

# North Eastern Regional Power Committee

## Agenda For

### 137<sup>th</sup> OCC Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 27<sup>th</sup> October, 2017 (Friday)

Venue : "Hotel Nandan", Guwahati.

#### A. CONFIRMATION OF MINUTES

#### CONFIRMATION OF MINUTES OF 136<sup>th</sup> MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 136<sup>th</sup> meeting of Operation Sub-committee held on 13<sup>th</sup> September, 2017 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 28<sup>th</sup> September, 2017.

*The Sub-committee may confirm the minutes of 136<sup>th</sup> 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 136<sup>th</sup> OCC:

State	Protection System	ADMS	Capacitor Installation	SAMAST	Line Differential Protection
Arunachal Pradesh	Tendering in process.	DPR preparation stage.	-	SLDC to apprise SERC of the project.	-
Nagaland	Work under execution Completion by 31.12.17.	Under scrutiny of Techno-Economic Sub-group.	Under process of approval. To submit undertaking and other required documents.	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	-

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Mizoram	By Sept'17 all LOAs would be issued. First installment has been received.	To be further examined by Techno-Economic Sub-group after interaction with consultant	Proposal on hold. To be considered upon funds being available.	To furnish action plan.	-
Manipur	By Sept'17 all tenders to be completed. By Sept-Oct'17 all LOAs' to be issued.	Pilot project under scrutiny of Techno-Economic Sub-group. To submit clarification	-	NERPC/NERLDC members to meet SERC /MSPCL higher officials to enable take-off of the project.	-
Tripura	LOAs to be issued by Sept'17.	Submitted to NPC/NLDC.	Under Study stage**	NERPC/NERLDC members to meet TSERC /TSECL higher officials to enable take-off of the project.	-
Assam	By Oct'17 all LOAs would be issued. Remaining tenders by Sept'17.	Under scrutiny of Techno-Economic Sub-group.	-	Joint meeting of Assam, Meghalaya, NERLDC & NERPC to be held at Kahelipara on 22.09.17 for finalisation of DPR.	-
Meghalaya	MePTCL – Remaining 10% LOAs by Oct'17. Execution 7% completed. MePGCL – by Sept, 2017 all LOAs	DPR submitted to CEA & NLDC	-	To initiate activity for identification of Metering points.	-

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 136th OCC	Latest status
63MVAR Reactor at Byrnihat to replaced with 80MVAR Reactor	MePTCL	EE (SP),MePTCL informed that DPR is in the final preparation stages. The rates are remaining to be finalized. DPR on completion will be submitted to NERPC.	
400KV 80MVAR Bus Reactor at Palatana	OTPC	04 Nos bushing to be replaced. Work would be completed by OTPC itself. Tentative completion 31.10.2017.	
132 kV Jiribam – Rengpang S/C	MSPCL	Line charged from Rengpang. The 132/33kV, 20MVA transformer at Jiribam (MA) to be commissioned by Oct'17.	
132 kV Mariani (AEGCL) – Mokochung (DoP, Nagaland) S/C	DoP Nagaland & AEGCL	Line cannot be charged due to low insulation. RCE of ₹ 43 lakhs to be sanctioned by 08.10.17.	
132 kV P K Bari – Silchar I & II	NERTS	Nov'17-One circuit (subject to weather condition)	
132 kV Dimapur - Dimapur I	NERTS	132kV Dimapur- Kohima GIS breaker rectified but still some work to be done then can be put in service. 132kV Dimapur-Dimapur I CB to be free by Oct'17. Will be charged in Oct'17 subject to weather condition.	
132 kV Hailakandi – Dullavcherra	AEGCL	Restoration work to be started by Oct'17.	
250MW Unit#II BgTPP	NTPC	Oct'17	

