCT, PDMS would be arranged in all the states starting with Meghalaya.
- A focused training on Fault level calculation and Overcurrent, E/F settings calculation and co-ordination studies would be held in Mar'20.

The Sub-Committee noted as above.

Action: PRDC/All utilities.

C.6 Non-availability/ Non-functioning of synchronization facility at numerous stations

As per deliberations in the previous meetings the following is the status for synchronization facility at stations of different utilities:

-

Deliberation of the sub-Committee:

The status as updated by different utilities:

- AEGCL - Remote Synchronization using BCU to be tested alongwith mock black start of AGBPP by March 2020.
- DoP Ar. Pradesh - Synch Trolley procurement at Lekhi S/S and Chimpu S/S. LoA: Jan'20. Target Completion Mar'2020.
- P&ED Mizoram - Procurement of synchronization trolley and installation of synchronization facility at 132kV Kolasib S/Sn would be taken up with higher authorities.

The Sub-Committee noted as above.

Action: AEGCL, DoP Ar. Pradesh, NERLDC, P&ED Mizoram.

C.7 Phase shift errors in PMU:

In 155th OCCM Director, NERPC informed that in the Sub-group meeting held on 05.04.19, it was agreed that the matrix of phase comparison for each of the stations vs Bongaigaon will be prepared by NERLDC. NERLDC informed that work is underway and would be completed by April'19.

In 156th OCCM, NERLDC informed that the matrix has been prepared, with deviations being categorized in three groups: (i) +120 deviation,(ii)-120 deviation, (iii) matching w.r.t Bongaigaon.

Sr.GM(AM), NERTS informed that for some ASEB stations 90 deg deviation is present which has to be checked

Within one week the data w.r.t. connection changes will be collected by NERTS in conjunction with AEGCL and rectification would be completed by May'19 for substations with +/- 120 degree and planning of activities to correct the phase shift of - 90 or +150 degree group shall be made by May 2019.

In 157th OCCM Sr. GM(AM), NERTS assured that the complete schedule of works would be prepared by 14th June,2019. The forum requested AEGCL to do likewise.

In 158th OCCM NERTS informed that schedule of works has been prepared and the works would be completed by Aug'19. AEGCL was requested to prepare the schedule of works in consultation with NERTS.

In 159th OCCM Sr.DGM, NERTS informed that action plan shall be submitted within 31.08.19. AGM, SLDC, AEGCL informed that after commissioning of SAS there is no spare panel, TB. So the CT, CVT terminals have to be brought from Kiosk to CR. After

detailed deliberation, it was decided that NERTS would visit and analyze for Samaguri the pre-requisites for changing the connections.

The following status was updated by NERTS/AEGCL in the 161st OCCM:

- Bongaigaon - Completed except for New Siliguri-2 feeder.
- Misa - 220 kV Side Completed.
- Dimapur, Mariani, Silchar, Salakati - yet to be started, possible completion by 30.09.19.
- Samaguri sub-station under upgradation under PSDF. Re-connection to the PMU will be done after completion of upgradation work.

In 164th OCCM NERTS informed that corrections have been done in NERTS stations except for one PMU of Bongaigaon and three PMUs of Dimapur, for which NERLDC is required to provide feedback.

Deliberation of the sub-Committee:

Sr. DGM(AM), NERTS informed that phase shift errors have been rectified for all the PMUs in NERTS stations. NERLDC informed that Phase shift problems still persist for AEGCL stations. Further PMUs at Tinsukia, Mariani, Samaguri are not reporting. AGM, SLDC, AEGCL requested that the matrix be circulated for rectification works to be done. The matrix was shared by NERLDC.

The Sub-Committee noted as above.

Action: AEGCL/NERTS/NERLDC

C. 8 Tentative schedule for Black Start & Restoration Procedure Mock exercise in NER during the year 2019

In 164th OCCM the mock black start schedule status was as below:

- AGBPP - NERLDC proposed split bus at AGBPP, with charging of one bus by black starting one unit with 220kV AGBPP-Mariani line to be connected to the same bus. Further Bus to be split at Mariani and Bus Reactor to be used as Line Reactor. The Bus Coupler would be used to test for synchronization at Mariani. Limit of Reactive power absorption by the AGBPP unit shall be required to be kept at 5-8MVAR or as per capability curve as inrush would be around 18MVAR after synchronisation of the island, as per study. The forum approved the procedure and suggested that the same may be carried out at a mutually convenient date.
- RHEP – Machine to be synchronized at 132kV and units brought in other bus and done at mutually convenient date.

- Pare – demonstration of Black Start which line would be required. Date has been fixed on 24.01.2020. schedule by 23.01.2020 and finalised.

Deliberation of the sub-Committee:

- AGBPP - Black Start at AGBPP with the decided procedure and synchronization at New Mariani using BCU by Mar'2020.
- RHEP – By Mar'2020
- Pare - Mock black start was successful at Pare HEP on 24.01.2020. Delay in Sych at RHEP during Mock Black start at Pare was discussed. NEEPCO mentioned the issue of Synch at RHEP has been resolved. NERLDC mentioned that the same will be tested during any of the upcoming mock black start exercises.

The Sub-Committee noted as above.

Action: NEEPCO, NHPC, NERLDC

C. 9 DVAR and PSS at AGTCCPP:

In 163rd OCCM DGM, NEEPCO informed that DVR installation was completed in Unit 1, 2, 3 & 4 and PSS has been kept OFF in all DVR panels. NERLDC informed that a team from NERLDC visited AGTCCPP on 07.12.19 during the installation. NEEPCO further intimated that some data required for PSS tuning has been asked of CTU and tuning would be done on receipt of data. NERTS agreed to co-ordinate with CTU.

In 164th OCCM DGM, NEEPCO informed that data requirement has been shared with NERTS. Further he stated that as per prevalent regulations PSS is not mandatory for units less than 25MW. So he requested that AGTCCPP be excused from turning ON PSS. NERLDC clarified that PSS is to be turned ON for AGTCCPP as per grid requirement in view of repeated occurrence of oscillations.

Deliberation of the sub-Committee:

DGM, NEEPCO informed that the requisite data has still not been received from CTU. The forum requested NERTS to take up the matter with CTU.

The Sub-Committee noted as above.

Action: NEEPCO, NERTS.

C. 10 Bus Configuration issues for various sub-stations:

Status as on 164th OCC Meeting:

- 132kV Transfer Bus at Loktak HEP - Charged on 30.10.2019.
- 400kV Bus A at RHEP - Procurement of the following initiated:
 - Four sets of Pantograph isolators
 - One Set CT(Bus Coupler)

-One set CVT(Bus-A)

Tender by Mar'20. Implementation by Dec'21.

- 132kV Bus Coupler at Pavoi - Old PGCIL panels to be replaced by SAS enabled panels. Protection transfer would be completed subsequently. By 31.03.2020

Deliberation of the sub-Committee:

- 400kV Bus A at RHEP - Technical details/specifications submitted to HoP, RHEP. The collection of budgetary offers would be done subsequently with tendering in May'2020
- 132kV Bus Coupler at Pavoi - By 31.03.2020

The Sub-Committee noted as above.

Action: NEEPCO/AEGCL.

C. 11 Status of recommendations reg GD-Vs on 03rd & 20th April,2019:

Recommendations	Status as informed in the 164th OCCM	Status as informed in the 165th OCCM
Investigation of conductor failure for 400kV Palatana-Silchar D/C (Scope NERTS)	Report submitted to NERPC. Manufacturing defect. Referred to OEM.	Report submitted to NERPC. Conductor snapping accidental and not attributable to any specific reason. Item to be dropped.
Study for reactive compensation in Tripura System(scope of TSECL)	By Jan'20	Not completed.
Identification of feeders for additional UFR based load shedding under Islanding Scheme-II(Scope of TSECL)	By Jan'20	Not procured. Target to be communicated in next meeting.
Standalone EL for integration of relay at AGTCPP by Oct'19(Scope of NEEPCO)	By Mar'2020	By Mar'2020
All stations to confirm DR downloading facility and it's healthiness at respective stations. A consolidated undertaking by the respective utility in this regard is to be submitted prior to each OCCM.	The DR of the relay pertaining to the 7 th Oct'19 incident has been successfully downloaded. The downloading software shall be handed over to NEEPCO by NERTS team visiting Khandong on 22.01.20.	NERLDC informed that all utilities are submitting the undertaking.

NHPC to procure standalone EL for Loktak HEP	Could not be updated due to absence of representative.	By Mar'2020
Revised SPS-3 scheme offer sought from GE by NERTS	M/s GE could not submit the detailed break up.	Detailed break up to be submitted and order to be given by NERTS
Impedance measurement for 400kV Paltana-Silchar D/C, 400kV Silchar-Azara, 400kV Silchar – Byrnihat	Impedance measurement of 400kV Pallatana-Silchar Line done. Results are under examination. Any review in the settings, if required shall be intimated to NERPC by 31.01.20.	Results submitted to NERLDC on 12.02.20
Line parameters to be matched at Silchar, Azara and Byrnihat.	Shall be done by 31.01.20. Azara may provide the existing settings.	Azara provided the existing settings on 13.02.20. The same are under examination
NERTS and AEGCL to jointly visit Azara and check exact cause for delay in appearance of voltage input to relay when charged via Tie Breaker	AEGCL, NERTS, NERLDC, NERPC to jointly visit 400kV Azara.	AEGCL informed that the reason could not be ascertained. However the matter would be under observation for recurrence.

The Sub-Committee noted as above.

Action: NERTS, AEGCL, TSECL, MePTCL, NEEPCO, NETC.

C.12 Tripping of all units of BgTPP:

On 23/05/2019 Units I, II, III of BgTPP tripped at 03:06 hrs, 03:37 hrs, 03:56 hrs respectively. In 158th OCCM NTPC gave a detailed presentation on tripping of the three units on 23.05.2019. The suggested recommendations by NTPC are as follows:

Sl. No.	Recommendation	Status as informed in the 164th OCCM	Status as informed in the 165th OCCM
2	Providing alternate cooling water source to compressors	Unit-1 overhead tank connection made, when unit-2 will go under s/d then connection would be completed. S/D planned Apr'2020	By May'2020

The Sub-Committee noted as above.

Action: NTPC.

C.13 Transformer Tap Optimization Study:

NERLDC has conducted Transformer Tap Optimization studies considering High Hydro Scenario in North Eastern Region. Suggested taps position of important transformers in

NER for maintaining bus voltages within permissible limit as well as to minimize system losses was circulated in the 158th OCCM.

In 159th OCCM NERLDC informed that comments have been received from OTPC and SLDC Meghalaya. AGM, SLDC, AEGCL informed that comments of SLDC Assam would be sent shortly. Meghalaya presented the study done by them on Tap Optimization Study to NERPC and NERLDC. Their effort of study was appreciated by the forum. Members requested NERLDC to send reminder mail.

