

North Eastern Regional Power Committee

Agenda For

142nd OCC Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 14th March, 2018 (Wednesday)

Venue : "Hotel Nandan", Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 141st MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 141st meeting of Operation Sub-committee held on 14th February, 2018 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 23rd February, 2018.

The Sub-committee may confirm the minutes of 141st OCCM of NERPC as no comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

B.1. ACTION TAKEN:

1. IMPLEMENTATION OF PROJECTS FUNDED FROM PSDF:

The status as informed in 141st OCC:

State	Protection System	ADMS	Capacitor Installation	SAMAST**
Arunachal Pradesh	Requisition of funds by May-June 2018.	Clarification submitted to Techno-Economic Sub-group.	-	SLDC to apprise SERC of the project.
Nagaland	SE(C&O) informed that work is in progress.	Clarification submitted to Techno-Economic Sub-group.	To re-submit proposal to NERPC for Study.	Documents and relevant papers have been furnished to Nagaland SERC as desired by Chairperson, SERC. SERC has requested for a presentation at Kohima/Nagaland by the SAMAST group
Mizoram	-	Clarification submitted to Techno-Economic Sub-group.	Appraisal Committee is yet to approve	To furnish action plan.

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Manipur	Remaining tenders referred to Higher Tendering Committee. All LOAs by Feb'18.	Clarification submitted to Techno-Economic Sub-group.	Submitted to NERPC for Study before sending to NPC/NLDC.	NERPC/NERLDC members to meet SERC /MSPCL higher officials in 2 nd week of Feb'18.
Tripura	To submit UC by 04.02.18. Material 90% received at site.	Clarification submitted to Techno-Economic Sub-group.	To submit proposal to NERPC for Study.	NERPC/NERLDC members to meet TSERC /TSECL higher officials in 1 st week of Feb'18.
Assam	Remaining tenders' bidding document under scrutiny. All LOAs' by Aug'18.	Clarification submitted to Techno-Economic Sub-group.	-	DPR finalized.
Meghalaya	MePTCL-PLCC LoA by Feb'18 MePGCL -LOA completed.	Clarification submitted to Techno-Economic Sub-group.	-	DPR finalized.

The status of implementation of the above schemes (physical as well as financial progress) may please be reviewed and the entities are requested to expedite implementation of the schemes. The entities may also be advised to furnish status as per format by first week of every month on regular basis to Member Convener, PSDF Project Monitoring Group (AGM, NLDC, POSOCO) with a copy to NPC & NERPC. The LOAs of R&M Scheme are to be furnished to NERLDC/NERPC regularly.

States may please intimate the latest status.

2. Long Outage of Important Grid Elements:

Name of the Element	Name of Utility	Status as informed in 141 st OCC	Latest status
63MVAR Reactor at Byrnihat to replace with 80MVAR Reactor	MePTCL	NERPC to pursue with NPC regarding exact status.	
400KV 80MVAR Bus Reactor at Palatana	OTPC	Unavailability of critical spare. By 15.03.2018 - CoD.	
132 kV P K Bari – Silchar I & II	NERTS	Ckt#I – charged Ckt#II – EI clearance required. By Mar'18.	

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132 kV Hailakandi - Dullavcherra	AEGCL	By Mar'18.	
DHEP Unit 2	NEEPCO	GT failure. By Mar'18	
400/220 kV, 315 MVA ICT-II at BgTPP	NTPC	*** By Mar'18	
Replacement of R-ph bushing of 63MVAR L/R at Balipara for 400kV Balipara- Bongaigaon -II (out since 17.02.18)	NERTS	-	

***Forum requested BgTPP, NTPC to submit a report at the earliest to NERPC/NERLDC mentioning the exact problem with ICT-II along with activities done during the shutdown period.

Utilities may please intimate the latest status.

3. Furnishing of various data for reliable grid operation:

Data regarding	Status as of 141st OCC		Latest status
DAS output for FRC calculation	Event date: 09.12.17- BgTPP, OTPC, Khandong, Kopili Stg II data provided Event date: 10.01.18- Ranganadi, Khandong data provided.		
Operating Procedures.	Items	Data submitted by	
	OP of States	Submitted only by AEGCL and MePTCL	
	OP of HVDC	Not Submitted	
	OP of Transmission System	Not submitted by any constituents	
	OP of Generating Stations	Not submitted by any generators	
	OP of GIS	Not submitted by any constituents	
Data related to Power Map.	Items	Data submitted by	
	Communication (PLCC/OPGW/ GPRSVSAT/ Satellite)	List of lines mailed by NERLDC on 9 th January'18	
Data related to Single Line Diagram.	State SEM Location		
	Only Meghalaya submitted		

NERLDC may please inform the status.