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

**3. Furnishing of various data for reliable grid operation:**

Data regarding	Status as of 136 <sup>th</sup> OCC		Status as of 137 <sup>th</sup> OCC
UFR Operation Report	SLDCs of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura submitted for August'17.		
DAS output for FRC calculation	BgTPP, Palatana, RHEP, AGTCCPP STGs, Monarchak to submit data as and when asked by NERLDC. NEEPCO informed that Tuirial HEP has DAS.		
Furnishing Geographic co-ordinates of nodes	MSPCL, MePTCL, P&ED, Mizoram and POWERGRID submitted the data. DoP, Arunachal Pradesh, AEGCL, DoP, Nagaland and TSECL yet to submit the data.		
Report on VDI/FDI	SLDC of Assam on Daily Basis, SLDC Nagaland, Meghalaya on Monthly Basis. Other SLDCs not yet submitted.		
DG healthiness report	Kopili, Khandong, RHEP, AGBPP, SLDC, Nagaland & OTPC has only submitted for August'17. Others yet to submit.		
Auxiliary Supply details	NERTS (for few S/S), NHPC, NEEPCO, OTPC, MePTCL and DoP Nagaland has submitted details. NERTS (Rest), NTPC, DoP, Arunachal Pradesh, AEGCL, MSPCL, P&ED Mizoram & TSECL yet to submit details.		
Technical & Commercial data for PoC (Q4 2017-18)	All utilities to submit data by 25th October'17		
Operating Procedures.	<b>Items</b>	<b>Data submitted by</b>	
	OP of States	Not submitted by any SLDCs	
	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 & SLD	<b>Items</b>	<b>Data submitted by</b>	
	Communication (PLCC/OPGW/ GPRVSAT/ Satellite	Not submitted by any constituents	
	SEM Location	Not submitted by any constituents	
Data for monthly PSP	NTPC, P&ED Mizoram & DoP Arunachal Pradesh not submitting on time.		

Status on submission of Data during 136 <sup>th</sup> OCC					
Sl no	Station	Water level (12 hours basis)	Inflow	Discharge	Gate Opening
1	Kopili	Daily Basis	<b>Not giving</b>	Daily Basis	Daily Basis
2	Khandong	Daily Basis	<b>Not giving</b>	Daily Basis	Daily Basis
3	Ranganadi	<b>Not giving</b>	Daily Basis	Daily Basis	<b>Not giving</b>
4	Doyang	<b>Not giving</b>	<b>Not giving</b>	Monthly Basis upto July'17	Monthly Basis upto July'17
5	Loktak	Monthly Basis upto July'17	<b>Not giving</b>	Monthly Basis upto July'17	Monthly Basis upto July'17
6	Nagaland	Monthly Basis upto Aug'17	Monthly Basis upto Aug'17	Monthly Basis upto Aug'17	<b>Not giving</b>
7	Meghalaya	Monthly Basis upto July'17	<b>Not giving</b>	<b>Not giving</b>	Monthly Basis upto July'17
8	Assam	<b>Not giving</b>	<b>Not giving</b>	<b>Not giving</b>	<b>Not giving</b>
9	Tripura	<b>Not giving</b>	<b>Not giving</b>	<b>Not giving</b>	<b>Not giving</b>

Generating Stations having no DAS system	Schedule of DAS implementation
Loktak	2019
AGTCCPP GTGs	R&M not yet proposed
AGTCCPP STGs	Confirmation to be provided in next OCC meeting
AGBPP	R&M not yet proposed
Khandong	R&M not yet proposed
Kopili	R&M not yet proposed
Kopili Stg -II	R&M not yet proposed
Doyang	R&M not yet proposed

## NERLDC has also requested that Water level, inflow details, discharge quantity & Number of Gate opening (in case of spillage) of Hydro Plants be recorded on a 12 hour basis (2 entries in a day) and to be submitted to NERPC & NERLDC on a monthly basis for proper operational planning.

***NERLDC may please inform the status.***

## **B.2. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING SEPTEMBER, 2017**

As per the data made available by NERLDC, the grid performance parameters for September, 2017 are given below:

**NER PERFORMANCE DURING SEPTEMBER, 2017**

States	Energy Met (MU)		w.r.t. Aug, 17 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. July, 17 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Sept, 17
	September-17	August-17		September-17	August-17		
Ar. Pradesh	64.90	64.99	-0.14	66.13	66.25	-0.18	-1.86
Assam	876.70	919.39	-4.64	920.44	958.86	-4.01	-4.75
Manipur	65.39	65.62	-0.35	66.72	67.13	-0.61	-1.99
Meghalaya	116.62	123.02	-5.20	116.62	123.02	-5.20	0.00
Mizoram	36.05	36.01	0.11	37.04	37.04	0.00	-2.67
Nagaland	69.26	71.88	-3.64	70.38	73.25	-3.92	-1.59
Tripura	127.55	124.32	2.60	129.75	127.11	2.08	-1.70
<b>Region</b>	<b>1356.47</b>	<b>1405.24</b>	<b>-3.47</b>	<b>1407.07</b>	<b>1452.66</b>	<b>-3.14</b>	<b>-3.60</b>