In 160th OCCM AEGCL informed that the comments would be sent by 06.09.2019.

In 162nd OCCM NERLDC stated that tap position for 400/220kV 315MVA ICTs at Byrnihat is to be changed from 9 to 6. MePTCL agreed in principle subjected to approval from authority.

Deliberation of the sub-Committee:

NERLDC informed that as per latest study no change in tap position required, may be again required in high hydro season. The forum **decided to drop the agenda** item.

The Sub-Committee noted as above.

C.14 Better weather forecasting for power sector by IMD:

Decisions/deliberations in the previous meetings:

- The report regarding site selection for Automatic Weather Station submitted by IMD Department
- ISGS stations to be visited by IMD on urgent basis.
- Minute by minute data is to be shared by IMD with all utilities.

Deliberation of the sub-Committee:

NERLDC informed that IMD has visited 3 PG stations and remaining stations to be visited by Mar'20. The forum requested NERLDC to share the location of all CSGS with IMD.

The Sub-Committee noted as above.

Action: NERLDC.

C.15 Reactivation of SPS -1

The SPS-1 associated with tripping of generation of both Modules of Palatana CCGT (2 x 363.3 MW) is deactivated at present. The same needs to be activated to Avoid Violation of ATC of NER-ER Corridor.

In 162nd OCCM NERTS informed that SPS-1 is turned ON at Silchar Substation. OTPC requested for scheme from Silchar end so that signal send may be reviewed at Palatana. NERTS agreed to share the same.

Deliberation of the sub-Committee:

The matter was referred for discussion in the Special Meeting on 20th February,2020.

The Sub-Committee noted as above.

Action: NERPC.

C.16 PSS tuning testing for AGTCCPP and Tuirial

Oscillations have been observed near Agartala on 28.10.2019. Also on 27.10.2019 oscillation was observed on Badarpur PMU. During that period, sufficient MVAR fluctuation was observed in Tuirial Unit-1. Oscillation subsided when Tuirial Unit-1 generation reduced and faded as Unit-1 was withdrawn. Hence PSS tuning test need to be performed in order to check such oscillations.

Status as per previous meeting:

- AGTCCPP - after receipt of data from CTU
- Tuirial - By Feb'20 after visit of OEM.

Deliberation of the sub-Committee:

DGM, NEEPCO informed that the tuning at Tuirial HEP would be completed by 15th Mar'2020.

The Sub-Committee noted as above.

Action: NEEPCO.

C.17 PLCC link issues

(i) Presently, there is no communication link with Deomali. It is proposed to establish PLCC link between Deomali and AGBPP at the earliest for tele-protection and SCADA data. The approved VSAT for Arunachal Pradesh may be kept in Deomali. In 162nd OCCM it was requested DoP Ar. Pradesh to clarify whether the project envisages to install VSAT for one station or seven (7) stations.

(ii)As per visit of Committee ,comprising of members from NERPC, NERLDC, NERTS and P&ED Mizoram, to Kolasib Substation on 30.10.19, it was observed that PCC Link of Badarpur, Tuirial and Bairabi feeders are out of service. The PLCC link is to be restored at the earliest to ensure secure and reliable operation. In 162ndOCCM the following status was given:

- 132kV Badarpur-Kolasib: PLCC link in place and working.
- 132kV Bairabi - Kolasib: By Feb'20.
- 132kV Tural-Kolasib: Restoration by NEEPCO in Jan'20.

Deliberation of the sub-Committee:

The status as updated in the 165th OCC Meeting:

- a. SE(SO&PSC), DoP Ar. Pradesh informed that 7 stations have been identified for VSAT. Materials for the same has been already delivered and about to be commissioned. The forum requested that one PMU be installed at Deomali as pilot.
- b. P&ED Mizoram, NERTS , NEEPCO informed the following status:
 - 132kV Badarpur-Kolasib: PLCC link in place and working.
 - 132kV Bairabi - Kolasib: Matter taken up with higher authorities.
 - 132kV Tural-Kolasib: Rectified and functioning

NERLDC informed that Dikshi HEP has requested for extension for setting up telemetry. The forum expressed apprehension about functioning of the same even if commissioned, if the T-connections are not removed.

DGM, NEEPCO requested that KOPEX telemetry figures should be taken under NERTS. This would be improve NEEPCO telemetry availability percentage. The forum requested NERLDC to do the needful.

The Sub-Committee noted as above.

Action: DoP Ar. Pradesh, P&ED Mizoram.

C.18 Submission of the Annual Load Generation Balance Report (LGBR) for Peak as well as Off-peak scenarios and the Annual outage plan for 2019- 20 by 31.12.19 as per IEGC

As per IEGC, each SLDC shall submit LGBR for its control area, for peak as well as off-peak scenario, by 31st December for the next financial year, to respective RPC Secretariat. The annual plans for managing deficits/surpluses in respective control areas shall clearly be indicated in the LGBR submitted by SLDCs. As per IEGC, all SEBs/STUs, Transmission Licensees, CTU, ISGS, IPPs, MPPs and other generating stations shall provide to the respective RPC Secretariat their proposed outage plan in writing for the next financial year by 31st October of each year. These shall contain identification of each generating unit/transmission line/ICT etc., the preferred date for each outage and its duration and where there is flexibility, the earliest start date and latest finishing date.

Deliberation of the sub-Committee:

The forum approved the LGBR figures. It was **decided to drop the agenda** item.

The Sub-Committee noted as above.

C.19 RE Generation details

In 163rd OCCM NERLDC requested the state utilities to furnish details of both the RE under operation and under planning along with the procedure followed for RE connectivity in the state grid. Format attached at **Annexure-C.19**

Deliberation of the sub-Committee:

NERLDC clarified that the data is to be submitted for grid connected generation only. Also, all states were again requested to submit the details as per format at the earliest.

The Sub-Committee noted as above.

Action: All generating utilities.

C.20 High DSM Outstanding

The status of DSM outstanding as on 31/01/2020 and up to Week-41 (06/01/19 to 12/01/19) is as below –

REGIONAL ENTITY	O/S PAYABLE TO POOL	O/S PAYABLE >13 WEEKS
Ar. Pradesh	19.35 Crores	15.68 Crores
Manipur	5.00 Crores	Nil
Nagaland	8.72 Crores	7.53 Crores

It is requested to clear the outstanding DSM payment on immediate basis.

As per clause 10 of DSM Regulation 2014, the DSM payment by the respective Constituents shall be made within 10 days of issuance of DSM statement by NERPC. In case of default, RLDC may implement clause 25A of Open Access Regulation wherein the respective Constituent will be barred from STOA transactions. Also, addition of penal interest component on outstanding amount may mount higher burden on the Constituents.

Deliberation of the sub-Committee:

REGIONAL ENTITY	STATUS
Ar. Pradesh	Formal signed bill required for processing of payment.
Manipur	Government approval obtained for 16Cr. Payment would be released by second week of Mar'20
Nagaland	Cleared for payment.

The Sub-Committee noted as above.

Action: DoP Ar. Pradesh, MSPCL.

C. 21 Metering Status Review:

Agenda Description	Latest Status
<p>Correction of Meter error:</p> <p>(i) Erratic reading:</p> <p>I. Ningthokhoung (NP-9521-A) end of Imphal, II. Kohima (NP-9703-A) end of Karong, III. Imphal(S) (NP-9546-A) end of Imphal(PG)-II IV. Dullavchera (NP-9438-A) end of Dharmanagar</p> <p>(ii) Sign Change:</p> <p>I. Dimapur I & II state end, II. Mokokchung end of Doyang</p>	<p>Meters have been checked and found in order. Sample data may be provided by NERLDC for further analysis.</p> <p>Sign change may be corrected by respective utility.</p> <p>Ningthoukong replaced in Dec'18 recorded as Dec'19. The both end data to be submitted to NERTS for analysis reg. Imphal-Ningthoukong</p> <p>NERTS- If connection to meter to be changed the concerned utility has to do. MSPCL informed that relay connections have been checked and found in order. NERLDC would analyse meter data from both ends to find the discrepancy if any. Dimapur by 14/02 Mokokchung by Feb'20</p>
<p>SEMs to be Procured. tender issued on 09.01.20. Opening is on 23.01.20. LOA expected by 31.01.20.</p>	<p>M/s L&T has sought some extra time (up to 26.02.20) to submit their bid. Order may be placed to L&T and supply expected by end of Feb'2020</p>

The Sub-Committee noted as above.

Action: NERTS.

ADDITIONAL AGENDA ITEMS:

AGENDA ITEM FROM NERPC:

C.22 Frequent trippings in Arunachal Pradesh system:

In 159th OCCM Sr.GM(SO-I), NERLDC informed that in the months of June-July'19 frequent trippings were observed in the 132kV RHEP-Ziro-Daporizo-....corridor and lines connected to Lekhi. He requested the intervention of the forum for proper analysis of the same. Director, NERPC stated that participation of DoP Ar. Pradesh in the Sub-group meeting on Protection and PCC is extremely lacklustre. He requested DoP Ar.

Pradesh to ensure adequate participation from concerned transmission division in all the meetings.

SE(SO&PSC), DoP Ar. Pradesh stated that there is no cohesiveness in data collection since engineers are scattered and onsite training is required. It was decided that after 15th August, 2019 scheduling of training is to be done, then DoP Ar. Pradesh to send personnel to Nirjuli(POWERGRID) for practical hands-on training. The following officers were nominated for the training:

->Moli Kamki, AE, DoP Ar.Pradesh

->Hibu Bama, EE, DoP Ar.Pradesh

->Duyo Richo, AE, DoP Ar.Pradesh

In 161st OCCM EE, SLDC, DoP Ar.Pradesh informed that official order has been issued to the aforesaid officers to attend the training at Nirjuli Station. Sr.GM(AM), NERTS informed that no executives have attended the training at Nirjuli Station. The forum viewed the matter very seriously and requested NERPC to take up the matter with CE, DoP Ar.Pradesh.

In 162nd OCCM DoP Ar. Pradesh representative communicated that SE (SO&PSC), DoP, Ar. Pradesh has committed to send personnel to POWERGRID Biswanath Chariali/Misa for training by Nov'19. The forum requested DoP Ar. Pradesh to co-ordinate with NERTS RHQ for the same. AEGCL also proposed to arrange training on different numerical relays to officials from DoP AP, MSPCL, DoP Nagaland, P&ED Mizoram & TSECL.

Deliberation of the sub-Committee:

Sr.GM(AM), NERTS informed that 4-5 officials from DoP Ar. Pradesh may be trained at 132kV Nirjuli Stations at any time. SE(SO&PSC), DoP Ar. Pradesh welcomed the initiative and informed that the officers would be sent ASAP. Further, he requested NERTS to arrange Hands on vocational training of operational personnel of DoP Ar. Pradesh at NERTS, Misa. The forum requested NERPC to take up the matter with NERTS.