4. Monitoring of Corrective actions as decided in PCC forum:

Name of the Element	Action to be taken	Name of Utility	Latest status
220 kV Samaguri - Sonabil 1 Line	Replacement of broken jumper at Brahmaputra river crossing and restore the conductor	AEGCL	
132 kV Aizawl - Kolasib 1 Line	Installation of TLSA	P&ED Mizoram	
132 kV Imphal (MSPCL) - Imphal (PG) 1 & 2 Lines	CB problem of Karong feeder at Imphal(MSPCL) is to be attended	MSPCL	
132 kV Dimapur - Doyang 1 & 2 Lines	Installation of Numerical Relay at Doyang	NEEPCO	
400 kV Killing (Byrnihat) - Silchar Line	Installation of TLSA	NETC	
Busbar Protection operated at Dimapur on 12.10.17	Replacement of Tension insulator of the spare bus	POWERGRID	
Disturbance on 09.11.17 due to opening of 220 kV Kopili - Misa 1 Line	Problem in Latching Mechanism of Misa line CB at Kopili to be attended at the earliest	NEEPCO	
132kV PKBari-Kumarghat	Installation of Line differential relay	TSECL & POWERGRID	
132kV PKBari	Installation of Numerical Relay under R&M (<i>high priority</i>)	TSECL	
CB non-operation for 132kV RHEP-Ziro at RHEP	Replacement/repair of CB	NEEPCO	

B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING FEBRUARY, 2018

As per the data made available by NERLDC, the grid performance parameters for February, 2018 are given below:

NER PERFORMANCE DURING FEBRUARY, 2018

States	Energy Met (MU)		w.r.t. Jan,18 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Jan,18 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Feb,18
	February-18	January-18		February-18	January-18		
Ar. Pradesh	62.22	67.09	-7.26	63.02	68.05	-7.39	-1.27
Assam	641.17	704.17	-8.95	652.58	713.53	-8.54	-1.75

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Manipur	70.65	83.57	-15.46	71.33	84.50	-15.59	-0.95
Meghalaya	187.08	190.17	-1.62	187.08	190.17	-1.62	0.00
Mizoram	51.36	59.65	-13.90	51.93	60.38	-13.99	-1.10
Nagaland	57.91	63.09	-8.21	66.25	71.43	-7.25	-12.59
Tripura	100.59	107.48	-6.41	101.17	108.02	-6.34	-0.57
Region	1170.98	1275.22	-8.17	1193.37	1296.07	-7.92	-1.88

States	Demand Met (MW)		w.r.t. Jan,18 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Jan,18 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In Feb,18
	Feb-18	Jan-18		Feb-18	Jan-18		
Ar. Pradesh	128	134	-4.48	138	138	0.00	-7.25
Assam	1481	1510	-1.92	1501	1539	-2.47	-1.33
Manipur	191	195	-2.05	197	202	-2.48	-3.05
Meghalaya	311	331	-6.04	312	331	-5.74	-0.32
Mizoram	94	96	-2.08	103	105	-1.90	-8.74
Nagaland	122	124	-1.61	150	152	-1.32	-18.67
Tripura	237	226	4.87	238	226	5.31	-0.42
Region	2333	2317	0.69	2387	2339	2.05	-2.26

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

AVERAGE FREQUENCY (Hz)

Month---->	Feb-18	Jan-18	Month---->	Feb-18	Jan-18
Total Generation in NER (Gross)	1180.627	1329.102		% of Time	% of Time
Total Central Sector Generation (Gross)	884.266	1013.558	Below 49.9 Hz	9.69	11.07
Total State Sector Generation (Gross)	296.360	315.544	Between 49.9 to 50.05 Hz	80.25	78.01
Inter-Regional Energy Exchange			Above 50.05 Hz	10.06	10.92
(a) NER-ER	94.64	95.17	Average	49.98	49.98
(b) ER-NER	242.16	273.68	Maximum	50.21	50.29
(c) NER-NR	175.52	214.86	Minimum	49.70	49.62
(d) NR-NER	111.18	130.02			
© Net Import	83.18	93.67			

C. OLD ITEMS

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

During 141st OCC meeting, the status as informed by different beneficiaries is as follows:

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SN	Items	Status as given in 141 st OCC Meeting	Status as given in 142 nd OCC Meeting
a. New Elements			
1	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon	ICT-1 - Mar'18	
2	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	Unit #I - Mar'18	
3	Pare HEP of NEEPCO (2 x 55 MW)	Unit #I - Mar'18	
4	400 kV D/C Silchar - Melriat line of PGCIL	March, 2018.	
5	220kV Rangia - Salakati of AEGCL	May, 2018.	
6	132kV Monarchak – Surjamaninagar D/C of TSECL	56 tower erection completed.	
7	400kV D/C Balipara – Kameng	NERTS to complete by 05.03.2018.	
8	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)	Ar. Pradesh - Mar'18 Manipur, Nagaland – CoD Mizoram-ToC date to be confirmed.	
9	400/220 kV 315 MVA ICT-II at Bongaigaon	March, 2018.	
10	220/132 kV, 160MVA ICT-II at Balipara	ICT#II - delayed, Mar'18	
11	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili	March, 2018.	
12	400/132 kV, 1x315 MVA ICT-III at Silchar	March, 2018.	
13	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)	March, 2018.	
14	400 kV Silchar – Misa D/C	2019	