States	Demand Met (MW)		w.r.t. July, 17 % inc (+) /dec (-)	Demand in (MW)		w.r.t. July, 17 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In Aug, 17
	Sept-17	Aug-17		Sept-17	Aug-17		
Ar. Pradesh	128	130	-1.54	135	132	2.27	-5.19
Assam	1718	1684	2.02	1770	1735	2.02	-2.94
Manipur	165	163	1.23	166	164	1.22	-0.60
Meghalaya	326	297	9.76	325	297	9.43	0.31
Mizoram	85	81	4.94	87	84	3.57	-2.30
Nagaland	141	137	2.92	147	138	6.52	-4.08
Tripura	306	271	12.92	306	276	10.87	0.00
<b>Region</b>	<b>2520</b>	<b>2442</b>	<b>3.19</b>	<b>2629</b>	<b>2529</b>	<b>3.95</b>	<b>-4.15</b>

**REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU**

**AVERAGE FREQUENCY (Hz)**

Month---->	Sept-17	August-17
Total Generation in NER (Gross)	1473.211	1409.517
Total Central Sector Generation (Gross)	1052.596	960.812
Total State Sector Generation (Gross)	420.615	448.705
<b>Inter-Regional Energy Exchange</b>		
(a) NER-ER	<b>2.83</b>	<b>0.00</b>
(b) ER-NER	<b>465.76</b>	<b>554.91</b>
(c) NER-NR	<b>438.76</b>	<b>404.26</b>
(d) NR-NER	0.00	0.00
© Net Import	24.17	150.65

Month---->	Sept-17	August-17
	% of Time	% of Time
Below 49.9 Hz	11.85	7.12
Between 49.9 to 50.05 Hz	78.73	76.99
Above 50.05 Hz	9.57	15.88
Average	49.97	49.99
Maximum	50.32	50.20
Minimum	49.62	49.65

**C. OLD ITEMS**

**4. Status of Generating Units, Transmission Lines in NER:**

During 137<sup>th</sup> OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 137 <sup>th</sup> OCC Meeting	Status as given in 136 <sup>th</sup> OCC Meeting
<b>a. New Projects</b>			
1	CoD of Unit -II of Bongaigaon TPS of NTPC		CoD by Oct'17
2	400/220kV, 315 MVA ICT-1 of NTPC at Bongaigaon		ICT-1 - Nov'17
3	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)		Delay in dam construction. First unit by early 2018.
4	Pare HEP of NEEPCO (2 x 55 MW)		Delay in dam construction. First unit by early 2018.
5	400 kV D/C Silchar - Melriat line of PGCIL		December, 2017.
6	220kV Rangia - Salakati of AEGCL		By Mar'18 to be completed.
7	132kV Monarchak – Surjamaninagar D/C of TSECL		Compensation issue. Target March'18
8	132kV Surjamaninagar Bay at OTPC		Referred to SCM
9	400kV D/C Balipara – Kameng		To be matched with Kameng HEP.
10	RHEP 80 MVAR Bus Reactor		NEEPCO internal approval by Sept'17***
11	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)		Manipur – Completed, Mizoram- Completed, Nagaland-SAT going on, AP-SAT going on.
12	400/220 kV 315 MVA ICT-II at Bongaigaon		Manufacturing stage
13	220/132 kV, 2x160 MVA ICTs at Balipara		ICT -I - Sept'17 ICT-II delayed.