The Sub-Committee noted as above.

Action: DoP Ar. Pradesh/NERTS/NERPC.

AGENDA ITEM FROM NERLDC:

C.23 Furnishing bank account details by beneficiary to facilitate payments of net benefits accrued in National Pool Account (SCED)

In compliance to the CERC Order dated 31st Jan 2019 in Petition No. 02/SM/2019, the Pilot on Security Constrained Economic Dispatch (SCED) for Inter State Generating Stations pan India was operationalized from 1300 Hrs on 01st April, 2019.

CERC vide Petition No. 08/SM/2019 (Suo-Motu) dated 11th September'2019 extended the Pilot on Security Constrained Economic Dispatch (SCED) up to 31st March'2020. The Commission has also given the methodology of sharing the SCED benefits accrued in National Pool Account (SCED). The net benefits accrued in the pool shall be shared in the ratio of 50:50 between the generators participating in SCED and the concerned beneficiaries on a monthly basis.

In order to facilitate the disbursement of SCED benefit, NLDC vide letter dated 24th Sep, 2019, 18th Oct' 2019 & 23rd Jan, 2020(Annex-I) requested beneficiaries to provide bank account details along with the filled up registration form complete in all respects. Till date, we are yet to receive the bank account details along with the filled-up registration form from below constituents:

1. ARUNACHAL PRADESH
2. MEGHALAYA
3. TRIPURA

Provisional net SCED Benefits Distribution Statement is prepared for the month of April'19, May'19, June'19 & July'2019 and disbursed to respective Beneficiaries as well as the generators whose bank details are received.

Beneficiaries are requested to provide the Bank details for transfer of net SCED Benefits at the earliest.

Deliberation of the sub-Committee:

Bank details not received from Meghalaya. Two Bank a/c nos. received from Arunachal (A/C name: a. CE West Zone & b. EE Capital Divn). The forum requested DoP Ar. Pradesh and MePDCL to submit the account details at the earliest.

The Sub-Committee noted as above.

Action: DoP Ar. Pradesh & MePDCL.

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	MU content	Present DC (in MU)	No of days as per current generation
Khandong + Kopili stg II	713.25	12	1.114	11
Kopili	-	-	0	Will be "0" until further intimation.
Doyang	315.54	14	0.138	101
Loktak	767.73	77	0.5	154

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 as water available for generation is only for upcoming 2-3 months.

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.

Deliberation of the sub-Committee:

NERLDC stated that RIO clearance has to be obtained prior to charging of 400kV Silchar-Imphal-I (presently under shutdown) due to change in configuration.

The sub-Committee discussed and approved the transmission line outages proposed by Constituents for February, 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 December, 2019 - January,2020:

NETC and POWERGRID have submitted the outage data for the month of December,2019 - January,2020. So the attributability of outage of the said elements may please be finalized.

Deliberation of the sub-Committee:

NERPC informed that TAC data of January,2020 for NETC is pending and for NERTS TAC data is pending for December,2019 to January,2020.

The Sub-Committee noted as above.

Action: NERTS/NETC.

D.4 Assessment of TTC, TRM & ATC by SLDC on respective Inter-State Transmission Corridor

NERLDC has assessed the state control area wise, state subsystem wise and group of control-area wise TTCs for NER Grid. The study results will be presented during the meeting. SLDCs are requested to check and validate the TTC of their control areas as computed by NERLDC for the period Jan-March'20.

Deliberation of the sub-Committee:

NERLDC requested the SLDCs to verify the results at the earliest.

The Sub-Committee noted as above.

Action: All SLDCs.

D.5 RGMO performance analysis of events

Decisions in the previous meetings:

- NERLDC to scan PMU records for any event prior to 11:55hrs on 05.02.2019 resulting in droop of frequency by more than 0.03 Hz.
- BgTPP Unit #II mechanical problem in Turbine to be rectified.

- BgTPP DAS data to be submitted for event dated 05.06.19.
- For event dated 21.08.2019 DAS data to be submitted by Kopili HEP, Khandong HEP and Palatana GBPP.
- Reasons for non-sustenance of positive generation of Unit –II & III at BgTPP to be furnished.
- For event dated. 01.11.2019, BgTPP and Loktak HEP to provide DAS data.

Deliberation of the sub-Committee:

NERLDC informed that there has been no RGMO triggering event of late.

The Sub-Committee noted as above.

D. 6 Reactive power capability/injection of generating stations:

In 158th OCCM, it was decided that by Aug 1st week reactive capability testing would be done for Palatana and subsequently schedule for testing for other ISGS will be prepared.

In 159th OCCM, NERLDC informed that Palatana is absorbing and generating MVAR as per grid requirement. The testing would be done on 14th August, 2019. NERLDC requested NTPC to give a schedule of reactive testing for BgTPP.

In 160th OCCM, NERLDC informed that the reactive capability testing for Palatana was successfully completed on 14.08.19. All the recommendations and decisions during the testing and recorded in MoM are to be implemented by OTPC at the earliest. It was decided that testing for BgTPP would be done in the 3rd week of Sep'19. NEEPCO and OTPC in unison informed the members that AGTCCPP is generating continuous MVAR in limit of their capability. This is highly undesired as it is causing undue stress on the machine as well as excitation system. Member Secretary, NERPC informed that the matter would be taken up by the Committee and measures would be suggested by the same.

In 164th OCCM the following status was intimated:-

- Palatana GBPP - OTPC intimated that changes in tap settings of GT & UAT will be done for Module-I will be changed in Jan'20 and for Module-II in the next shutdown period
- BgTPP- Testing completed on 30th of Sept. Load angle limiter setting to be increased. BgTPP informed that the same will be implemented during planned SD of the units. U#III-10th May'20 and Unit#II – 1st Nov'2020
- AGTCCPP - Testing at AGTCCPP done on 07.12.19
- Loktak - date to be finalised.

Deliberation of the sub-Committee:

- Palatana GBPP - Sr. Manager, OTPC stated that online tap changing is possible so tap changing of GT will be done as per real time system requirement. For UAT the same will be done during shutdown (Online Tap change is not available for UAT).
- BgTTP - NTPC informed that OEM has suggested to keep load angle limiter at 75 degrees.
- AGTCCPP - Testing at AGTCCPP done on 07.12.19
- Loktak – first week of Mar'20

The Sub-Committee noted as above

Action: NHPC, NERLDC.

D.7 3-phase Auto-reclosure for 400kV Silchar-Azara & 400kV Silchar - Byrnihat:

In 160th OCC Meeting NERPC informed that in view of repeated 2-ph/3-ph tripping of 400kV Silchar-Azara & 400kV Silchar-Byrnihat due to back flashover, the 3-ph AR is imperative to be implemented. Sr.GM(SO-II), NERLDC opined that in case of simultaneous tripping of both of these lines, chances of successful 3-ph AR would be remote due to islanding of the Southern grid from NER grid(different frequency). After detailed deliberation it was decided that in order to increase the reliability of the system, 1-ph & 3-ph AR would be implemented for both the 400kV Silchar-Azara and 400kV Silchar-Byrnihat. Forum requested NERLDC to give suggestion regarding which end check sync and dead sync to be implemented. NERPC informed that this would be further referred to CTU & CEA for concurrence.

In 161st OCCM NERLDC opined that in view of separation of grid(s), the 3 phase AR may not be implemented. Sr.DGM, NERTS stated that 3-ph AR for the 2 lines may be implemented with dead sync at Azara and Byrnihat and check sync at Silchar. This would address the concern of NERLDC. Further SOTF will act for 3-ph through fault at Azara and Byrnihat.

Director, NERPC informed that the proposal was mooted in view of frequent faults due to back flashover affecting more than 2 phases. The forum requested NERPC to take views of CEA in the matter and referred the item to next OCCM for further discussion.

In 162nd OCCM NERLDC informed that the Single phase Auto-reclosure is non-functional at Azara end of 400kV Silchar-Azara and such steps may be taken to restore the same alongwith other anomalies at Azara, prior to implementation of 3-ph AR.

Director, NERPC stated that the views of CEA have been sought i.r.o. of 3-ph AR for 400kV Silchar-Azara and 400kV Silchar-Byrnihat.

Deliberation of the sub-Committee:

Director, NERPC informed that CEA views have been sought for and upon receipt of reply the same may be discussed in the forum.

The Sub-Committee noted as above.

Action: NERPC.

D.8 Accurate Load forecasting by SLDCs as per IEGC c1.5.3 for better system operation

RMSE for load forecast of actual data in comparison to that forecasted by the states for the month of December'19 is as follows:

Day	Ar. Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Median (Dec'19)	13	9	9	10	13	6	12

Forum decided that load forecast error will be monitored in OCC Meeting till the RMSE comes below 5%

In 160th OCCM CGM, NERLDC informed that POSOCO in association with IIT, Guwahati is developing methodology to forecast at the regional level. He requested all SLDCs to be proactive for the same.

Deliberation of the sub-Committee:

ED, NERLDC informed that in view of the introduction of Real Time Market, load forecasting is of paramount importance and error has to be reduced.

The Sub-Committee noted as above.

Action: all SLDCs.

D.9 Continuous shutdown of 220 kV Bus Coupler & 4 x 33 MVA 220/132kV ICT-1 along with associated bays w.e.f 06/09/2019 and shifting of 01 set of 220 kV Bus PT at Dimapur w.e.f 02/09/2019 at Dimapur Substation.

Decisions/deliberation in previous meeting(s):

- Continuous Shutdown of BUS A w.e.f 01.02.2020 to 06.02.2020 for shifting of 1 set of 220 kV Bus PT as above is required by NERTS.
- Continuous Shutdown of the 220kV/132kV 4x 33 MVA ICT – 1, 220 kV Bus coupler and ICT-1 bays (Bay No.203 & 204)w.e.f 06.02.2020 till erection, testing and commissioning of the new GIS system - required by NERTS
- Upgradation of 132kV Karong-Mao would be completed by 11.02.2020.
- A study would be carried out by NERLDC to determine the quantum of power that can be supplied with availability of 132kV Karong-Kohima, 132kV Dimapur-Kohima and 132kV DHEP-Sanis-Wokha-Kohima.

Deliberation of the sub-Committee:

SDO, DoP Nagaland stated that Nagaland requires N-1 conditions to be met with support from 132kV Bokajan-Dimapur. AGM, SLDC, AEGCL stated that 25-30MW support will be extended.

The forum requested NERLDC to conduct fresh study considering return of 132kV Dimapur-Kohima, return of 132kV Karong-Kohima with higher capacity and support from Bokajan.

The Sub-Committee noted as above.

