

North Eastern Regional Power Committee

MINUTES OF THE 113th OPERATION COORDINATION

SUB-COMMITTEE MEETING OF NERPC

Date : 11/09/2015 (Friday)
Time : 10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 113th OCC Meeting is attached at **Annexure - I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 113th OCC meeting. He appreciated the full participation by members in the meeting and requested to continue in future as decided in the 15th NERPC meeting. Further, he informed the forum that many important issues pertaining to the region have been discussed and approved during the 15th TCC & NERPC meetings. He requested all the members to actively participate in the meeting.

Thereafter, Member Secretary requested Shri B. Lyngkhoi, Director/SE(O) to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 112th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

SE(O) informed that the minutes of 112th meeting of Operation Sub-committee held on 06th August, 2015 at Guwahati were circulated vide letter No. NERPC/SE(O)/OCC/2015/4556-4591 dated 28th August, 2015.

Since no other comments/observations were received from the constituents, the Sub-committee confirmed the minutes of 112th OCCM of NERPC.

ITEMS FOR DISCUSSION

B.1. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING August, 2015

As per the data made available by NERLDC, the grid performance parameters for August, 2015 are given below:

NER PERFORMANCE DURING August, 2015

States	Energy Met (MU)		w.r.t. July, 15 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. July, 15 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Aug, 15
	Aug-15	Jul-15		Aug-15	Jul-15		
Ar. Pradesh	44.6	36.7	21.5	46.0	38.6	19.2	-3.0
Assam	765.9	777.6	-1.5	816.6	823.7	-0.9	-6.2
Manipur	65.1	81.2	-19.8	66.9	84.3	-20.6	-2.7
Meghalaya	138.8	140.0	-0.8	156.1	151.2	3.2	-11.1
Mizoram	35.8	36.7	-2.4	36.9	38.3	-3.7	-2.9
Nagaland	65.2	67.0	-2.7	66.3	68.6	-3.3	-1.6
Tripura	105.2	101.5	3.6	108.2	104.2	3.8	-2.8
Region	1220.7	1240.6	-1.6	1297.0	1308.8	-0.9	-5.9

States	Demand Met (MW)		w.r.t. July, 15 % inc (+) /dec (-)	Demand in (MW)		w.r.t. July, 15 % inc (+) /dec(-)	% inc (+) /dec (-) of Demand vs met. In Aug, 15
	Aug-15	Jul-15		Aug-15	Jul-15		
Ar. Pradesh	115	108	6.5	116	110	5.4	-0.9
Assam	1330	1326	0.3	1412	1487	-5.0	-5.8
Manipur	148	139	6.5	150	139	7.9	-1.3
Meghalaya	322	317	1.6	322	316	1.9	0.0
Mizoram	84	78	7.7	85	79	7.6	-1.2
Nagaland	132	138	-4.3	133	140	-5.0	-0.8
Tripura	261	250	4.4	262	250	4.8	-0.4
Region	2283	2224	2.6	2437	2355	3.5	-6.3

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	Aug-15	Jul-15
Total Generation in NER (Gross)	1424.92	1293.53
Total Central Sector Generation (Gross)	1046.62	958.75
Total State Sector Generation (Gross)	378.30	334.78
<i>Inter-Regional Energy Exchange</i>		
(a) NER-ER	204.67	119.95
(b) ER-NER	58.18	64.06
© Net Import	-146.49	-55.89

AVERAGE FREQUENCY (Hz)

Month---->	Aug-15	Jul-15
	% of Time	% of Time
Below 49.9 Hz	15.60	10.72
Between 49.9 to 50.05 Hz	70.29	70.26
Above 50.05 Hz	14.31	19.02
Average	49.98	49.99
Maximum	50.27	50.33
Minimum	49.55	49.56

The Summary of Messages issued by NERLDC for the constituents of NER for the Month of August, 2015 is given as below:

Constituents	Deviation Violation Message			Zero crossing Violation Message			Frequency Violation Message		
	Alert	Emergency	Total	Alert	Emergency	Total	Alert	Emergency	Total
AP	0	1	1	1	11	12	6	2	8
Assam	35	23	58	4	9	13	6	3	9
Manipur	1	2	3	5	2	7	5	3	8
Meghalaya	1	6	7	2	0	2	4	0	4
Mizoram	1	0	1	3	9	12	6	2	8
Nagaland	1	0	1	4	11	15	6	3	9
Tripura	5	13	18	0	13	13	6	3	9
AGBPP	0	0	0	0	0	0	0	0	0
AGTPP	0	0	0	0	0	0	0	0	0
RHEP	0	0	0	0	0	0	0	0	0
KOPILI	0	0	0	0	0	0	0	0	0
KHANDONG	0	0	0	0	0	0	0	0	0