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14	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili		Delayed.
15	400/132 kV, 1x315 MVA ICT-III at Silchar		Delayed.
16	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)		Delayed.
17	400 kV Silchar – Misa D/C		2019
18	1x125 MVAR Bus Reactor at 400 kV at Balipara		December, 2017(LOA date).
19	1x125 MVAR Bus Reactor at 400 kV Bongaigoan		December, 2017(LOA date).
20	Bays at Hailakandi & 132V Silchar-Hailakandi		Oct'17
21	Tuirial HEP of NEEPCO		Unit #I -Sept'2017 Unit #II - Oct'2017
22	400 kV, 63 MVAR Bus Reactor #II at Biswanath Chariali		Sept'17
23	220 kV, 1x31.5 MVAR Bus Reactor at Mokokchung		December'2017
24	33kV bay at 220kV Mariani(AS) S/Sn		Oct'17
25	HS Trip Relay at 400kV Byrnihat & Azara		-
26	33kV Tezu-Tezu(AP)		-
<b>b. Elements under breakdown/ upgradation</b>			
27	Up-gradation of 132 kV Lumshnong-Panchgram line		EE (SP),MePTCL - DPR approved.
28	Switchable line Reactors at 400kV Balipara & Bongaigoan		CSD to be procured. Bongaigaon-Nov'17
29	PLCC Panels at Loktak end of Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder		May'2018



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30	LILO of 132kV Ranganadi – Nirjuli at Pare of NEEPCO by PGCIL		LILO completed. Line yet to be charged
31	LILO of 132kV Ranganadi – Itanagar (Chimpu) at Pare of Ar. Pradesh		Bay 1 at RHEP for Pare: Sept'17 Bay 2 at RHEP for Itanagar: Mar'18
32	LILO portion of 132kV Ranganadi – Nirjuli(diversion work) at Lekhi by DoP Ar. Pradesh		-
33	Replacement of Main-I relay for 400kV Silchar-Byrnihat at Byrnihat S/Sn		Procurement process started. NERTS informed that spare relay is available and may be configured through SCADA. By Dec'17.
34	Re-conductoring of 132kV Umiam Stg#III - Umtru		-

***Concerned constituents may kindly intimate the status.***

<b>D. NEW ITEMS</b>
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**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 99<sup>th</sup> 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 10<sup>th</sup> of the month, the shutdown availing agency would reconfirm to NERLDC on 7<sup>th</sup> 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 130<sup>th</sup> OCCM, Member Secretary opined strongly about non commitments of earlier decision by the constituents and stated that all proposed plan shutdowns and agenda for the next OCC meeting should be sent to NERPC Secretariat latest by 5<sup>th</sup> day of next month. He directed SE(C&O) that the decision should be strictly adhere to and no shutdowns or agenda will be entertained after that stipulated date.

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

***The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for October, 2017 - November, 2017 at Annexure- D.2., which is available in the website of NERPC.***

## **D.3 Estimated Transmission Availability Certificate (TAC) for the month of May, 2017& June, 2017:**

NETC and POWERGRID have submitted the outage data for the month of May 2017 & June 2017. So the attributability of outage of the said elements may please be finalized.

***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 had been **mailed to all the SLDCs on 03.10.17**. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) for the month of Nov'17 using these cases, and submit the study cases and results to NERLDC by **31.10.17**.

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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 31.10.17.**

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 122<sup>nd</sup> 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 and modifications suggested for other SPSs in NER:**

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-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.

It was also decided to implement the modifications finalized by the forum for already installed SPSs in NER at the earliest. For implementation of the modifications, high speed trip relays are to be put in place. POWERGRID was requested to install High Speed Trip Relays at Azara, Byrnihat and Silchar so that the modified SPS-2, 3 & 4 will be in service at the earliest.

Mock test of SPS-2 & SPS-3 was done on 27<sup>th</sup> Jul'17. As per report submitted by OTPC, during the mock test on 27<sup>th</sup> Jul'17, it took 147 milliseconds to reach DT signal from Silchar to Palatana. However, as per discussions in Special Meeting on SPS, UFR etc held on 23<sup>rd</sup> Jun 2017, total operational time for SPS-2 & 3 should be less than 100 millisecond to save the Tripura system/ Southern Part of NER system. During the mock test on 27<sup>th</sup> Jul'17, 400 kV Silchar – Palatana I line tripped. Detailed report from POWERGRID is yet to be submitted.

Modified schemes in totality and mock test plan for SPS may please be presented in the OCC meeting by implementing agencies.

In 136<sup>th</sup> OCCM, S.E(C&O), NERPC informed that due to various engagements a meeting could not be organised at Bangladesh for implementation of SPS. He requested TSECL to make necessary arrangements for the meeting slated to be held tentatively in October, 2017.

NERLDC presented the modified schemes for SPS-2,3 attached at Annexure- D.6.

Sr. Consultant, NETC informed that of late 400kV Silchar- Byrnihat is frequently tripping due to severe lightning problem. These outages are severely affecting OTPC.