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15	1x125 MVAR Bus Reactor at 400 kV at Balipara	March, 2018(LOA date).	
16	1x125 MVAR Bus Reactor at 400 kV Bongaigoan	March, 2018(LOA date).	
17	Tuirial HEP of NEEPCO	Unit #I -CoD pending Communication and Connection Agreement. Unit #II - Feb'18	
18	33kV bay at 220kV Mariani(AS) S/Sn	Metering issues to be taken up with APDCL by NERTS	
19	33kV Tezu-Tezu(AP)	-	
20	33kV bay for 132kV Badarpur(PG) S/Sn	APDCL to submit estimate to NERTS.	
21	Dedicated 33kV feeder at Khliehriat Substation from Lumshnong.	To be taken up by NERTS with MePDCL.	
22	Construction of 132 kV Imphal (PG) - Yurembam I & II lines with high capacity conductor by MSPCL	-	
b. Elements under breakdown/upgradation			
23	Up-gradation of 132 kV Lumshnong-Panchgram line	To be approved by Techno-Economic sub-group for funding from PSDF.	
24	Switchable line Reactors at 400kV Balipara & Bongaigoan	March'2018	
25	PLCC Panels at Loktak end of Loktak - Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder	May'2018	
26	LILO of 132kV Ranganadi - Nirjuli at Pare of NEEPCO by PGCIL	Mar'18	
27	LILO of 132kV Ranganadi - Itanagar (Chimpu) at Pare of Ar. Pradesh	Bay 1 at RHEP for Pare: Jan'18 Bay 2 at RHEP for Itanagar: Mar'18	
28	LILO portion of 132kV Ranganadi - Nirjuli(diversion work) at Lekhi by DoP Ar. Pradesh	-	

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29	Re-conductoring of 132kV Umiam Stg#I - Umiam Stg-III	DPR prepared and submitted for approval	
30	Upgradation of ULDC FO node	Target completion : June 2018	
31	HTLS re-conductoring of 132kV Agartala - RC Nagar - I & II	NEEPCO to replace Bus & Line isolators with higher rated ones. Ckt#II- Mar'18	
32	Re-conductoring of Imphal (PG)-Yurembam 132 kV S/C POWERGRID line with high capacity conductor by NERTS	-	
33	Up gradation / modification of bay equipment at Imphal (PG) by POWERGRID and at Yurembam by MSPCL	-	

AEGCL may please provide time schedule for takeover of dismantled 220/132kV 50MVA ICT at Balipara.

It is also requested to POWERGRID & MSPCL to intimate the bay equipment rating of 132 kV Imphal (PG) – Imphal (MSPCL) I & II lines and to AGTCCPP to intimate rating of wave trap of 132 kV Agartala Line I & II Bays

Concerned constituents may kindly intimate the status.

D. NEW ITEMS

D.1 Generation Planning (ongoing and planned outages)

NEEPCO & NHPC may kindly intimate the availability for hydro stations:

Generating Station	Units running	MW	MU	Reservoir
Khandong				
Kopili				
Kopili-II				
Ranganadi			Subject to inflow	
Doyang				
Loktak				
AGBPP	-	-	-	-
AGTPP	-	-	-	-

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

The Committee may discuss and approve the proposed shutdown by Generating Stations as given in Annexure - D.2 below.

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: Planned shutdown approved by NERPC shall be considered for implementation by NERLDC on D-3 basis. If an outage is to be availed on say 10th of the month, the shutdown availing agency would reconfirm to NERLDC on 7th of the month by 10:00 Hr. This practice is necessary to ensure optimal capacity utilization and the time required for associated system study/coordination by/amongst RLDC/NLDC.

In 134th OCCM, it was decided that all communication related shutdown be approved in OCC forum only.

S/D not availed and Delay returning of shutdowns :

OCC forum approves the S/D after lots of discussion but it is observed that more than 50% shutdowns are not being availed by POWERGRID, so very objective of the S/D planning is failed. So S/D proposal list is required to be prepared very judiciously so that whatever list approve by forum is mandatory for all to avail else same S/D may not be allowed within next 3 months.

Also S/D returning time schedule is not maintained in most of the cases. More than 40% S/D are returned even after passing more than 2 hrs from schedule returning time which is a cause of concern as it is affecting constituents either by imposing load shedding or sacrificing system security.

OPGW work related S/D:

No of OPGW related works are in progress in NER but the consolidated list and schedule is not forwarded to NERLDC/NERPC. During OPGW work, Auto recloser function is kept out of service. So OPGW work list and S/D list is needs to be matched to prevent any undesired tripping. In NLDC, OPGW work list and S/D list is maintained separately to keep clear information to real time grid management.

The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for March,2018 - April,2018 at Annexure-D.2., which is available in the website of NERPC.

D.3 Estimated Transmission Availability Certificate (TAC) for the month of October, 2017 to December, 2017:

NETC and POWERGRID have submitted the outage data for the month of October, 2017 to December, 2017. So the attributability of outage of the said elements may please be finalized.