DGM (AM), NERTS once again expressed concern about the repairing of faulty 63MVAR Bus Reactor at Byrnihat by Meghalaya. Insisting upon the requirement of the Reactor to contain overvoltage of 400kV System in NER Grid he enquired Meghalaya about the action taken to repair the faulty Reactor (63 MVAR Reactor) at Byrnihat.

SE, SLDC, MePTCL informed that the issue had been taken up by them to the Competent authority to look into the matter.

SE(O) informed that inspite of reminders by NERPC no concrete outcome was received from Meghalaya. He stated that the above reactor is very important for day to day operation of the system as given in the presentation of NERLDC and hence, requested Meghalaya to seriously look into the matter.

The Sub-committee once again requested NERPC to take up the matter with the Competent Authority of MePTCL so that the issue can be resolved at the earliest.

FOLLOW UP ACTION

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

The Sub-committee also reviewed the status of commissioning of first unit of NTPC at Bongaigaon, Transmission lines of POWERGRID. The status as informed by NTPC, NEEPCO and POWERGRID is as follows:

SN	Items	Status as given in 113th OCC Meeting	Status as on 112th OCC
1	Trial operation and CoD of Unit -I of Bongaigaon TPS of NTPC	COD is expected by December, 2015	COD is expected by December, 2015.
2	400/220kV, 2x315 MVA ICT of NTPC at Bongaigaon	December, 2015	August, 2015
3	Trial operation and CoD of STG -I & II of AGTPP of NEEPCO (2 x 25.5 MW)	CoD of STG-II is 29.07.2015. CoD of STG-I is 01.09.2015.	CoD of STG-II is 29.07.2015. STG-I trial run with one boiler is August, 2015.
4	Trial operation and CoD of Monarchak GBPP of NEEPCO	CoD depends upon availability of gas.	December, 2015 Refer to TCC
5	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)	November, 2016 March, 2017	November, 2016 March, 2017
6	Pare HEP of NEEPCO (2 x 55 MW)	June, 2016	June, 2016
7	400 kV D/C Silchar - Melriat line of PGCIL	December, 2015	December, 2015
8	800 kV HVDC Bishwanath Chariali - Agra of PGCIL	September, 2015	August, 2015
9	220kV Rangia - Salakati of AEGCL	June, 2016	June, 2016

10	132kV Monarchak – Surjamaninagar D/C of TSECL	March, 2016	March, 2016
11	400/132 kV, 2nd 125 MVA ICT at Palatana	June, 2016	June, 2016
12	132kV Pasighat – Aalong of Ar. Pradesh	March, 2016	-
13	132kV Surjamaninar (India)- South Commila (Bangladesh)	December, 2015	-
14	132kV Doyang- Wokha	To be intimated by Nagaland	-
15	220 kV, 20 MVAR Bus Reactor at AGBPP	December, 2015	-

The Sub-committee noted as above.

C.2 CT Ratio of Transmission Lines & Enhancement of Loadability of lines in NER:

During 110th OCC meeting, the Sub-committee has requested NERLDC to compile the loadability of all the ISTS lines in tabular format considering NRCE guidelines and the present loading as per NERLDC, CT ratio etc., so that constituents can update their data accordingly. NERLDC agreed.

During 112th OCC meeting, DGM (SO-II), NERLDC informed that NERLDC has already compiled the list in tabular format as suggested by the Sub-committee considering Planning Criteria, January, 2013 & NRCE and these figures are attached along with earlier Minutes.

SE, SLDC, Meghalaya informed that based on the policy decision of their organization Meghalaya has already installed 132kV CTs of 400/1A Ratio. Under such circumstance replacement of those CTs with 600/1A Ratio CT will have huge financial implication to the organization. DGM (AM), NERTS suggested to prioritize the lines by NERLDC where enhancement of CT ratio is required as per the present Grid Structure to optimize the expenditure of constituents.