Action: NERTS, DoP Nagaland, NERLDC.

D.10 Monitoring of Critical Elements affecting the reliability and security of the Grid

Critical Elements which affect NER/ER TTC/ATC Values and Cause major Grid Disturbance		
Sl No	Name of Element	No of Tripping during Jan'20
1	400 kV Bongaigaon - Byrnihat S/C	No tripping
2	400 kV Bongaigaon - Azara S/C	
3	400 kV Silchar - Azara S/C	
4	400 kV Silchar - Byrnihat S/C	
5	400 kV Palatana - Silchar Ckt-I	
6	400 kV Palatana - Silchar Ckt-II	
7	400/132 kV, 125 MVA ICT I at Palatana	
8	400/132 kV, 125 MVA ICT II at Palatana	
9	132 kV Palatana - Surajmaninagar S/C	
10	400 kV Balipara - Misa D/C	
11	400/220 kV 1x315 MVA and 1 x 500 MVA ICTs at Misa	
12	132 kV Imphal - Dimapur S/C	
13	132 Khandong - Kopili D/C	

The Sub-Committee noted as above.

D.11 Restoration of Assets damaged at Kopili HEP due to failure of Penstock:

220kV Misa-Kopili ckt I, II, III and 132kV Kopili-Khandong D/C are under outage since 07.10.2019. This is considerably reducing reliability of NER grid.

To finalise action plan for early restoration of the said connectivity, it is proposed to form a senior level task force consisting of members from NERPC, NERLDC & NERTS and convene a meeting of the task force at the earliest.

In 161st OCCM it was decided that Member Secretary, NERPC would constitute committee of NERLDC, NERTS and NERPC so that a concise approach may be devised for quick restoration of the links.

In 162nd OCCM Director, NERPC informed that Special Committee Meeting was convened on 06.11.2019. Five areas were identified for early restoration. It was also decided that 220kV System at Kopili is to be handed over to NERTS at the moment for restoration.

Sr. DGM, NERTS stated that the clearing work has started and switchyard area has to be cleared manually. Likely completion by Jan'20.

Further, he informed that separate kiosk is to be installed in lieu of the damaged ones and the requirement of 132/33kV ICT for Auxiliary Supply. After detailed deliberation, the following were decided:

- a. Diversion of Kiosk from Silchar to Kopili.
- b. 220V DCDB and charger to be tested
- c. Particular milestone bar chart to be prepared by NERTS and submitted forthwith.

In 163rd OCCM the following were decided:

- 220kV Switchyard at Kopili HEP to be cleared by NEEPCO within Jan'20.
- C&R Panels to be diverted from Silchar to Kopili
- Misa-Khandong-Kopili link to be restored at the earliest.
- Site report to be submitted by NERTS within 10.02.2020.

Deliberation of the sub-Committee:

Sr.DGM(AM), NERTS informed that inspection has been completed and report has been submitted(attached at **Annexure-D.11**). Tentative cost for restoration INR 6.8 Cr. Further, he informed that almost new substation to be constructed. Also due to heavy rainfall from march to September, the pace of works would be slow. So for restoration almost 1.5 years is required. After detailed deliberation it was decided that the Task Force would decide how to expedite the works.

The Sub-Committee noted as above.

Action: NERTS/NEEPCO

D.12 Mock Test for SPS in NER

Decision as per the 162ndOCCM:

- a. Periodic Mock test (frequency once in six months) to be conducted for all SPS. However, the scope would not cover physical tripping of elements/generating units. Prior to a Mock Test the modalities and objectives for testing to be determined by Sub-group.
- b. A Special Meeting on SPS would be convened by NERPC in the 3rd week of Nov'19 for review of SPS-5 to SPS-9.
- c. Testing of SPS-1 to SPS-4 agreed in the 1st week of Dec'19 by the team constitutes earlier for mock testing

Deliberation of the sub-Committee:

The item was referred for discussion in the Special Meeting on 20.02.2020

The Sub-Committee noted as above.

Action: NERPC

D.13 Automatic Generation Control(AGC) in Indian Grid:

Hon'ble Central Electricity Regulatory Commission (CERC) has stipulated the implementation of AGC in Indian Grid.

Stations in NER to have AGC:

BgTPP, AGBPP, Loktak

Kopili, Doyang, Khandong (kept in abeyance).

Discussions in the 164th OCCM:

- FO communication path is available for all stations except Loktak HEP. However route redundancy/ alternate path is not available for any of the stations.
- Communication link availability status to be discussed in next NETeST meeting

Deliberation of the sub-Committee:

NERLDC requested that communication links with NLDC be made ready for all the plants as above. The matter was referred to the next NETeST meeting.

The Sub-Committee noted as above.

Action: NERTS, NTPC, NEEPCO, NHPC.

D.14 Submission of availability of Hot Spares of transformers and reactors of ISTS

Hon'ble CERC has advised POSOCO to collect the availability of Hot spares of Transformers and Reactors of ISTS licensees on quarterly basis. It has been observed

by experience that quarterly collection of data has its own issues and challenges. Thus, In order to streamline the process of data collection, it is proposed that ISTS licensees may submit the data of availability of Hot spares of transformers and reactors along with data for verification of transmission elements availability.

A separate sheet containing details of all spares, its usage (change over) and outages etc. may be included in monthly outage file.

In 163rd OCCM NERLDC insisted that the details mentioned above has to be submitted as per CERC directives. NERTS requested that POWERGRID may be excused from submission of hot spares availability periodically. Intimation would be given to NERLDC when the spare is put into service. NERLDC mentioned that if the data is not received as mentioned above, the same shall be intimated to Hon'ble commission. The forum decided to discuss the item in the next meeting.

Deliberation of the sub-Committee:

Sr.DGM(AM), NERTS informed that relevant data sent to NERLDC on 13.02.20, after vetting by POWERGRID CC. The forum decided to drop the agenda item.

The Sub-Committee noted as above.

D.15 Protection Conclave:

Power System Protection Conclave will be organized by NERLDC on 16th and 17th March'2020 where eminent personalities from academics and power industry, like IITs, PRDC, NLDC, POWERGRID etc. will be participating. Therefore, all the utilities are requested for active participation to make the program a grand success.

Deliberation of the sub-Committee:

ED, NERLDC requested all the utilities to participate in the Conclave.

The Sub-Committee noted as above.

D.16 Installation of additional PMUs at Biswanath-Chariali:

4 nos. PMUs have been installed at 400 kV BNC under URTDMS. It is proposed to install additional PMUs at Converter Transformers and Filter Banks at BNC for monitoring purpose.

Deliberation of the sub-Committee:

The forum approved the same.

The Sub-Committee noted as above.

D.17 Proposal for Installation of PMUs in the strategic locations of State Power Systems

NER grid is expanding very fast and most of NER states will be connected to the grid through 400 kV system in the near future. For the better monitoring and visualization of the grid, it is proposed to install PMUs in the strategic locations of State Power Systems. List as **Annexure-D.17**

Deliberation of the sub-Committee:

NERLDC suggested that PMUs may be installed unit wise for all the ISGSs for proper analysis of oscillations. After detailed deliberation the forum decided that usage of DAS data for oscillation analysis would be explored.

The Sub-Committee noted as above.

Action: NERLDC

D.18 Applications for charging of new elements:

NERTS vide letter NESH/PESM/466(S&W)/242 dated 22.01.2020 informed that construction of 02 nos of 132 kV bays at Biswanath Chariali (by POWERGRID) associated with 132 kV BNC - Itanagar D/C is in advance stage of completion and shall be ready for charging by March 2020.

NERTS vide letter NESH/PESM/466(S&W)/241 dated 22.01.2020 informed that construction of 02 nos of 400 kV bays at New Mariani (by POWERGRID) associated with 400 kV New Mariani – New Kohima D/C is in advance stage of completion and shall be ready for charging by July 2020.

NERLDC vide letters NERLDC/SO-II/1819 & NERLDC/SO-II/1820 dated 28.01.20 informed M/s Sterlite Power Grid Ventures Ltd., & M/s Kohima Mariani Transmission Ltd. Respectively intimate the expected date of charging of new elements to NERLDC two month in advance. It was also requested to follow the time schedule as per the approved procedure for interconnection of a new transmission element belonging to ISTS Transmission licensee and issue of certificate of successful trial operation by Regional Load Despatch Centres (RLDCs). Members from Sterlite may be called as special invitees to understand the status of compliance requirements.

Deliberation of the sub-Committee:

KPTL/Techno Electric members informed that data can be provided at Kohima/Imphal. The Data points required need to be intimated.

Further the following ongoing activities were informed:

- Protection co-ordination with CTU.
- Agreements with the state being taken up.

- Data to be transmitted upto wideband point.

ED, NERLDC stated that for integration with communication system NERTS would do the needful, however ensuring data receipt at RLDC is the responsibility of the project execution agency.

The Sub-Committee noted as above.

D.19 Single bus scheme in 132kV Gohpur S/S

The 132 kV Gohpur S/S of Assam has Single bus scheme with a sectionalizer isolator. But, as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines)

Regulations, 2010, the single main and transfer or double main scheme must be available at substations upto 132 kV level.

The single bus is required to be split using the sectionaliser isolator multiple times in a day at Gohpur in order to limit loading of 132 kV Gohpur- Nirjuli. Multiple online operation of isolator is not preferred as it can be dangerous to both man and material. Assam is requested to study and give the action plan for modification of the Bus configuration

Deliberation of the sub-Committee:

DGM, AEGCL informed that 132kV Gohpur S/Sn would be converted from AIS to GIS. The above works are already included in the scheme, which has slated completion in 2 years.

The Sub-Committee noted as above.

Action: AEGCL

D.20 Voltage control at 400 kV level by using Kameng generation and reactive capability testing of Kameng:

It is proposed to utilize the Kameng units to absorb reactive power as per their maximum capability limits in order to control the high voltage prevailing in the 400 KV system in the Northern part of NER. Also during the Infirm generation of Kameng HEP, it is proposed to conduct the reactive capability testing in presence of OEM. NERLDC shall be physically witness the testing.

Deliberation of the sub-Committee:

NERLDC proposed that reactive testing may be done during infirm injection period in presence of OEM, NEEPCO stated that the matter was discussed and in first week of Mar'20 during trial run the testing may be done. Forum concurred.

The Sub-Committee noted as above.

Action: NERLDC, NEEPCO

D.21 Downstream network of upcoming 400kV New Kohima Substation:

As per the communication from DoP Nagaland, they are not able to develop the downstream transmission elements of upcoming 400kV New Kohima Substation. The target for completion of the TBCB line of 400 kV Imphal –New Kohima-Mariani is July'2020. In line with the completion target date of TBCB project, if the downstream transmission elements are not developed by Nagaland, the said lines will remain unutilized and will result in Overvoltage issues.