In 141st OCCM, DGM (MO), NERLDC stated that outages would be made attributed to respective transmission licensees due to absence of documentary evidence during verification stage. NERPC secretariat would take due care accordingly. After detailed deliberation it was decided that Transmission Licensees (POWERGRID, NETC etc) would provide the relevant documents during verification process itself and no plea would be honored after that.

For streamlining the process of Verification of Transmission Element Availability, a draft Procedure is prepared by NERLDC and NERPC.

Constituents of NER are requested to send comment and suggestion for this document by 28th Mar'18. This document will be finalized by 31st Mar'18.

Members may please discuss.

D.4 Assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) by SLDC on respective Inter-State Transmission Corridor

Updated PSS/E Base Cases have been **mailed to all the SLDCs on 05.03.18**. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) for the month of Apr'18 using these cases, and submit the study cases and results to NERLDC by **20.03.18**.

NERLDC has assessed the state control area wise, state subsystem wise and group of control-area wise TTCs for NER Grid, on behalf of SLDCs of NER. The study results will be presented in the meeting. SLDCs are requested to check the TTC of their control areas as computed by NERLDC and **give comments, if any, by 20.03.18**.

If no comments received from any SLDCs of NER, TTC, ATC & TRM figures of State control area and group of control areas as assessed by NERLDC will be considered as final and may be uploaded on website.

As per discussions in 122nd OCC meeting of NERPC, all SLDCs of NER may host the assessed TTC / ATC / TRM figures on their website for information dissemination.

Members may discuss.

D.5. Implementation of SPS for transfer of 160 MW power to Bangladesh through Tripura-Bangladesh link:

In Special Meeting on SPS, UFR etc. held on 23.06.17, Chief Manager, NERTS, POWERGRID presented the draft scheme to implement the suggested SPS for transfer of 160 MW power to Bangladesh through Tripura-Bangladesh link. The Sub-

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Committee discussed the suggested schemes in detail and agreed in principle to implement the schemes.

The forum requested NERPC to take up the matter with CEA/CTU/NLDC for implementation at the earliest after vetting in OCC forum.

The 141st OCC forum felt that all issues related to clearances and funding need to be cleared before the visit. Members requested NERPC to write to GM, NLDC for initiation of the process at central level.

NERPC may please intimate the status.

D.6. SPS mock testing & existing SPS scheme related:

The 138th OCC forum requested NERTS to prepare a draft sequence of operation for each SPS and present in next OCC for ratification. The date for SPS 2 and SPS 3 mock testing will also be finalized in next OCC Meeting.

NERPC vide letter dated. NERPC/SE(O)/OCC/2018 dated 08.02.2018 has requested OTPC to implement the changes as early as possible.

In 141st OCCM, Manager, OTPC informed that the modifications would be implemented by 25.02.2018. He further requested that necessary actions be carried out by NERPC/NERLDC subsequently, so that shutdowns related to Palatana ATS may be availed without generation reduction. In case of emergency cases, OTPC has agreed to reduce their generation as per grid requirement.

OTPC vide mail dated. 26.02.18 has intimated that Modified SPS-2&3 has been taken into service w.e.f. 26.02.18(10:45hrs) with 15ms time delay at OTPC end.

Since both SPS-2& 3 are operational within the stipulated time delay the forum may approve that grant of any shutdown related to Palatana ATS would be unconditional of generation backing down at Palatana GBPP.

Members may please discuss.

D.7. Voltage Deviation Index of PALATANA:

As per presentation given by OTPC, Palatana in 140th OCC meeting, units of Palatana are not absorbing reactive power even in case of 400 kV bus voltage at Palatana is above 420 kV. As per VDI reports issued by NERLDC and uploaded in website, the bus voltage at 400 kV are found to be out of IEGC band (above 420 kV) for more than an hour on regular basis.

Being generator buses they are supposed to control their MVar injection / drawal and maintain the bus voltage within IEGC band at all times.

In 141st OCCM, NERLDC informed that OTPC has submitted 5min interval data and it has been found that the absorption is not adequate. The forum requested NERLDC to circulate the correspondence with OTPC. OTPC was advised to look into the matter of reactive absorption during high voltage condition and improve upon the same.

OTPC may please intimate the status.

D.8. Update on Real Time Energy Assessment for Effective Grid Management:

As decided in 137th. OCC meeting, the matter regarding visit of CDAC to NERLDC was pursued and CDAC representative visited NERLDC on 16.11.2017. Complete details of Meters pertaining to all NER States as sought by CDAC was handed over to them. There are total existing 76 SEMs which would cover computation of drawal by seven States. A list of projected future meters is also given in the statement for integration as and when commissioned.

In 139th OCCM, CDAC representative stated that they would require the proprietary protocol from the meter manufacturer(s) to proceed further with the Project. DGM(MO), NERLDC explained that as per practice followed in other Regions like NR, ER etc., AMR provider, Meter manufacturer and Powergrid sign a tripartite agreement to enable passing of the protocol to AMR provider. A sample of draft agreement in ER (TCS is AMR provider) was provided to CDAC and it was advised that CDAC should initiate process and circulate a draft agreement for the present case. CDAC agreed to do the needful and stated that they would develop protocol converter accordingly.