Deliberation of the Sub-Committee

DGM (SOII), NERLDC was requested to review / prioritize the lines where changing of CT ratio as per NRCE guidelines (e.g 495 A for 132 kV lines

(Panther Conductor) at Design Temperature of 75^o) is really required. DGM (SO II), NERLDC informed that the list of transmission lines in which CT ratio is to be changed as per NRCE guidelines was prioritized and attached at Annexure - C.2.

C.2 (a) Up-gradation of CT ratio of 132 kV Gelephu - Salakati line to 600/1 A at Salakati:

NLDC, Bhutan have requested to upgrade CT ratio of 132 kV Gelephu - Salakati line to 600/1 A at Salakati for evacuation of Dagachu power through ER Grid of Bhutan in case of contingency in Western Grid of Bhutan. They have already upgraded CT ratio of 132 kV Gelephu - Salakati line to 600/1 A at Gelephu.

During 111st OCC meeting, NERLDC informed that Bhutan has not changed the CT Ratio and they wanted shut down for the purpose. Accordingly, it has been decided to accord shut down of 132 kV Salakati – Gelephu line on 29.07.15 for carrying out the job of CT Ratio changing to 600/1A simultaneously by Bhutan and POWERGRID at both ends (i.e. Salakati & Gelephu).

During 112nd OCC meeting, the Sub-committee once gain requested NERLDC to take up the matter with NLDC Bhutan so that shutdown can be availed by NERTS to complete the work.

Deliberation of the Sub-Committee

This is for information that CT ratio of 132 kV Salakati – Gelephu line changed to 600/1 A at Salakati (12.08.15) & Gelephu (on 05.08.15).

C.2 (b) Load-ability of 132 kV Lumshnong - Panchgram line:

It has been observed from system study that 132 kV Badarpur – Khliehriat line will be highly loaded in case of 700 MW Palatana generation. To reduce the loading of 132 kV Badarpur – Khliehriat line, 132 kV Lumshnong – Panchgram Line is to be connected in loop. However, it has been seen that loading of 132 kV Lumshnong – Panchgram Line will be around 80 MW in case of tripping of 132 kV Badarpur – Khliehriat line. Hence, loading capacity of 132 kV Lumshnong – Panchgram Line is to be enhanced.

Deliberation of the Sub-Committee

AGM, AEGCL informed that DPR from MePTCL has not been received till date and requested MePTCL to forward the same at the earliest.

SE, SLDC stated that Competent Authority has not approved the scheme since the power flow on this line at present is very less.

DGM (SO-II) informed that renovation of this line is very important for system operation since loading at this line will increase once Pallatana is generated to full capacity. Moreover, this line will add as redundancy to the system. He requested Meghalaya to take proactive action in the matter.

The Sub-committee suggested AEGCL & MePTCL to resolve the issue bilaterally regarding DPR and inform the status of progress to the forum.

The Sub-committee noted as above.

Action: Assam & Meghalaya

C.3 Single Line Diagram of Sub-stations, Switching Stations & Power Stations of NER:

During 112nd OCC meeting, the status of SLDs was reviewed and the following constituents given below are to furnish the status of SLDs:

<i>Status of submission of data related to Single Line Diagram of Sub-stations</i>			
<i>Sl No</i>	<i>Name of Constituent</i>	<i>Data Submitted</i>	<i>Remarks</i>
<i>1</i>	<i>AEGCL</i>	<i>Partially</i>	<i>BRPL, Ghoramari, HPC, Jagiroad, HPC, Panchgram, Star Cement & CALCOM not submitted</i>
<i>2</i>	<i>MePTCL</i>	<i>Partially</i>	<i>Sai Prakash not submitted</i>

Deliberation of the Sub-Committee

After detailed deliberation, the Sub-committee requested AEGCL & MePTCL to furnish above information by 30.09.2015. Both agreed.

The Sub-committee noted as above.

Action: All Utilities as above.

C.4 Latest status of FGMO/RGMO implementation in different generating stations:

To update the available record of FGMO/RGMO implementation in NER it was requested that the latest unit-wise status of implementation of FGMO/RGMO in different Central & State sector generating stations may please be furnished to the NERLDC at the earliest as per format given by them.

During 111th OCC meeting, NHPC informed that work for implementation of FGMO will commence from 22.07.2015 for 15 days and requested the forum to grant the shutdown if required during commissioning of FGMO.