Deliberation of the sub-Committee:

Director, NERPC informed that the matter was discussed in the 2nd NERSCT/ 1st NERPCPT and the decision taken in the same shall sustain unless review by NERPCPT.

The Sub-Committee noted as above.

D.22 DSM, RRAS, FRAS & Reactive Quarterly Reconciliation:

Requested all to sign the Third Quarter Reconciliation statements which were send in the month of January'2020.

Same are also available in NERLDC website on the following links

DSM: <https://www.nerldc.in/dsm-reconciliation/>

RRAS: <https://www.nerldc.in/rras-reconciliation/>

FRAS: <https://www.nerldc.in/fras-reconciliation/>

Reactive: <https://www.nerldc.in/reactive-reconciliation/>

Deliberation of the sub-Committee:

Sr. Manager, TSECL requested visit from NERLDC officials to Agartala for signing of reconciliation statements.

The Sub-Committee noted as above.

Action: all DISCOMs/NERLDC.

Metering Agenda

D.23 Collection of SEM data before availing Shutdown:

SEM data should be collected before availing shutdown so that required full accounting week data could be sent to NERLDC in due time as per the provision of Regulations (by Tuesday Noon).

Deliberation of the sub-Committee:

Sr.DGM(AM), NERTS informed that if any feeder is currently under shutdown voltage of any phase may be extended from the nearest feeder to energize the meter and data may be collected. The forum noted.

The Sub-Committee noted as above.

Action: all utilities.

D.24 Meter Replacement:

Following meters needs to be replaced on urgent basis:

1. Meter no. NP-8492-A i.e. Sarusajai end Umtru II feeder (defective for long time)
2. Meter no. NP-9456-A i.e. Azara end of Bongaigaon feeder (high time drift)by Feb'20 all the meters
3. Meter no. NP-9457-A i.e. Azara end of Silchar feeder (high time drift)
4. Meter no. NP-9546-A i.e. Imphal end Imphal (PG) –II feeder (high time drift)
5. Meter no. NP-9438-A i.e. Dullavchera – Dharmanagar feeder (high time drift)

(Note: 2. to 5. all meters have time drift of more than 5 min)

Deliberation of the sub-Committee:

NERTS will replace the 5 SEMS by end of Feb'2020. Sr. Manager, TSECL informed that Udaipur data not collected due to VINPLUS software problem. The forum decided that a laptop would be provided for Udaipur separately.

The Sub-Committee noted as above.

Action: NERLDC.

D.25 High SEM time drift:

Time drift in SEMs may result in computational errors in Regional Energy Accounts & Weekly Loss. All constituents in whose premises the meters are installed are required to take corrective action for time correction whenever meter time drift > 1minute and submit weekly compliance report of the same to NERLDC. **Annexure-D.25**

Deliberation of the sub-Committee:

The forum noted the significance of time drifting in SEMs and requested all the utilities to submit report weekly.

The Sub-Committee noted as above.

Action: all utilities.

AGENDA ITEMS FROM OTPC:

D.26 Fixed SG in case of low demand

Providing SG @ 65% of installed Capacity in case of low demand for reliable operation of OTPC units.

Deliberation of the sub-Committee:

The forum noted that at present technical minimum is set at 55% of IC as per IEGC 4th amendment. The same would be followed until redressal by CERC.

The Sub-Committee noted as above.

D.27 Shutdown of plant

OTPC informed that high demand season for NER has been fixed from August-September. However the present tariff regulation has disincentivised taking shutdown during high demand season. Since the shutdown period for gas plants has already been decided in previous OCC, it was requested to provide relief

Deliberation of the sub-Committee:

The forum requested NERPC to take up the matter with CERC

The Sub-Committee noted as above.

Action: NERPC

AGENDA ITEMS FROM NTPC:

D.28 Ramp up/Ramp down of units

NTPC informed that +/-25MW ramp up/ramp down is creating problems for 250MW machine is creating problems.

Deliberation of the sub-Committee:

NERLDC informed that the ramp rate of 1% per minute is to be maintained by thermal generating stations as per CERC (Terms and Conditions of Tariff) Regulations, 2019 w.e.f. 01-04-2020.

The Sub-Committee noted as above.

Action: NERLDC

D.29 Temporary LILO at Karimganj S/S on 132kV Badarpur- Kumarghat Line:

Deliberation of the sub-Committee:

DGM, AEGCL informed that 132kV Karimganj S/S is ready at the moment. However, the same cannot be charged due to non completion of 132kV Hailakandi-Karimganj(RoW issues). He requested immediate LILO of 132kV Badarpur-Kumarghat at Karimganj. Further, he assured that 132kV Hailakandi –Karimganj to be commissioned by 18months.

CGM, NERLDC opined that LILO be made permanent as that would increase reliability and the same has to be approved by SCM. DGM, AEGCL requested for post facto approval of the LILO so that works for pile foundation may be completed early.

OCC agreed for approval subject to post facto SCM approval.

The Sub-Committee noted as above.

Action: NERPC, NERTS, AEGCL.

ADDITIONAL AGENDA ITEMS

AGENDA ITEMS FROM NERLDC:

D.30 Tripping of all units of AGBPP

All the units of AGBPP tripped on 25th Dec, 2019 due to tripping of Gas Booster Compressor. NEEPCO may please intimate the reason of the tripping of Gas Booster Compressor and actions taken to avoid such events in future.

In 164th OCCM DGM, NEEPCO informed that 220kV AGBPP- Tinsukia- Namrup tripped at 14:28 hrs on 25.12.2019. However, inspite of faulty conditions attempt was made to charge the line resulting in heavy jerk and tripping of the machines. He informed that such malpractices would not recur in the future. Also, it was informed by NEEPCO that the GBC motor contactor tripped after voltage jerk. The issue shall be rectified by NEEPCO in order to avoid recurrence of such events in future.

Deliberation of the sub-Committee:

NERLDC requested NEEPCO to update the detailed reasons for tripping. The matter was referred to the next Sub-Group meeting for deliberation.

The Sub-Committee noted as above.

Action: NEEPCO/NERPC.

D.31 Auto recloser in 132 kV Rangia – Motonga line & 132 kV Salakati - Gelephu line (International lines connecting Bhutan Power System):

As per the discussions in the 5th Operational Coordination Meeting between India and Bhutan, Bhutan informed that gang operated circuit breaker at Gelephu station has been replaced with independent pole CB for the 132 kV Salakati – Gelephu line and single-phase auto recloser can be operationalized at any time. Bhutan requested India to replace 3 phase gang operated CB mechanism with single phase CBs at Salakati end. In 132 kV Rangia – Motonga line Single Phase Auto Recloser (SPAR) is ready at Bhutan (Motonga) end but not ready at India end due to the same reason. POWERGRID to look in to this matter.

In 164th OCC meeting it was decided that 3 phase GO CB at Salakati and Rangia is to be converted to Single Pole CB. However NERTS stated that shutdown for the same is required. The forum requested NERTS to prepare the proposal and place it for ratification in the next TCC/RPC with the expenditure being shared under PoC mechanism.

Deliberation of the sub-Committee:

NERTS informed that before next OCC meeting procurement status would be given.

The Sub-Committee noted as above.

Action: NERTS.

D.32 Ratification of PoC data for Q1(FY20-21):

NERLDC informed that for Ar. Pradesh generation data has not been submitted and it is assumed to be 6MW. NERLDC requested all the SLDCs to attend the Validation Committee meeting on 24.02.2020.

The Sub-Committee noted as above.

Action: all SLDCs.

D.33 Diversion of CT from Aizawl to Kolasib:

NERLDC informed that as per report of the Committee which visited 132kV Kolasib S/Sn, the CT for 132kV Bairabi feeder is to be replaced. NERTS informed that spare CT is available at 132kV Aizawl S/Sn and same may be provided to P&ED Mizoram on loan basis. However P&ED Mizoram has to arrange for the diversion and installation. The forum approved and requested P&ED Mizoram to do the needful.

The Sub-Committee noted as above.

Action: P&ED Mizoram.

AGENDA FROM AEGCL:

D.34 Auto-reclosure issues at Azara:

AEGCL informed that at present single phase AR is not working for 400kV Silchar-Azara at Azara. This is due to communication channel problem at Azara with both Channel-1&2 blocked in PLCC panel. NERTS shared the number of the concerned maintenance firm with AEGCL with the request to get the work done, the cost for the same would be re-imbursable.

The Sub-Committee noted as above.

Action: AEGCL.

Date & Venue of next OCC meeting:

It is proposed to hold the 166th OCC meeting of NERPC on third week of March 2020. However, exact date and venue will be intimated in due course.

Annexure-I**List of Participants in the 165th OCC Meeting held on 14.02.2020**

SN	Name & Designation	Organization	Contact No.
1.	Sh. N. Perme, SE (SO&PSC)	Ar. Pradesh	09436288643
2.	Sh. Chandan Sharma, CGM (SLDC), AEGCL	Assam	09864150106
3.	Sh. H.S. Mohan, DGM (SLDC)	Assam	09435336126
4.	Sh. Pranjit Handique, AGM (PP&D) , APDCL	Assam	09435325552
5.	Sh. Bimal Ch. Borah, AGM (SLDC)	Assam	09435119248
6.	Smti. Sristi Mitra, AM , AEGCL	Assam	09435305458
7.	Sh. Ashutosh Bhattacharya, AGM (P&E)	Assam	09435332928
8.	Sh. Rupanka K. Goswami, AGM (SLDC), AEGCL	Assam	09613146565
9.	Sh. Nabanit Hazarika, AGM, HQ	Assam	09435380310
10.	Sh. Mriganka Bhuyan, AGM (SLDC), AEGCL	Assam	09601302916
11.	Sh. S. Baruah, AGM, APDCL	Assam	09435355692
12.	Smti. Khoisnam Steela, DGM (SLDC), MSPCL	Manipur	08730831103
13.	Sh. A. Kajina, Mgr. (SLDC), MSPCL	Manipur	08132323793
14.	Sh. F.E. Kharshiing, SE (SLDC)	Meghalaya	-
15.	Sh. B. Nihla, EE, MePTCL	Meghalaya	09436314163
16.	Smti. P. Sun, EE (MOD), SLDC	Meghalaya	-
17.	Sh. W. Khyriem, EE (GSPD)	Meghalaya	09856007102
18.	Sh. Y. Iakai, Asst. Engineer	Meghalaya	09402133552
19.	Sh. M.N. Tariang, JE, SP	Meghalaya	07005620013
20.	Sh. Benjamin L. Tlumtea, Sr. EE (SLDC)	Mizoram	09466151424
21.	Sh. Jacob Lalrinfela, AE (SLDC)	Mizoram	08787688235
22.	Sh. V. Lalhmingliana, SE (SLDC)	Mizoram	09612763052
23.	Sh. Rokobeito Iralu, SDO (T), Dimapur	Nagaland	09436837020
24.	Sh. P. Tiakaba Yinchunger, JE (SLDC)	Nagaland	08974020151
25.	Sh. Debabrata Pal, SM (Comml.)	Tripura	09436500244
26.	Sh. Joypal Roy, DGM (O&M)	NEEPCO	09435577726
27.	Sh. Ashim Kr. Sarmah, Manager	NEEPCO	09435078860
28.	Sh. V. Suresh, ED	NERLDC	09449599156
29.	Sh. R. Sutradhar, CGM (SO-I)	NERLDC	09436302714