He further informed that SPS-3 testing was done on 27<sup>th</sup> July but timing was observed to be 147ms much greater than the 100ms decided in SPS scheme. He requested MeECL/AEGCL to accelerate procurement of HS trip relay at Byrnihat & Azara as decided previously. The forum requested POWERGRID to procure HS trip relay on behalf of MePTCL & AEGCL as this will accelerate the process. The forum advised OTPC not to implement SPS through DCS but through hard wiring as decided in SPS meeting on 23.06.17. The forum decided that Mock testing would be conducted once procurement and installation related to modified schemes are in place.

***NERPC/NERLDC/TSECL may please intimate the status.***

**D.6. Submission of the Annual Load Generation Balance Report (LGBR) for Peak as well as Off-peak scenarios and the Annual outage plan for 2018-19 by 31.10.17 as per IEGC**

- a. As per IEGC, each SLDC shall submit LGBR for its control area, for peak as well as off-peak scenario, **by 31<sup>st</sup> October 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.
- b. 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 31<sup>st</sup> 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.

In 136<sup>th</sup> OCCM, NERLDC informed that delay in Submission of data results in delay of preparation of LGBR by NERPC and subsequently national LGBR prepared by CEA. The forum requested all utilities to submit projected load, generation and outage planning data forthwith.

***NERPC/NERLDC may please intimate the status.***

**D.7. Low voltage in Tripura-Mizoram:**

It is seen that every day during peak hours voltage in 132 kV Tripura –Mizoram sub-system comes down to around 122-124 kV. During this time the MW drawal of Bangladesh remains at 140-160MW while their VAR drawal remains to around 44-50 MVAR. Tripura drawal from grid also remains high. The system voltage in the sub-system comes down to 122-124 kV level [in RC Nagar (122), Agartala(123), Aizawl(124)] and this part of grid remains very vulnerable. In spite of opening of all line/bus reactors at Silchar, voltage condition remains grim. MVAR support from Monarchak, Rokhia, Baramura remains low or no support as per the MVAR capability curve of the machines.

As highlighted above whenever system voltage comes down to 124 kV during peak hours, R.C. Nagar machines trip aggravating the situation. R.C. Nagar generation comes down to around 15-20 MWs.

The 136<sup>th</sup> OCC forum requested TSECL to regulate Bangladesh MVAR drawal and conduct meeting at appropriate level in this regard. It was also decided that Tripura should conduct studies and submit DPR of scheme for installation of Capacitor banks at the earliest.

As per deliberations in 17<sup>th</sup> TCC/RPC it was decided that System Studies for reactive compensation would be conducted by Tripura & Mizoram. Elements like 400kV Silchar-Melriat and other about to be commissioned elements are to be considered while conducting the studies

***TSECL/P&ED Mizoram may please update the status.***

#### **D.8. Non-returning of shutdowns in a timely manner:**

Availing of shutdown of vary important link lines namely 400 KV Silchar – Palatana L-I & II, 132 KV Badarpur – Kumarghat, 400 KV S M Nagar- Palatana (Charged at 132 KV) etc. as per 135<sup>th</sup> OCCM approval and in many cases delay-return of those lines, Tripura system suffered a lot particularly with very low voltage issues initiating de-synchronization of other generators which put the system in very vulnerable conditions. Forum may take such matters more cautiously in future while allowing s/d and may study case to case basis about the impact of such shutdown to mitigate the severity.

The 136<sup>th</sup> OCC Sub-Committee viewed non-returning of shutdowns timely as serious issue. After detailed deliberation it was decided that NERLDC would conduct cause analysis on a case to case basis and revert back to the forum.

***NERLDC may please deliberate.***

#### **AGENDA ITEMS FROM NERLDC:**

#### **D.9. Implementation of SPS-2 & 3 at the earliest:**

In view of problems faced by OTPC Palatana as well as NETC for maintenance of 400kV D/C Palatana-Silchar-Byrnihat-Azara-Bongaiagoan link, an urgent meeting to review & finalize SPS 2 & 3 immediately was proposed by NERPC on **12.10.2017 at 10:30 Hrs at NERLDC Conference Hall, Shillong**, which was subsequently preponed on 11.10.17 at 14-00 hrs after the NERPC board meeting and was held in Convention Centre, Shillong to take advantages of the availability Senior Officers from OTPC, POWERGRID, NETC, Assam and Tripura.