Deliberation of the Sub-Committee

NHPC representative informed that RGMO has already been implemented on 14.08.2015.

The Sub-committee noted as above.

C.5 Submission of list of feeders connected to essential load:

As per clause no 5.8.c of IEGC, essential loads are to be restored on priority during restoration process.

During 112nd OCC meeting, the status of essential feeders was reviewed and the following constituents given below are to furnish the status:

<i>Status of submission of data related to list of feeders connected to essential load</i>			
<i>Sl No</i>	<i>Name of Constituent</i>	<i>Data Submitted</i>	<i>Remarks</i>
1.	MSPCL	Yes	<i>Manipur partly furnished furnish the essential load in 33 kV level</i>

Deliberation of the Sub-Committee

After detailed deliberation, the Sub-committee requested MSPCL to furnish the above information to NERLDC/NERPC latest **by 30.09.2015**.

The Sub-committee noted as above.

Action: Manipur.

C.6 Progress Report of Ongoing Project:

Progress reports of ongoing generation and transmission projects of NER need to be communicated to NERLDC by all constituents on monthly basis as per format. The progress of different elements are necessary for incorporation in Operational Feedback and other reports as also for preparation of Base Case for system study in NER. Accordingly, constituents are requested to furnish the progress report of their elements by 10th of every month for the previous month.

During 110th OCC meeting, the Sub-committee requested NERLDC to compile the list of Progress Report of ongoing projects to be submitted by constituents in tabular format. Accordingly, NERLDC has furnished the latest status as given below:

Status of submission of Progress Report of Ongoing Projects			
Sl No	Name of Constituent	Data Submitted	Remarks
1	DoP, Arunachal Pradesh	Submitted for April & May'15	Submitted upto Aug'15
2	AEGCL	Submitted for April & June'15	
3	APGCL	Submitted for Mar'15	
4	MSPCL	Submitted for April'15	
5	MePTCL	Submitted for May'15	
6	MePGCL	Not submitted	
7	P&E Deptt, Mizoram	Submitted for Jul'15	
8	DoP, Nagaland	Submitted for Jul'15	
9	TSECL	Submitted for Jun'15	July'15 to be submitted in format
10	POWERGRID	Submitted	Submitted
11	NEEPCO	Submitted regularly for each month	Submitted
12	NTPC	Submitted regularly for each month	Submitted
13	NHPC	Not submitted for Lower Subansiri	NHPC requested to take up the matter with Corporate regarding Lower Subansiri HEP
14	OTPC	-	Status of 2 nd ICT at Palatana to be submitted

Deliberation of the Sub-Committee

After detailed deliberation, the Sub-committee had decided that above information should be sent by all the remaining constituents to NERLDC/NERPC latest **by 17.09.2015**. All constituents agreed.

The Sub-committee noted as above.

Action: All Remaining Utilities.

C.7 Installation of dedicated auxiliary power supply arrangement at Pallatana:

It has been observed that in various occasions the Generation of Pallatana interrupted due to disturbance in Auxiliary Power Supply taken from Tripura system. OTPC informed that their transformation capacity in existing dedicated auxiliary power supply is limited to 16MVA and so, a part of auxiliary load is connected to Tripura system.

During 111st OCC meeting, OTPC informed that they will explore the capacity enhancement of Unit Auxiliary Transformer (UAT) for dedicated station auxiliary power supply & final report will be submitted shortly.

DGM, OTPC informed that consultant has already been engaged to look into the matter and the status will be informed accordingly.

OTPC informed that installation of 2nd 125 MVA, 400/132 kV ICT is in progress, which is required for Auxiliary Consumption instead of depending on Tripura system. The matter can be reviewed after commissioning of above ICT.

Deliberation of the sub-Committee:

After detailed deliberation, the Sub-committee decided to drop the issue for the time being and may review again if required.

C.8 Conversion of line reactors of 400kV Balipara – Bongaigaon I&II to switchable line Reactors at Balipara & Bongaigaon:

DGM (AM), NERTS informed that conversion of line reactor of Balipara-Bongaigaon – I & II to switchable line reactor, the procurement of switching equipments is under progress and it may take atleast 6 (six) months to complete the above work. The tentative date is November, 2015.

Deliberation of the sub-Committee:

DGM(SO II), NERLDC said that there was high voltage problem at 400 kV nodes of NER during lean period of previous year. It is requested to complete the activity before lean period.