CDAC has furnished the draft tripartite agreement which is to be signed between CDAC, POWERGRID-NERTS and meter manufacturer(s).

In 140th OCCM, NERPC intimated that the process of signing tripartite agreement between CDAC, Powergrid and L&T was in progress. He requested NERTS to expedite the matter.

In 141st OCCM, all the SLDCs confirmed the receipt of server at their premises. DGM,SLDC,AEGCL informed that static IP and SIMs have been procured by them.

NERPC/NERTS may please intimate the status.

D.9. Recording of operational instructions over VOIP in RLDC:

As per 139th OCC discussion establishment of recording system for all real time instructions and conversations thro' VOIP network was supposed to be established within Feb'18. It is very important to establish the recording system at the earliest as all verbal communication/ conversations among RLDCs, SLDCs and stations are getting lost. Recording status at SLDC also may be discussed.

In 141st OCCM, NERTS informed that order has been placed and delivery would be done within 6-8 weeks.

POWERGRID may please intimate the latest status.

D.10. Telemetry & Voice Communication Problem:

Telemetry problem: Annexure-D.16(will be circulated in meeting) attached in tabular format.

Voice Communication problem: Annexure-D.16(will be circulated in meeting) attached in tabular format.

LOKTAK and DOYANG all type of voice communication out:

All type of voice communication (BSNL Land line/Mobile/VOIP) with NHPC, LOKTAK and DOYANG is out since 15th February'18. Even adjacent S/Ss are also unable to reach LOKTAK/DOYANG. In view of the outage of voice communication system shutdown co-ordination, scheduling, reporting as well as realtime grid operation is severely affected.

Prior information /approval is not taken for telemetry related activity.

Before working on telemetry equipment in S/S, NERLDC is not being informed due to which frequently it is seen that important RTU data goes out during grid emergency condition. To maintain proper information flow it is important to take approval from NERLDC Control room before doing any work in telemetry system.

Members may please deliberate for resolution of the issue(s).

D.11. Low voltage issue in Tripura, Mizoram & Nagaland Power Systems

POWERGRID Dimapur S/S is restored by 24th February'18. Even after restoration of Dimapur S/S, system voltage Aizawl and MELRIAT during morning and evening peak hours drops to 122 kV. NERLDC is taking all available corrective action by opening bus Reactors at Aizawl, Kumarghat, Imphal but still voltage remains low. Capacitive compensation at local level is necessary.

In 141st OCCM, it was decided that NERLDC/NERPC would conduct studies regarding Low voltage problem in Tripura, Mizoram in consonance with studies carried out by TSECL and P&ED Mizoram. Regarding funding for capacitor banks installation NERPC would take up the issue with IA/NLDC.

TSECL/P&ED Mizoram may please intimate status.

D.12. Windy Weather Preparedness:

NERLDC highlighted the issue regarding windy weather preparedness. NERLDC as a result of windy weather condition, chances of load crashes in the state system as well as tripping of critical grid elements that can lead to Grid Disturbances are high. In March'17, there were 29 Grid Disturbances and 29 load crashes reported while in April'17, number of Grid disturbances increased to 36 and load crashes to 48 Nos.

As a part of this preparedness, NERLDC has given an activity list that is to be followed by all states of NER. Those activities are follows:

1. Appropriate action for load – generation balance.
2. Keep frequency, line loading and voltage within prescribed limit.
3. During High Frequency, generation back down of machines within state power system.
4. During High Voltage, keep all 'Capacitors' out of service and all 'Bus Reactors' in service. Use 'Line Reactors' as 'Bus Reactors' after discharging the line.
5. During High Voltage, absorption of 'Reactive Power' by generating unit should be according to 'capability curves'.

6. Operation of Synchronous Condenser Mode in Hydro machine, if possible.
7. Maintain alertness on all substations, generating stations and control centers of state power systems

After detailed deliberation it was decided that NERPC would write to all transmission utilities for providing patrolling reports to RPC/RLDC. NERTS was requested to present Action Taken Report for installation of anemometers.

NERPC vide letter dated 05.03.2018 has written to all the utilities to keep the preparedness as discussed in the meeting.

NERTS may please intimate status.

D.13. Integration of new RTUs at RHEP:

GE supplied RTU at RHEP will be provided for accommodating the two new 132 kV extension bays being constructed by us at RHEP in the first-second week of March 2018. Integration of new RTU with existing RTU at RHEP and NERLDC control centre shall be required. Hence special permission may be required through appropriate forum in this regard.

In 141st OCCM, Sr. Manager, NEEPCO informed that RTUs are under tendering process. In absence of DoP Ar. Pradesh the forum decided to take up the item in next OCC for clarification and resolution.

Members may please discuss.

D.14. Opening of OTPC GTG-1 Breaker Due to Spurious SPS-3 Signal from Silchar SS:

At 16:34:23 hrs on dated 08/02/2018, Spurious SPS-3 Signal Received from Silchar end and as per SPS-3 Logic GTG-1 Breaker get Open, along with GTG-1 Tie and GTG-2 tie breaker., and Our GT-1 Came into House Load.