**Following are the decisions of the meeting:**

- a. Spurious operation of SPS-3 on 21<sup>st</sup> September'17 will be investigated by POWERGRID and come out with reports within 1 week.
- b. POWERGRID will complete the modification of SPS-2 scheme within 1 week however to match the execution at Palatana, OTPC has to confirm the availability of SAS engineer.
- c. As informed by OTPC, even in the absence of modification of SPS-2, in the event of outage of one of the 400kV Silchar-Palatana D/C line, SPS 2 will be operating for the other circuits. However, based on actual operational condition, NERLDC will decide the generation level.
- d. Till implementation of modified SPS-3 scheme, the auto-reclosure will be kept at non-auto mode at both ends of 400kV Silchar-Azara S/C & 400kV Silchar-Byrnihat S/C lines.
- e. Implementation of modified SPS-3 scheme by Assam, Meghalaya & NERTS will be coordinated by SE, Protection, NERPC.
- f. In case of outage of any one of 400kV Silchar-Byrnihat & 400kV Silchar-Azara, generation reduction will be done by NERLDC as per grid conditions

***NERTS, OTPC, AEGCL & MeECL are requested to please intimate the status of implementation of the schemes.***

#### **D.10. SCADA & Communication Issues:**

- A. **Non-availability of CB status** - Numbers of CB status of ISTS , ISGS as well as STUs are out or wrong since long and due to this Sequence of Events reports are not indicating correct pictures of events of the Grid. In case of any tripping/disturbance SOE is one of the main report through which we can analyse any event but as CB status are not updating correctly, SOE is not giving correct picture of chronological events. So all the concerned utilities are requested to please look into matter so that all CB statuses are logged correctly.

***Members may please deliberate.***

#### **B. MW and MVAR data validation:**

For correctness of real time data i.e. MW/MVAR/KV/FREQUENCY validation is required between the real time system data available at control centres and actual status at site in every quarter and report has to be maintained for verification. But in absence of this validation process, numbers of MW/ MVAR / Voltage data are not reporting correctly and ultimately misleading the real time system operators.

***Members may please discuss and finalize the validation process.***

**D.11. Dedicated voice communication:**

- a. Dedicated voice communication links and its availability is one of the key requirements for efficient grid management. But it is observed that non-availability of adequate communication links with many stations affecting grid operation seriously.
- b. Most of the POWERGRID stations are connected through only one dedicated voice communication. Minimum two no of dedicated links need to be established at the earliest.

Moreover important 400 kV stations, HVDC station, SLDCs need 4 nos. of dedicated voice communication.

- c. Following S/S /SLDCs either does not have link or links are not working.

- 1.PALATANA (Biggest Gen in NER)-No dedicated voice link.
- 2.400 kV SILCHAR PG Station.-Only one dedicated voice link.
- 3.SM Nagar(International link)-No dedicated voice communication with RLDC.
- 4.MONARCHAK Gen: No dedicated voice link with RLDC.
- 5.SALAKATI (Inter Regional PG station)No dedicated voice link.
- 6.400 kV BYRNIHAT :No dedicated voice link with RLDC/SLDC.
- 7.400 kV Azara: No dedicated voice link with RLDC.
- 8. SLDC Imphal
- 9. SLDC Aizawl
- 10. SLDC Itanagar.

- d. **Following S/S links are not working.**

- 1. Kathalguri-23640154
- 2. Ranganadi-23640119
- 3. Kolasib- 23640111

- e. **Following Important RTUs are not working:**

- 1. MELRIAT(New RTU):Not reporting since inception.
- 2.132 kV ITANAGAR: Effect: Real time drawal of AP is not coming. Visibility of AP grid lost. Communication link problem.
- 3. RANGANADI: Completely un-stable. Communication problem. Team needs to be formed involving PG and RHEP and solve the problem within fixed time.
- 4. KOLASIB
- 5. ROING: Newly installed but not coming.
- 6. TEZU: Newly installed but not coming.
- 7. Ziro(Unstable)
- 8. Kathalguri: Out from 21<sup>st</sup> august'2017.No visibility.
- 9. Dimapur\_PG: ICT 1 and 2 data not available.