30.	Sh. S.C. De, GM	NERLDC	09436335369
31.	Sh. Sourav Mandal, Dy. Mgr (SO-I)	NERLDC	09402102354
32.	Sh. M.P. Nath, Chief Manager	NERLDC	09436335374
33.	Sh. Kritika Debnath, Engineer	NERLDC	09436930830
34.	Sh. Palash Jyoti Borah, Dy. Manager	NERLDC	08761093397
35.	Sh. U. Kataki, Sr. GM (AM)	PGCIL	09435505418
36.	Sh. H. Talukdar, Sr. DGM (AM)	PGCIL	09436335237
37.	Sh. Narendra Kumar Gupta, Sr. Manager (O)	OTPC	09774233426
38.	Sh. Sanjib Pal, AM (O)	OTPC	09436583737
39.	Sh. Deepak Sanayjadh, Sr. Manager (E)	NHPC	09932029461
40.	Sh. S. Das, AGM (O)	NTPC	07637032174
41.	Sh. Kangkan Paul, DM (EEMG)	NTPC	09435029230
42.	Sh. Ratan Singh Basnet, Dy. Mgr.	NETC	08811072489
43.	Sh. A.R. Sah, DGM	NETC	09999055047
44.	Sh. P.S. Das Gupta, Dy. Manager	KMTL	08967788237
45.	Sh. Pritom Mallik, DGM (Prof.)	KMTL	09507057300
46.	Sh. V.K. Parashar, Director	KMTL	-
47.	Sh. A.K. Thakur, Member secretary	NERPC	-
48.	Sh. B. Lyngkhoi, Director	NERPC	09436163419
49.	Sh. S. Mukherjee, Dy. Director	NERPC	08794277306

Annexure-I	
Details to be submitted by the Wind/Solar generating stations which are regional entities/ lead generator, principal generator	
Type: Hydro/Wind/Solar Generator	
Total Installed Capacity of Generating Station	
Total Number of Units with details	
Physical Address of the RE Generating Station	
Connectivity Details	Location/Voltage Level
Connectivity Diagram	(Please Enclose)
Static data	As per attached sheet
Contact Details of the Nodal Person	Name : Designation : Number: Landline Number, Mobile Number, Fax Number E - Mail Address :
Contact Details of the Alternate Nodal Person	Name : Designation : Number: Landline Number, Mobile Number, Fax Number E - Mail Address :

**Data to be submitted by the RE Generator / lead generator,
principal generator (Suggested List)**

For Wind turbine generating plants

S No	Particulars
1	Type
2	Manufacturer
3	Make
4	Model
5	Capacity
6	commissioned date
7	Hub height
8	total height
9	RPM range
10	Rated wind speed
11	Performance Parameter
12	Rated electrical power at Rated wind speed
13	Cut in speed
14	Cut out Speed
15	Survival speed (Max wind speed)
16	Ambient temperature for out of operation
17	Ambient temperature for in operation
18	survival temperature
19	Low Voltage Ride Through (LVRT) setting
20	High Voltage Ride Through (HVRT) setting
21	lightning strength (KA & in coulombs)
22	Noise power level (db)
23	Rotor
24	Hub type
25	Rotor diameter
26	Number of blades
27	Area swept by blades
28	Rated rotational speed

**Data to be submitted by the RE Generator / lead generator,
principal generator (Suggested List)**

For Wind turbine generating plants

29	Rotational Direction
30	Coning angle
31	Tilting angle
32	Design tip speed ratio
33	Blade
34	Length
35	Diameter
36	Material
37	Twist angle
38	Generator
39	Generator Type
40	Generator no of poles
41	Generator speed
42	Winding type
43	Rated Gen. Voltage
44	Rated Gen. frequency
45	Generator current
46	Rated Temperature of generator
47	Generator cooling
48	Generator power factor
49	KW/MW @ Rated Wind speed
50	KW/MW @ peak continuous
51	Frequency Converter
52	Filter generator side
53	Filter grid side
54	Transformer
55	Transformer capacity
56	Transformer cooling type

**Data to be submitted by the RE Generator / lead generator,
principal generator (Suggested List)**

For Wind turbine generating plants

57	Voltage
58	Winding configuration
59	Weight
60	Rotor weight
61	Nacelle weight
62	Tower weight
63	Over speed Protection
64	Design Life
65	Design Standard
66	Latitude
67	Longitude
68	COD Details
69	Past Generation History from the COD to the date on which DAS facility provided at RLDC, if applicable
70	Distance above mean sea level

For Solar generating Plants

Static data points:

1	Latitude
2	Longitude
3	Turbine Power Curve
4	Elevation and orientation angles of arrays or concentrators
5	The generation capacity of the Generating Facility
6	Distance above mean sea level etc.
7	COD details
8	Rated voltage
9	Details of Type of Mounting: (Tracking Technology If used, single axis or dual axis, auto or manual)
10	Manufacturer and Model (of Important Components, Such as Turbine, Concentrators, Inverter, Cable, PV Module, Transformer, Cables)
11	DC installed Capacity
12	Module Cell Technology
13	I-V Characteristic of the Module
14	Inverter Rating at different temperature
15	Inverter Efficiency Curve
16	Transformer Capacity & Rating , evacuation voltage, distance form injection Point

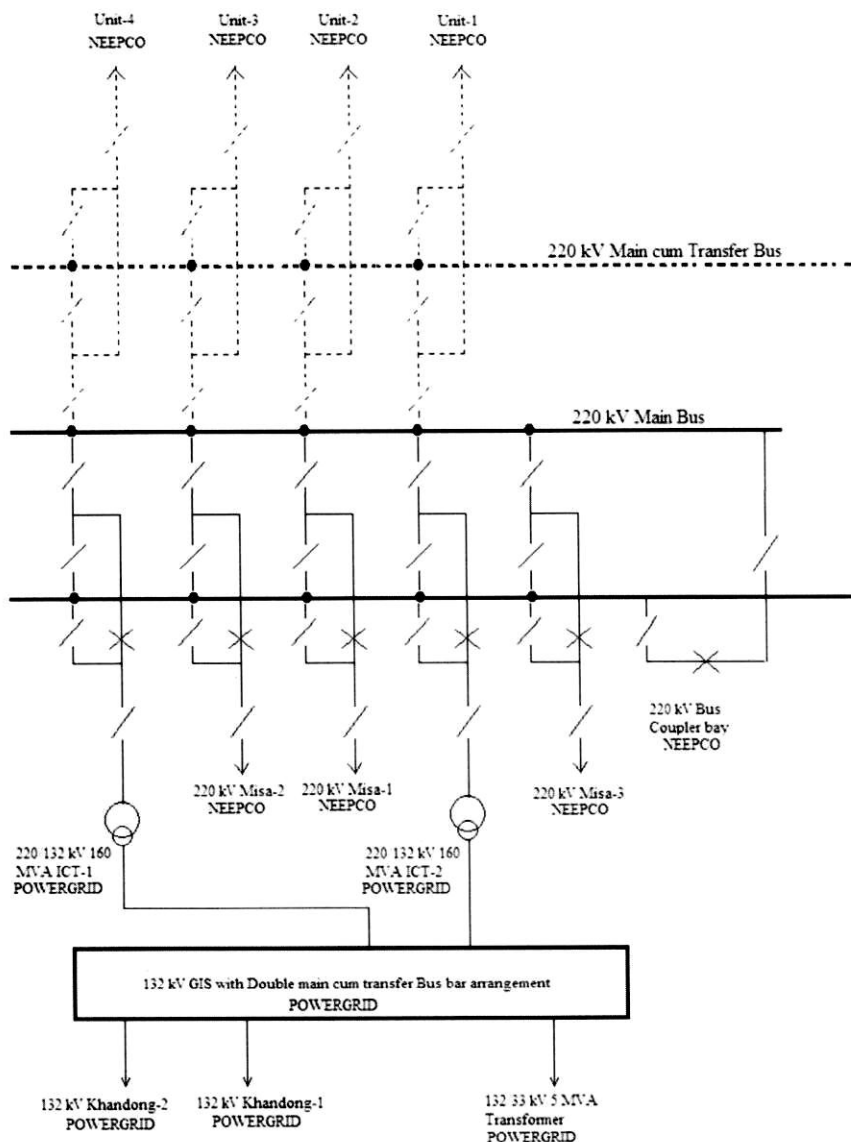
Report on Assessment of damages to Transmission assets at Kopili

At about 05:00 Hrs on 07.10.2019, the two Nos Penstocks of Kopili HEP (NEEPCO) failed and the power house along with the switchyard got submerged with water and remained under water for about a week before the intake valve could be closed.

After the water inflow stopped, the whole of the power house and the switch yard up to a height of about 2m, was found to have buried under sand and mud. After the NEEPCO authority cleared most of the sand and mud, a team of POWERGRID engineers visited Kopili to make an assessment of the damages caused to the POWERGRID assets at Kopili from 04.02.20 to 08.02.20. The committee comprised the following members:

- (1) Sh Ashok Sinha, Sr. DGM, Misa
- (2) Sh H Talukdar, Sr. DGM-AM, Shillong
- (3) Sh, Kamalesh Baishya, Engineer, Misa
- (4) Sh Pranjit Patowary, JE, Kopili

220/132 kV Kopili Switch yard



The committee made the following observations:

POWERGRID Assets:

(A) 220/132 kV 160 MVA ICT-2 : (Existing transformer of POWERGRID)

- (1) The transformer main tank along with the cooler banks are found to be physically intact.
- (2) The main Tank is full of insulation oil. There is leakage in the oil pocket flanges. C and tan Delta of winding, insulation oil BDV and PPM are found in order.
- (3) Core insulation between Frame and tank is found low.
- (4) The C&R panels are found physically healthy.
- (5) The local cabling of the ICT are found physically in order except 3-4 cables.
- (6) The on line filtration unit is completely damaged.
—On-line DGA is not installed. The new ODGA equipment kept in the hydrant pump house has water ingress.
- (7) The remote cables are found damaged.
- (8) The NIFS system is found damaged.
- (9) The Pipe works and valves of the Hydrant System are found damaged.
- (10) MoM Box and Marshalling Box of the 220 kV CB are found damaged.
- (11) Four nos isolator MoM Boxes and one no. Earth Switch MOM box IN THE 220 kV Bay are found damaged.
- (12) The Existing 132 kV AIS Bay with all the AIS equipments are intact.
- (13) In the Newly constructed 132 kV GIS Bay, the Local control cubicles were under water for about a week. Damages to be assessed by M/s GE.