On telephonic conversation with Silchar SS, it came under notice that they are performing Battery Bank Switching at Silchar substation at the same Time, which might be resulting of sending SPS-3 Signal.

In 141st OCCM, NERTS representative informed that upon replacement of battery bank at Silchar S/S, BCU restarted. This may have resulted in spurious SPS-3 signal being sent to Palatana. He informed that ALSTOM would visit Silchar S/S very soon and the joint investigation report would be submitted to the forum. SE(C&O),NERPC strongly expressed displeasure for the irresponsible activities by NERTS. He again reiterated that for S/S concerned with SPS has to inform concerned utilities upon undertaking any maintenance related activities that may result in untoward SPS operation.

NERLDC highlighted about the same kind of event was observed at 18:05 Hrs on 21st Sep'17. Palatana GTG- I & II tripped at 18:05 Hrs on 21st Sep'17 due to suspected mal-operation of SPS-3. This issue was taken up in various meetings of NERPC. NERLDC informed that in the special meeting of NERPC held on 11th Oct'17 at Shillong, it was decided that spurious operation of SPS-3 on 21st Sep'17 will be

Agenda for 142nd OCC Meeting to be held on 14th March, 2018

investigated by POWERGRID and come out with report within 1 week. NERLDC informed that this matter was discussed in subgroup meetings & 48th PCC meeting also. However, report has not been submitted by POWERGRID till date. The forum requested POWERGRID to submit the report at the earliest.

Till date NERTS has not submitted any report.

NERTS may please intimate the latest status.

AGENDA ITEMS FROM NERLDC:

D.15. Balipara PMU voltage problem while switching 400 kV Balipara-Bong-3

To contain the high voltage everyday NERLDC open 400 kV lines. But whenever 400 kV Balipara Bongaigaon line-3 opens, it has been observed that the 400 kV voltage at Balipara PMU dips from 417 kV to 192 kV. This type of voltage dip occurs regularly during hand tripping of the above said line.(Attached mail dated 3/2/18).Corrective action is necessary at BALIPARA end.

Members may please discuss.

D.16. URTDSM Project in NER:

- The Notification of Award for URTDSM Project is placed on 15-01-2014.
- The Project dead line to complete is on 16-01-2016 (24 months from NOA)
- At present Control Centre Hardware System at NERLDC, SLDC-NEHU, SLDC-Kahilapara installed but not powered up.

Quick Implementation of URTDSM project will help the Grid Operator for better visibility of high accurate real time data with a high speed data sampling (25samples/sec) and also Analytical software for linear state estimation, parameter estimation etc.,

Advance User Interface will help the Grid Operator for oscillation monitoring, Voltage , Frequency, Phase Angle, Active Power Contours on geo-special dynamic pictures.

URTDSM Project monthly progress is to be reviewed in OCC for smooth and speedy completion of the Project.

NERLDC may please deliberate.

D.17. CT Ratio of Transmission Lines & Enhancement of Loadability of lines in NER:

As deliberated in 125th OCC meeting held on 14th September, 2016 at Guwahati double jumpering of bay and line before the CT upgradation work was to be completed, so that full capacity of CTs can be utilized for loading the lines.

Sl. No.	Name of the line	CT Ratio at either end (current)		CT Ratio at either end (required)		No. Of CTs required		Status as per 129 th OCCM	Status as per 135 th OCCM
		Stn A	Stn B	Stn A	Stn B	Stn A	Stn B		
1	132 kV AGTPP-Agartala-I	600/1	400/1	800/1	800/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'17
2	132 kV AGTPP-Agartala-II	600/1	400/1	800/1	800/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'17
3	132 kV Jiribam-Aizwal	400/1	400/1	600/1	600/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'17
4	132 kV Jiribam-Haflong	400/1	400/1	600/1	600/1	3 by PGCIL	4 by PGCIL	Aug'17	Dec'17
5	132 kV Khandong - Umrangso-Haflong	300/1	400/1	600/1	600/1	3 at Khandong by NEEPCO, 3 at Umrangso by AEGCL	3 at Umrangso by AEGCL, 3 at Haflong by PGCIL	NEEPCO - 31.3.17 AEGCL Mar, 17 PG - Aug, 17	Dec'17
6	132 kV Loktak - Imphal-II	400/1	600/1	600/1	600/1	3 by NHPC		Mar'17	Dec'17
7	132 kV D/C Doyang - Dimapur	300/1	600/1	600/1	600/1	3 by PGCIL & 6 by NEEPCO		Aug'17	Dec'17
8	132 kV Khandong - Khliehriat- I	300/1	300/1	600/1	600/1	3 by NEEPCO	3 by PGCIL		Dec'17
9	132 kV Khandong - Kopili I & II	300/1	300/1	600/1	600/1				Aug'17

In 129th OCC meeting, forum recommended inclusion of CT upgradation of 132 kV Khandong - Khliehriat- I line (from 300/1 to 600/1) in the list. NERLDC requested PGCIL, AEGCL, NHPC & NEEPCO to submit a report to the forum after completion of the works.