**The above issue was also discussed in the last TCC but again put as OCC agenda so that members at working level can also discuss and appreciate the issues.**

***NERLDC may please deliberate.***

**D.12. Brownout in Southern Part of NER power system:**

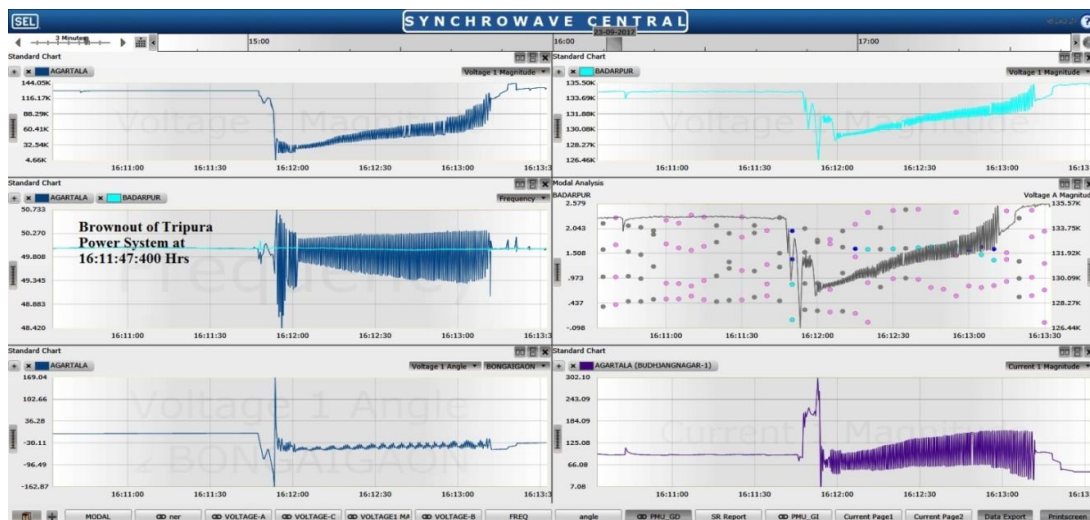
AGTCCPP Power Station, Tripura Power System and South Comilla (Bangladesh) Power System were connected with rest of NER Grid through 400/132 kV, 125 MVA ICT- 2 at Palatana, 132 kV AGTCCPP - Kumarghat line and 132 kV P K Bari - Kumarghat line (400/132 kV, 125 MVA ICT-1 at Palatana was under planned shutdown since 07:20 Hrs on 23.09.17 for Lightning Arrester replacement).

At 16:11:46.000 Hrs on 23.09.17, while charging HV side breakers of 400/132 kV, 125 MVA ICT-1 at Palatana, B-phase CB failed to close due to unhealthy operating mechanism resulted in unbalanced neutral current (53-55 A) in 400/132 kV, 125 MVA ICT-2 at Palatana. Before operation of Pole Discrepancy of ICT-1, HVCB; ICT-2 tripped on Sensitive Earth fault Protection at HV side at 16:11:47.523 Hrs. Later, ICT-1 tripped at 16:11:47.706 Hrs on Pole Discrepancy Protection. After tripping of both ICTs at Palatana, Voltage Collapse was observed in Tripura Power System. At 16:11:53:000 Hrs, sharp decline in voltage observed at Agartala PMU (92 kV to 5 kV).

At 16:11:58 Hrs, 132 kV AGTCCPP - Kumarghat (PG) 1 Line tripped on DPR, Z-I, R-Y-B due to low system voltage. At 16:12 Hrs, 132 kV Agartala – AGTCCPP I and II lines was hand tripped due to low system voltage. At 16:13 Hrs, Monarchak (61 MW), Rokhia (36 MW), Baramura (21 MW) and Gumti (6 MW) Units were de-synchronized due to low voltage in power system of Tripura as informed by TSECL. Tripura Power System was connected to the power system of NER through 132 kV Agartala - Budhjangnagar – Jirania – Baramura – Gamaitilla – Ambassa – P K Bari - Kumarghat(PG) link. Due to Voltage instability problem, voltage dependant load was stalled in Tripura Power System and Bangladesh Power System.

132 kV Surajmani Nagar - South Comilla (Bangladesh) D/C was also hand tripped from Surajmani Nagar at 16:46 Hrs for Voltage Control in Tripura power system.