The Sub-committee suggested that the status of the progress of this work will be monitored on monthly basis

C.9 Monthly MU requirement & availability of each state of NER as per format:

The following figures of state wise MU requirement and availability were taken from LGBR 2015-16 of NERPC.

Requirement:

Name of State	Sep15	Oct15	Nov15	Dec15	Jan16
Ar. Pradesh	72	72	67	67	67
Assam	720	710	700	700	680
Manipur	75	75	75	75	80
Meghalaya	150	180	190	202	215
Mizoram	42	43	43	45	47
Nagaland	70	72	72	69	65
Tripura	120	130	110	120	125
NER	1249	1282	1257	1278	1279

Availability:

Name of State	Sep15	Oct15	Nov15	Dec15	Jan16
Ar. Pradesh	74	61	50	45	48
Assam	630	600	605	550	590
Manipur	85	79	70	65	70
Meghalaya	274	260	220	200	180
Mizoram	54	50	40	40	42
Nagaland	64	56	60	55	55
Tripura	192	194	190	195	200
NER	1373	1300	1235	1150	1185

- *These data required for preparation of various reports.*

C.10 Monthly MW requirement & availability of each state of NER:

A. Peak Demand in MW

Name of State	Sep15	Oct15	Nov15	Dec15	Jan16
Ar. Pradesh	143	143	128	128	133
Assam	1480	1455	1400	1460	1400
Manipur	149	154	149	149	165
Meghalaya	400	400	410	425	375
Mizoram	85	85	90	95	90
Nagaland	135	130	135	130	125
Tripura	285	300	280	255	250
NER	2677	2682	2592	2642	2538

B. Peak Availability in MW

Name of State	Sep15	Oct15	Nov15	Dec15	Jan16
Ar. Pradesh	145	145	127	126	118
Assam	1164	1210	1200	1200	1195
Manipur	159	160	140	128	145
Meghalaya	488	480	380	350	325
Mizoram	105	105	95	90	85
Nagaland	104	110	100	90	95
Tripura	403/230	403/230	403/230	403/230	403/230
NER	2570	2600	2445	2445	2375

*Tripura indicates 400/230 if Pallatana available/if not available

A. Off Peak Demand in MW (0800 Hr)

Name of State	Sep15	Oct15	Nov15	Dec15	Jan16
Ar. Pradesh	72	76	70	70	73
Assam	1050	1020	980	1020	1030
Manipur	75	95	97	95	95
Meghalaya	165	226	231	234	230
Mizoram	42	55	59	62	60
Nagaland	70	80	78	80	85
Tripura	202	214	184	180	190
NER	1374	1696	1439	1641	1638

B. Off Peak Availability in MW (0800 Hr)

Name of State	Sep15	Oct15	Nov15	Dec15	Jan16
Ar. Pradesh	79	76	60	60	65
Assam	900	930	850	840	850
Manipur	97	111	95	90	90
Meghalaya	420	400	350	300	275
Mizoram	55	70	65	60	60
Nagaland	81	71	60	55	70
Tripura	194	240	240	240	240
NER	1626	1898	1720	1645	1650

The Sub-committee noted as above.

D. NEW ITEMS

D.1 Generation Planning (ongoing and planned outages)

The availability of hydro stations of NEEPCO/NHPC are as follows:

Plants	Reservoir Level in meters (as on 10/09/15)	MU Content	Present DC (MU)	No of days as per current Generation
Khandong + Kopili STG II	719.35	24.64	(1.032 + 0.480)	Spilling
			1.512	
Kopili	608.81	(98.2 + 4*24.67)	S/D due to heavy leakage in tunnel	Spilling
		196.88		
Doyang	322.15	30	1.6152	Decreasing trend
Loktak	769.10	250	2.478	Spilling

The sub-committee discussed and approved the proposed shutdown of NEEPCO & OTPC and the same has been uploaded in the website of NERPC.

The sub-committee noted as above.

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.

Deliberation in the meeting

The sub-Committee discussed and approved the proposals received from the constituents regarding transmission elements for September - October, 2015 and the same has already been uploaded in website of NERPC. Also the committee has decided that no shutdown will be entertained henceforth unless discussed in OCC meeting, except on emergency basis.