In 135th OCC Meeting, DGM(AM), NERTS informed that 132 kV Khandong - Kopili II line has both sides CT ratio at 600/1 and no further procurement is required. For 132 kV Khandong - Kopili I line CT ratio at both ends have to be switched from 300/1 to 600/1.

PGCIL, AEGCL, NHPC & NEEPCO to inform the current status of double jumpering of bay and line & also status of upgradation of CT Ratios. It is also requested to intimate the target date of completion.

Concerned utilities may please intimate the status.

D.18. Procedures of 1st time charging of new non-ISTS elements to nodes of regional entities

As per clause no. 4.1 & 4.2 of CEA (Technical Standards for Connectivity to the Grid) regulations, 2007; a new connection shall not cause any adverse effect on safe operation, integrity and reliability of the grid.

In order to ensure the safe operation, integrity and reliability of the regional grid while charging new non-ISTS elements to nodes of regional entities; it is proposed to follow a procedure by the requester.

In 141st OCCM, NERLDC presented the draft procedures for interconnection of new non-ISTS elements to node of regional entities. It was clarified that this is in the event of difficulties faced regarding integration of Tezu ICT. Sr. Manager, NEEPCO informed that for charging of 132kV Pare HEP switchyard, NERLDC is insisting for charging instruction from CTU. He stated that for the 1.4km LILO portion of 132kV RHEP-Lekhi clearance from RIO has already been obtained. Therefore he requested the forum that back-charging of Pare switchyard be allowed for testing purposes, subject that injection into the grid would only be done after charging instruction from CTU is obtained. NERLDC clarified that as per Cl.(1) of "Procedure for Integration of new transmission element into the grid" formulated by NLDC charging instruction from CTU is mandatory. NEEPCO agreed to obtain CTU charging instructions at the earliest.

Draft procedures were mailed to all constituents for their suggestions/comments. No comments received by NERLDC till date.

Procedures of 1st time charging of new non-ISTS elements to nodes of regional entities may please be considered as final document.

This is for information only.

AGENDA ITEMS FROM NERPC:

D.19. Automatic Under Frequency Load Shedding(AUFLS):

In 7th NPC meeting held on 08.09.17 it was agreed that there is need for review of the quantum of load shedding without introduction of additional slabs/stages of frequency. And therefore RPCs may please deliberate on additional slabs of frequency as well as raising the set frequency for UFR operation.

Members may please discuss.

D.20. Mapping of feeders:

In 7th NPC meeting held on 08.09.17 it was requested that RPCs may please give the details/ progress of feeder mapping to NPC.

Members may please discuss.

D.21. 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.

Members may please discuss.

D.22. Replacement of meters:

In 7th NPC meeting held on 08.09.17 it was decided that NPC Secretariat may develop a framework for replacement of meters after taking inputs from RPCs on the practice being followed by the utilities. In this regard, a concept/note is given at **Annexure-D.22** for further discussion.

Members may please discuss.

METERING RELATED ITEMS

D.23. Procurement of additional 70 Laptops:

Revised Target as intimated by NERTS in 140th. OCC:

i. e-RA : Feb'18

ii. LOA : March'18

iii. Material Dispatch : April'18

OCC expressed serious concern over the delay and stated that there should not be any further delay.

In the 141st. OCC meeting, NERTS representative intimated that the scheme would be further delayed by 2-3 months as fresh offer would have to be obtained.

OCC viewed the issue very seriously and advised NERTS to stick to the timeline as agreed in 140th. OCC and report status in next OCC meeting.

NERTS may intimate status.

D.24. Installation of new L&T SEMs in NER:

Regarding installation of SEMs at Pare and Kameng HEP, NERTS agreed to take necessary action at the earliest.

NERTS also agreed to expedite installation of check meters in ISGS and report the status.

In the 141st. OCC meeting, NERTS representative stated that installation would be carried out at the earliest and status would be furnished in next OCC.

NERTS may intimate status.

D.25. AMR in NER:

NERTS stated the target as below in 140th. OCC meeting:

- i. Tendering : Jan'18
- ii. Bid opening : Feb'18
- iii. LOA : Mar'18

In the 141st. OCC meeting, NERTS representative stated that Tendering would be by end of Feb'18.

NERTS may intimate status.

D.26. Testing of SEMs at accredited laboratory:

In the 141st. OCC meeting, NERTS representative stated that tendering would be in Feb'18.

NERTS may update status.

D.27. Procurement of DCD:

As agreed in 139th. OCC, NERTS was once again advised to initiate necessary action for procurement of DCD.

In the 141st. OCC meeting, NERTS representative intimated that action has been initiated for DCD procurement.

NERTS may intimate status.

D.28. Erratic reading of SEM:

Regarding rectification of meter error at Dullavcherra end of 132 KV Dullavcherra-Dharmanagar feeder, NERTS representative intimated that rectification would be done at the earliest. Regarding rectification of meter error at –

- 1. Dullavcherra end of 132 KV Dullavcherra-Dharmanagar feeder
- 2. Jiribam(PG) end of 132 kV Jiribam(PG)-Jiribam(Manipur)

NERTS representative intimated that rectification would be done at the earliest.