Total Load Loss in Tripura Power System was around 163 MW and Generation Loss in Tripura power system was 124 MW (Monarchak – 61 MW, Rokhia - 36 MW, Baramura - 21 MW, Gumti - 6 MW). Central sector generation loss was 445 MW (AGTCCPP - 71 MW, Palatana - 374 MW)



PMU plots of brownout incident dated 23-Sep-17

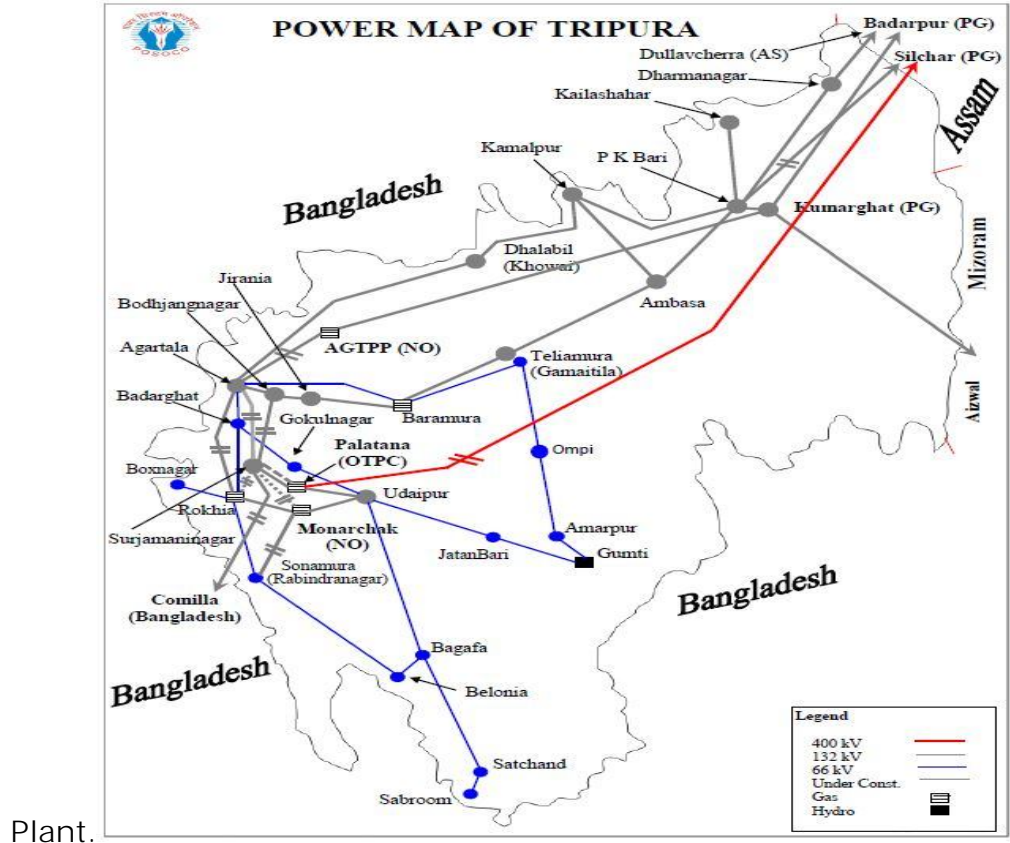
Power was extended to AGTCCPP Power Station through 132 kV AGTCCPP - Agartala I line at 16:24 Hrs. Power was extended to Palatana Power System through 132 kV



Agenda for 137<sup>th</sup> OCC Meeting to be held on 27<sup>th</sup> October, 2017

Palatana - Udaipur line at 17:10 Hrs. Power was extended to South Comilla (Bangladesh) Power System through 132 kV Surajmaninagar - South Comilla(Bangladesh) I line at 17:03 Hrs on 23.06.2017.

Oscillation was observed in all PMUs in Voltage and in Agartala PMU in Frequency. Oscillation started at 16:11:50:00 Hrs and stopped at 16:13:12:080 Hrs. Negative damping is observed with dominant mode of frequency as 1.363 Hz and damping factor as 0.0804 %. Mode of oscillation is Inter-



*NERLDC may please deliberate.*

Any other item:

Date and Venue of next OCC

It is proposed to hold the 138<sup>th</sup> OCC meeting of NERPC on second week of November, 2017. The date & exact venue will be intimated in due course.

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