D.3 Status of SLDCs in NER:

The status of setting-up of SLDC as informed by POWERGRID during 113th OCC meeting is given below:

UPGRADATION OF SLDCs

SN	State	Completion Target
1	Assam	30.09.2015
2	Tripura	31.10.2015
3	Meghalaya	31.10.2015
4	NERLDC	30.09.2015

NEW SLDCs

SN	State	Completion Target
5	Manipur	30.11.2015
6	Nagaland	31.03.2016
7	Mizoram	31.03.2016
8	Arunachal Pradesh	31.12.2015

EE, SLDC Ar. Pradesh informed that surface area required by Alstom is more than area available with them and this has to be reviewed again. Moreover, as mentioned earlier earthing problem has to be carried out in the scope of POWERGRID. Mizoram, Nagaland endorsed the view of Ar. Pradesh.

The Sub-committee requested POWERGRID to ensure that Alstom, POWERGRID & constituents should have a frequent review meeting to sort out the deficiencies before commissioning of SLDCs.

D.4 Finalization of Operating Procedures of State Grid of NER:

As per clause no 5.1.g of IEGC, detailed operating procedures for each state grid shall be developed and maintained by the respective SLDC.

Latest status of approval of these documents from OCC forum of NERPC is as follow:-

SI No	Description	Status of approval from OCC forum of NERPC
1	Operating Procedure of Ar. Pradesh 2015	Not submitted
2	Operating Procedure of Assam 2015	Submitted
3	Operating Procedure of Manipur 2015	Not submitted
4	Operating Procedure of Meghalaya 2015	Submitted
5	Operating Procedure of Mizoram 2015	Not submitted
6	Operating Procedure of Nagaland 2015	Not submitted
7	Operating Procedure of Tripura 2015	Not submitted

Deliberation in the meeting

The Sub-committee requested NERLDC/NERPC to circulate the Operating Procedures of Assam to other SLDCs of NER so that Operating Procedures can be finalized by remaining SLDCs of NER.

Action: NERLDC / Remaining Constituents.

D.5 Nomination of Nodal Officers for Disaster Management:

The names of Nodal Officers for Disaster Management as updated during 111st OCC meeting is given below:

DISASTER MANAGEMENT - LIST OF CONTACT DETAILS OF NODAL OFFICERS/SECOND IN COMMAND- 2015						
Region/SLDC	Name	Designation	Tel. Nos.	Mobile No.	Fax No.	E-mail Address
NERLDC						
Nodal Officer	V Kaikhochin	DGM(SL)	0364-2535710	9436302712	0364-2537470	kaikhochin@gmail.com
Second in Command	A Mallick	DGM(SO-2)	0364-2535481	9436302720	0364-2537470	amaresh65@gmail.com
Arunachal Pradesh SLDC						
Nodal Officer	N. Perme,	EE, SLDC	-	9436288643	-	sldcitnagar@gmail.com
Second in Command	Domo Kamduk,	JE (E)	0360-2292160	9436671717	0360-2214358	sldcitanagar@gmail.com
Assam/ AEGCL SLDC						
Nodal Officer	Tirtha Sharma	DGM	0361-2382263	9435007369	0361-2387929	sldcaseb@rediffmail.com
Second in Command	B. C. Borah	AGM	0361-2382263	9435119248	0361-2387929	sldcaseb@rediffmail.com
Manipur SLDC						
Nodal Officer	M. Budha Chandra Sharma	GM, Transmission	03852451172 / 03852447278	9436020911	Nil	sldcmanipur@yahoo.com & sldcmanipur@gmail.com
Second in Command	S. Joykumar Sharma	OSD(Tech)/S LDC	03852451172 / 03852447278	9612950771	Nil	-Do-
Meghalaya/ MeSEB SLDC						
Nodal Officer	Mr. T. Gidon	EE SLDC	0364-2551967	9774479956	0364-2551967	sldc.shg@gmail.com gidon@rediffmail.com
Second in Command	Mr.R. War	EE (T&T), Division, Umiam	-	9436103088	0364-2550020	rupertwar@gmail.com
Mizoram SLDC						
Nodal Officer	Vanlalrema	SE(SLDC)	0389-2311397	9436140353	0389-2311394	sldc_mizoram@rediffmail.com
Second in Command	Lalbiaksanga	SE(T&R)	0389-2311170	9436140932	0389-2320862	seeinc@gmail.com
Nagaland SLDC						
Nodal Officer	Atoho Jakhalu	Executive Engineer	03862230117	9436002696	03862230118	atoho.jk@gmail.com
Second in Command	Rokobeito Iralu	S.D.O	03862230118	9436832020	-	sldc.ngl@gmail.com
Tripura SLDC						
Nodal Officer	Uddharan Debbarma	DGM, SO	0381-2356470	9436462842	0381-2350795	uddharan.agt@gmail.com
Second in Command	Mrinal Pal	Manager, SO	0381-2356470	9436137022	0381-2350795	mrinalpaulnit@gmail.com