(B) 220/132 kV 160 MVA ICT-2: (New Transformer of POWERGRID)

- (1) The transformer main tank along with the cooler banks are found to be physically intact.
- (2) The main tank is full of insulation oil. BDV and PPM values of insulation oil and core insulation resistance are found in order.
- (3) The C & R panels are completely damaged.
- (3) The local cabling of the ICT are found physically in order.
- (4) The 220 kV CB is found physically intact.

(5) Four nos isolator MoM Boxes and one no. Earth Switch MOM box in the 220 kV bay are found damaged. The C&R panels are completely damaged.

(6) The Earth Mat, the risers and the gravels are damaged / removed.

(C) 132 kV Khandong-1 Line:

(1) The existing AIS bay was already dismantled and the newly constructed 132 kV GIS Bay, the Local control cubicles were under water for about a week. Damages to be assessed by M/s GE.

(2) The C& R panels are completely damaged

(3) The two Nos PLCC Panels are completely damaged.

(D) 132 kV Khandong-2 Line:

(1) The existing AIS bay along with all the AIS bay equipments are physically intact. In the Newly constructed 132 kV GIS Bay, the Local control cubicles were under water for about a week. Damages to be assessed by M/s GE.

(2) The C& R panels are found physically healthy.

(3) The two Nos PLCC Panels are found physically healthy.

(E) Bus Bar Protection :

(1) The 132 kV Bus Bar Protection panels installed in the GIS Building are found to be physically healthy.

(F) The 220 kV Bus Bar Protection Panels installed in the Power House are completely damaged.

(G) 220 V DC Auxilliay Supply :

(1) The two Nos 220 V DC Chargers DCDB and two nos 220 V Battery Banks, installed newly (yet to be handed over by GE) in the switchyard kiosk are found damaged.

(H) 48 V DC Supply :

(1) The 48 V DC Chargers and Battery Banks existing in the Power House are completely damaged.

NEEPCO Assets:

(A) 220 kV Misa-1 Bay :

(1) The MOM Boxes and Marshalling Boxes of the CB are found damaged.

(2) The MOM Boxes of four Nos Isolators and one no. Earth Switch MOM box are found damaged.

- (3) All local and remote control cables are damaged.
- (4) The Earth Mat, the risers and the gravels are damaged / removed.
- (5) The C & R panels installed in the Power House are completely damaged.
- (6) The PLCC panels installed in the Power House are completely damaged.
- (7) One of the three Nos LAs is gapped type the same need to be replaced.
- (8) The CTs are 3-core and of ratio 500/1, the same need to be replaced.

(B) 220 kV Misa-2 Bay :

- (1) The MOM Boxes and Marshalling Boxes of the CB are found damaged.
- (2) The MOM Boxes of four Nos Isolators are found damaged.
- (3) All local and remote control cables are damaged.
- (4) The Earth Mat, the risers and the gravels are damaged / removed.
- (5) The C & R panels installed in the Power House are completely damaged.
- (6) The PLCC panels installed in the Power House are completely damaged.
- (7) One of the three Nos LAs is gapped type and another is missing the same need to be replaced.
- (8) The CTs are 3-core and of ratio 500/1, the same need to be replaced.

(C) 220 kV Misa-3 Bay :

- (1) The MOM Boxes and Marshalling Boxes of the CB are found damaged.
- (2) The MOM Boxes of four Nos Isolators and one no. Earth Switch MOM box are found damaged.
- (3) All local and remote control cables are damaged.
- (4) The Earth Mat, the risers and the gravels are damaged / removed.
- (5) The C & R panels installed in the Power House are completely damaged.

(6) The PLCC panels installed in the Power House are completely damaged.

(7) One pole type LA structure is found damaged.

(8) The CTs are 3-core and of ratio 500/1, the same need to be replaced.

(D) 220 kV Bus Coupler Bay :

(1) The MOM Boxes and Marshalling Boxes of the CB are found damaged.

(2) The MOM Boxes of four Nos Isolators are found damaged.

(3) All local and remote control cables are damaged.

(4) The Earth Mat, the risers and the gravels are damaged / removed.

(5) The C & R panels installed in the Power House are completely damaged.

(6) Two Nos CTs are found to have developed insulation oil leakages.

(E) 132/33 kV 5 MVA (Existing) Transformer :

(1) The transformer caught fire during the accident and is damaged.

(2) The existing 132 kV AIS Bay equipments are physically intact. However, there is heavy soil erosion beneath the Gantry Tower and Equipment and the same are in precarious condition. Immediate re-construction of retaining wall and soil filling is required.

(3) The local and remote control cables are damaged.

(4) The C & R Panels are physically in order.

(F) 132/33 kV 5 MVA (New) Transformer :

(1) One sampling valve at the bottom of the transformer broke and the entire insulation oil of the transformer got drained.

(2) In the Newly constructed 132 kV GIS Bay, the Local control cubicles were under water for about a week. Damages to be assessed by M/s GE.

(G) Telecom Equipments, SCADA and PMU : Completely damaged, as these were installed in the power House.

(H) Damages to Civil Structures:

- (1) A 12m section of the retaining (RRM) wall of the switchyard near the LV side existing AIS bay of the 200/132 kV 160 MVA Transformer collapsed and soil from the switchyard washed out partly exposing the 132 kV Gantry towers of the existing 5 MVA 132/33 kV Transformer.
- (2) All the cable trenches in the switchyard got completely filled with sand and pebbles and boulders. Cleaning of the same manually may not be possible and cleaning by mechanical means shall damage the cable supporting angles and trays and even the walls. Thus the entire cable trenches will have to be constructed anew.
- (3) The entire 220 kV switchyard earth mat (except the ICT-1 bay) along with all the risers and the equipment connections have been damaged during the cleaning process.
- (4) All the switchyard gravels both on 220 kV and 132 kV side have been removed during the cleaning process.
- (5) The existing Porta Cabin Kiosk housing the C&R and PLCC panels for the ICT-1 and Khandong-2 bay has been lifted in buoyancy on one side by about 1 foot and is now resting on the debris. The same can be put in to place by using hydraulic jack.
- (6) All the 220 kV Line Protection and control Panels, 132 kV C&R Panels for Khandong-1 line, their PLCC Panels, C &R Panels for the 220/132 kV 160 MVA New ICT, 220 kV Bus bar protection Panels were earlier housed in the Power House.

Now, since the Power House has been damaged, a separate kiosk / control room will have to be constructed in the switch yard. There is a space of 10m x 7m size in the switchyard between the newly constructed kiosk for 220 V Battery and Charger and the existing Porta Cabin Kiosk, which can be utilized for this purpose.

**Damage Assessment Kopili Transmission System
As on 07/02/2020**

S.No	Bay/ Element	Equipment/ Parameters	Unit	Qty	Status	Remarks/ Action to be taken
1	160MVA, 220/132kV ICT-II	SFRA Core Insulation Oil BDV Oil Moisture Content Winding Cap & Tanδ Bushing Cap & Tanδ Oil Leakage On-line Dryout System Online DGA NIFPS System			OK OK OK OK OK OK Yes Damaged Not installed Partially damaged	Graph seems to be OK; to be compared with pre-commissioning/ signature; factory test report sought from OEM. Frame to Tank value <5kΩ Leakage from WTI/OTI pockets & Core insulation test terminals To be replaced. New equipment kept at site has moisture ingress; heathiness to be ascertained; intimated to OEM. Annunciation panel damaged - to be replaced/diverted from Dimapur.
2	220kV ICT-II Bay	Circuit Breaker Line Isolator with E/S Bus-I Isolator w/o E/S (Gantry mounted) Bus-II Isolator w/o E/S (Gantry mounted) Transfer Isolator w/o E/S (Gantry mounted) Current Transformer Cap & Tanδ Ratio Knee Point Lightning Arrester Control Panel Relay Panel	No.	1	Partially damaged	Drive Mechanism & MB/CB to be replaced.
			No.	1	Partially damaged	MOM Box to be replaced.
			No.	1	Partially damaged	-do-
			No.	1	Partially damaged	-do-
			No.	1	Partially damaged	-do-
			No.	3	OK	
					OK	
					OK	
			No.	3	OK*	Test not carried out.
					OK*	-do-
					OK*	-do-
3	220kV Misa-II Bay	Circuit Breaker Line Isolator with E/S Bus-I Isolator w/o E/S (Gantry mounted) Bus-II Isolator w/o E/S (Gantry mounted) Transfer Isolator w/o E/S (Gantry mounted) Current Transformer Cap & Tanδ Ratio Knee Point CVT Wave Trap Lightning Arrester Control & Panel PLCC Panel	No.	1	Partially damaged	Drive Mechanism & MB/CB to be replaced.
			No.	1	Partially damaged	MOM Box to be replaced.
			No.	1	Partially damaged	-do-
			No.	1	Partially damaged	-do-
			No.	1	Partially damaged	-do-
			No.	3	OK	500/250-1A, 3C CTs - may be replaced with 1600/800/1A, 5C CTs
					OK	
					OK	
					OK	
			No.	1	OK*	Test not carried out.
			No.	1	OK*	-do-
			No.	3	Partially damaged	Test not carried out; 1 no. broken, 1 no. gap type - to be replaced
			Set	1	Damaged	To be diverted from Silchar S/S.
			No.	1	Damaged	-do-