NERTS may intimate status.

D.29. Commissioning of RS-485 scheme in all ISGS of NER:

NERTS was advised to initiate action regarding implementation of RS-485 scheme in all ISGS at the earliest in line with point 4 of MOM of SEM meeting. It was agreed that if necessary, L&T personnel should be called for this.

Regarding detailed extensive training by L&T, it was decided it would be carried out after implementation experience of RS-485 in some Stations and training may be in one such Stations.

In the 141st. OCC meeting, NERTS representative intimated that status would be furnished in next OCC meeting.

NERTS may intimate status.

D.30. SEM for two 132kV extension bays at RHEP:

SEM meters for commercial accounting will have to be put in place at the two C&R panels of the 132 kV extension bays, for which requisition to concerned authorities will have to be placed through appropriate forum.

DGM(MO),NERLDC informed that NERTS would be instructed to despatch and install the two SEMs at the earliest.

In the 29th. Metering Meeting, it had been already agreed that SEMs would be installed without availing shutdown and NERLDC would take care of accounting during the period.

All utilities are accordingly advised to do the needful accordingly.

D.31. Providing 50 SEMs, 6 Laptops and 6 DCDs to TSECL:

In the 141st. OCC meeting, it was decided that 3 DCDs out of those to be supplied to TSECL would be retained by NERTS on loan basis in view of requirement of additional DCDs for Pare and Kameng, These would be replenished after procurement of new DCDs.

Status of delivery of SEMs, DCDs, Laptops to TSECL may be discussed.

D.32. DCD of Sonabil sub-station of Assam faulty since last 2 months:

DCD replacement / alternative arrangement for Meter data downloading to be arranged.

NERLDC may please deliberate.

Any other item:

Date and Venue of next OCC

It is proposed to hold the 143rd OCC meeting of NERPC on second week of April, 2018. The date & exact venue will be intimated in due course.

Concept/ note for framework for replacement of SEMs.

1. Electricity metering accuracy is crucial in ensuring the integrity of a billing system. Anomalies in measurements can, over a period of time, cost thousands or lakhs of rupees in errors. Replacement of faulty meters needed be expedited to account for metering inaccuracies. The following are the area covered by meters:

- ✓ Generating Stations
- ✓ Sub Stations / Pooling Stations
- ✓ ICTs
- ✓ Feeders
- ✓ Any other drawal or injection points spread over the State, region and the nation as a whole

2. As per Regulation 15 of Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 and amendment thereof stipulates as follows:

"15. Meter Failure or Discrepancies:

1. Interface meters

(a) *Whenever difference between the readings of the Main meter and the Check meter for any month is more than 0.5%, following steps to be taken:*

(i) *checking of CT and VT connections;*

(ii) *testing of accuracy of interface meter at site with reference standard meter of accuracy class higher than the meter under test.*

If the difference exists even after such checking or testing, the defective meter to be replaced with a correct meter.

(b) *In case of conspicuous failures like burning of meter and erratic display of metered parameters or the error found in testing of meter is beyond the permissible limit of error provided in the relevant standard, the meter shall be immediately replaced with a correct meter.*

(c) *In case where both the Main meter and Check meter fail, at least one of the meters shall be immediately replaced by a correct meter.*

(d) *Billing for the Failure period:*

(i) *Billing for the failure period of the meter shall be done as per the procedure laid down by the Appropriate Commission.*

(ii) *Readings recorded by Main, Check and Standby meters for every time slot shall be analysed, crosschecked and validated by the Appropriate Load Despatch Centre (LDC). The discrepancies, if any, noticed in the readings shall be informed by the LDC in writing to the energy accounting agency for proper accounting of energy. LDC to intimate the discrepancies to the Appropriate Transmission Utility or the licensee, who shall take further necessary action regarding testing, calibration or replacement of the faulty meters in accordance with the provisions laid down.*

(e) The defective meter shall be immediately tested and calibrated."

3. Statistics on Replacement of faulty meters:

It was observed that the periodicity of replacement of faulty meters are vary from entity to entity. In order to develop a framework for replacement of meters, details on the following may please be sought from the entities by RPCs:

1. Number of SEMs installed in their system with details such as make series etc.
 2. Details of Meter failure during the past three years.
 3. Time taken for replacement of failed SEMs in each cases.
 4. How the replacement carried out: from Stores / by fresh procurement / on loan basis.
 5. Time taken for fresh procurement of SEMs.
 6. Practice of keeping spare SEMs
 7. Any other issues pertaining to SEMs
4. For maintaining healthiness of meters schedule for following activities may be planned:
- i. Periodic checking
 - ii. Time correction
 - iii. Periodic testing
5. In addition to the provision of Regulation metering error can also be done through following broad categories of checks:
- i. Net bus check of Generators using Kirchhoff's law.
 - ii. Net bus check of substations using Kirchhoff's law.
 - iii. Checks are also needed to be carried out to ascertain time drift in the meters with reference to Master meter.