4	220kV Misa-I Bay	Circuit Breaker	No.	1	Partially damaged	Drive Mechanism & MB/CB to be replaced.
		Line Isolator with E/S	No.	1	Partially damaged	MOM Box to be replaced.
		Bus-I Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Bus-II Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Transfer Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Current Transformer	No.	3	OK*	Test not carried out; 500/250-1A, 3C CTs - may be replaced with 1600-800/1A, 5C CTs
		CVT	No.	1	OK*	Test not carried out.
		Wave Trap	No.	1	OK*	-do-
		Lightning Arrester	No.	3	OK*	Test not carried out; 1 no. gap type - to be replaced
		Control & Panel PLCC Panel	Set No.	1 1	Damaged Damaged	To be diverted from Silchar S/S. -do-
5	220kV Misa -III Bay	Circuit Breaker	No.	1	Partially damaged	Drive Mechanism & MB/CB to be replaced.
		Line Isolator with E/S	No.	1	Partially damaged	MOM Box to be replaced.
		Bus-I Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Bus-II Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Transfer Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Current Transformer	No.	3	OK*	Test not carried out
		CVT	No.	3	OK*	Test not carried out.
		Wave Trap	No.	2	OK*	-do-
		Lightning Arrester	No.	3	OK*	Test not carried out.
		Control & Panel PLCC Panel	Set No.	1 1	Damaged Damaged	To be diverted from Silchar S/S. -do-
6	160MVA, 220/132kV ICT-I	Core Insulation			OK	Assessment to be done by M/s GE T&D
		Oil BDV			OK	
		Oil Moisture Content			OK	
		Oil Leakage			No	
		On-line Dryout System	No.	1	Damaged	
		Online DGA	No.	1	Damaged	
		NIFPS System	No.	1	OK*	
7	220kV ICT-I Bay	Circuit Breaker	No.	1	OK*	Assessment to be done by M/s GE T&D
		Line Isolator with E/S	No.	1	Partially damaged	MOM Box damaged
		Bus-I Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Bus-II Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Transfer Isolator w/o E/S (Gantry mounted)	No.	1	Partially damaged	-do-
		Current Transformer	No.	3	OK*	
		Lightning Arrester	No.	3	OK*	
8	132kV ICT-I Bay	Lightning Arrester	No.	3	OK*	Assessment to be done by M/s GE T&D
		GIS Switchgear	Set	1	Damaged	Assessment to be done by M/s GE T&D
9	132kV ICT-II Bay	Circuit Breaker	No.	1	OK	Assessment to be done by M/s GE T&D
		Bus Isolator	No.	1	OK	
		Current Transformer	No.	3	OK	
		Lightning Arrester	No.	3	OK	
		GIS Switchgear	Set	1	Damaged	

10	132kV Khandong-I Bay	CVT	No.	3	OK*	Assessment to be done by M/s GE T&D	
		Lightning Arrester	No.	3	OK*		
		GIS Switchgear	Set	1	Damaged		
11	132kV Khandong-II Bay	Circuit Breaker	No.	1	OK*	To be bypassed.	
		Line Isolator with E/S	No.	1	OK*		-do-
		Bus Isolator	No.	1	OK*		-do-
		Current Transformer	No.	3	OK*	-do-	
		CVT	No.	3	OK*		
		Lightning Arrester	No.	3	OK*		
		GIS Switchgear	Set	1	Damaged	Assessment to be done by M/s GE T&D	
12	132kV SST Bay	Circuit Breaker	No.	1	OK*	Assessment to be done by M/s GE T&D	
		Bus Isolator	No.	1	OK*		
		Current Transformer	No.	3	OK*		
		Lightning Arrester	No.	3	OK*		
		GIS Switchgear	Set	1	Damaged		
13	220kV Bus Bar	220kV Bus Bar	Set	2	Partially damaged	Assessment to be done by NEEPCO.	
		220kV Bus PT	No.	6	OK*		
		220kV Bus Bar Protection Panel	Set	1	Damaged	Assessment to be done by M/s GE T&D	
14	132kV Bus Bar	132kV Bus Bar (AIS)	Set	1	OK	Assessment to be done by M/s GE T&D	
		132kV Bus Bar (GIS)	Set	2	Partially damaged		
		132kV Bus CVT (AIS)	No.	3	OK*		
		132kV Bus PT (GIS)	Set	2	Partially damaged	Assessment to be done by M/s GE T&D	
		132kV Bus Bar Protection Panel (GIS)	Set	2	Partially damaged	-do-	
13	Auxiliary Power Supply	5MVA, 132/33kV X-former (existing)	No.	1	Damaged	Assessment to be done by NEEPCO.	
		5MVA, 132/33kV X-former (new)	No.	1	Partially damaged	-do-	
		33kV Switchgear (outdoor)	Set	2	Damaged	-do-	
		415V LTAC Panel (Control Room)	Set	2	Damaged	Assessment to be done by NEEPCO.	
		415V ACDB (Switchyard for AIS)	Set	1	Damaged	-do-	
		415V ACDB (Switchyard for GIS)	Set	2	Partially damaged	Assessment to be done by M/s GE T&D	
		DG Set	No.	2	Damaged	Assessment to be done by NEEPCO.	
14	DC System	220V Battery Charger (Control Room)	Set	2	Damaged	Assessment to be done by NEEPCO.	
		220V Battery Bank (Control Room)	Set	2	Damaged	-do-	
		220V DCDB (Control Room)	Set	2	Damaged	-do-	
		220V Battery Charger (Switchyard)	Set	2	Partially damaged	Assessment to be done by M/s GE T&D	
		220V Battery Bank (Switchyard)	Set	2	Partially damaged	-do-	
		220V DCDB (Switchyard)	Set	2	Partially damaged	-do-	
		48V Battery Charger (Control Room)	Set	2	Damaged	Assessment to be done by NEEPCO.	
		48V Battery Bank (Control Room)	Set	2	Damaged	-do-	
		48V DCDB (Control Room)	Set	2	Damaged	-do-	
15	Communication Equipment	SDH Panel	Set	1	Damaged	Assessment to be done by NEEPCO.	
		PDH Panel	Set	1	Damaged		
		RTU Panel	Set	1	Damaged		
		PMU	Set	1	Damaged		
16	Others	Power Cable	Lot	1	Damaged		
		Control Cable	Lot	1	Damaged		
		BMK	No.	6	Damaged		
		Cable Trench	Lot	1	Damaged		
		Earth Mat	Lot	1	Damaged		
		Hydrant System	Set	1	Partially damaged		

Cost Estimate

Sl. No.	Particulars	Unit	Total Qty.	SAP Material No.	Service No.	Supply Rate	Service rate	Supply Amount	Service Amount	Total
I	Supply & Erection									
	160MVA, 220/132kV Trans	No.	0							
	On-line Dryout System	No.	1	1000031077	100002777	1349305	12574	1349305	12574	1361879
	Online DGA	No.	0							
	NIFPS System	No.	1		100002777		12574		12574	12574
	Circuit Breaker/Drive Mech	No.	5	1000001734	100000437	1436209	24812	7181045	124060	7305105
	MOM Box for Isolator (S&S)	No.	16	1000001673	100000461	493902	26315	7902432	421040	8323472
	MOM Box for Earth Switch	No.	3							
	Current Transformer	No.	12	1000001781	100003596	343483	6808	4121796	81696	4203492
	CVT	No.	0							
	Wave Trap	No.	0							
	Lightning Arrester	No.	3	1000020417		76406		229218		229218
	Control & Relay Panel	No.	9	1000001330	100000738	925517	8590	8329653	77310	8406963
	CB Auxilliary Panel	No.	4	1000001168	100000737	313634	5985	1254536	23940	1278476
	220 kV Bus Bar Protection Panel	Set	1	1000001166	100000741	4954761	13153	4954761	13153	4967914
	BMK	No.	6	LOA Rate		101795		610770		610770
	PLCC Panel	No.	5	1000000046	100000888	299087	5677	1495435	28385	1523820
	Protection Coupler	No.	4	1000017887	100000890	148917	5953	595668	23812	619480
	48V Battery Charger	Set	2	1000004758	100000952	408565	17208	817130	34416	851546
	48V Battery Bank	Set	2	1000004771	100000927	347188	20867	694376	41734	736110
	Power Cable	Lot	1	Estimate attached						997487.2
	Control Cable	Lot	1	Estimate attached						3526351
	DG Set 250 kVA	No.	1	1000001893	100000957	2734154	184134	2734154	184134	2918288
	Telecom / SCADA Equipme	Set	L/S							4000000
	PMU	Set	1	Estimate attached						2861348
II	Civil Works									
	C&R Panel Room (10m×7m)	Sqm	70	100003437			16080		1125600	1125600
	Earthmat Laying incl. suppl	km	1(L/S)	LOA Rate		494223		494223		494223
	Cable Trench	m	230	Estimate			18974		4364020	4364020
	Retaining Wall for Switchya	Cum	31.6		100001264		9041		285695.6	285695.6
	Fire Hydrant Pipe work 80N	m	1000	100001722		613		613000		613000
	AC for switch yard panel ro	No.	2	1000006285	100001881	365880	8795	731760	17590	749350
	Gravel Spreading	sqm	0	NEEPCO						
III	Others									
	Water Source for Fire Fight	Lot	1	NEEPCO						
	Auxiliary Power Source (33	Lot	1	NEEPCO						

62366182

Rupees Six Crore Twenty Three Lakh Sixty Six Thousand One Hundred Eighty Two only

Strategic locations for PMU installation (apart from those covered under URTDSM)

Sl. No	Locations
1	Palatana
2	BgTPP
3	AGTCCPP
4	Loktak
5	Doyang
6	Turial
7	Monarchak
8	Rokhia
9	Leshka
10	Khandong
11	Pare
12	LTPS
13	NTPS
14	Aizawl
15	Khliehriat
16	Surajmaninagar
17	Azara
18	Byrnihat
19	Kohima

TIME DRIFT REPORT STATUS

SL.NO	PGCIL	STATUS
1	BNC (PG)	REPORT NOT RECEIVED/ACTION NONE
2	BADARPUR (PG)	REPORT NOT RECEIVED/ACTION NONE
3	Silchar(PG)	REPORT NOT RECEIVED/ACTION NONE
4	MARIANI (PG)	REPORT NOT RECEIVED/ACTION NONE
5	HAFLONG (PG)	REPORT NOT RECEIVED/ACTION NONE
6	Mokokchang(PG)	REPORT NOT RECEIVED/ACTION NONE
7	RANGIA (PG)	REPORT NOT RECEIVED/ACTION NONE
8	Aizawl(pg)	REPORT NOT RECEIVED/ACTION NONE
9	SALAKATI(PG)	REPORT NOT RECEIVED/ACTION NONE
10	BONGAGIGAON(pg)	REPORT NOT RECEIVED/ACTION NONE
11	DIMAPUR(pg)	REPORT NOT RECEIVED/ACTION NONE
12	Khliehriat(Pg)	REPORT NOT RECEIVED/ACTION NONE
13	Balipara	REPORT NOT RECEIVED/ACTION NONE
	ASSAM	
14	DULLAVCHERRA	IRREGULAR
15	NAGALAND(S)	IRREGULAR
16	MIZORAM(S)	REPORT NOT RECEIVED
	TRIPURA	
17	SM NAGAR	REPORT NOT RECEIVED
18	79 TILLA	REPORT NOT RECEIVED
	ARUNACHAL PRADESH	
19	CHIMPU	REPORT NOT RECEIVED
	GENERATION	
20	AGBPP	REPORT NOT RECEIVED
21	DOYANG	REPORT NOT RECEIVED
22	PALATANA	REPORT NOT RECEIVED

Locations not sending weekly SEM data

Sl. No.	LOCATION NOT REPORTING	STATUS
1	UDAIPUR	DATA NOT SENT
2	SONABIL	DATA NOT SENT
3	TINSUKIA	DATA NOT SENT