NERTS						
Nodal Officer	A. Patir	GM	0364-2537326	9436302529	-	apatir@gmail.com
Second in Command	P. Kanungo	DGM	0364-2537328	9436302823	-	kanungo_p@yahoo.com
NEEPCO						
Nodal Officer	B. Goswami	Sr. Mgr.	0364-2504355	9436163983	0364-2221789	bhaskargoswami@rediffmail.com
Second in Command	Joypaul	Sr. Mgr.	0364-2226707	943557772	-	joypal_roy@rediffmail.com
NHPC						
Nodal Officer	Md. Sajid Akhter	Manager (E&C)	08974000839, 03879261237	9436678603	03879261237	loktakphop@gmail.com, loktakphem@gmail.com
Second in Command	Ch. R. C. Singh	Manager (E)	08974000839, 03879261237	9436894889	03879261237	loktakphop@gmail.com, loktakphem@gmail.com
NETC						
Nodal Officer	Narottam Chakraborty	Assistant Manager	0361-2490063	7896022335	-	narottamchakraborty@netcindia.in
Second in Command	K. K. Roy	Head-Projects	0124-4716063	9999019661	-	kkroy@netcindia.in
NTPC						
Nodal Officer	J. Bhattacharya	AGM	03661-282638	9435720036		jb201413074@gmail.com
Second in Command	S. Dan	DGM	03661-282770	9435325440		srдан@ntpc.co.in
OTPC						
Nodal Officer	Mukul Banerjee	GM				mukul.banerjee@otpcindia.in
Second in Command	Narendra Gupta	Manager	03821-265261	9774233426		nk.gupta@otpcindia.in
NERPC						
Nodal Officer	B. Lyngkhoi	Director/SE		9436163419		b_lyngkhoi@yahoo.com
Second in Command	S. Mukherjee	AD-I/AEE		8794277306		nerpc@ymail.com

The Sub-committee requested NERLDC to send a copy of the list to all the constituents and decided to drop this agenda item, since all the names & contact numbers of Nodal Officer has been received from all constituents.

D.6 Identification of Nodal Officers for Weather related issues:

POSOCO has recently signed an MOU with IMD through which critical Weather data will be made available to System Operators by IMD. Accordingly SLDCs of NER were requested to identify two nodal officers for weather related issues and furnish the details to NERLDC by 30th June, 2015 for sharing the weather related data. All

SLDCs of NER were further requested to finalize the list of stations (including power stations) for which weather parameters are required (nearby city name, district name & state name are to be provided) and to furnish list of officers desiring to avail SMS facility during extreme weather conditions (priority-wise list to be provided at each level with contact details).

Deliberation in the meeting

The name of Nodal Officer along with contact number as updated by some constituents during 113rd OCC meeting is given as below:

List of Nodal Officers for weather related information			
Constituent	Name of Nodal Officer	Contact No	Email id:
Ar. Pradesh	N. Perme, EE, SLDC	9436288643	sldcitanagar@gmail.com
	A.K Yadav, JE(E) SLDC	9436666226	sldcitanagar@gmail.com
Assam	Tirtha Sharma, DGM	9435007369	sldcaseb@rediffmail.com
	Tirtha Sharma, DGM	9435007369	sldcaseb@rediffmail.com
Manipur	B.C. Sharma, GM	9436020911	sldcmanipur@gmail.com
	S.J. Sharma, OSD	9612950771	sldcmanipur@gmail.com
Mizoram	Vanlalrema, SE(SLDC)	9436140353	sldc_mizoram@rediffmail.com
	Lalbiaksanga, SE(T&R)	9436140932	seeinc@gmail.com
Meghalaya	F.E. Kharshiing, SE, SLDC	9612170657	sldc.shg@gmail.com
	R. Majaw, SE (EM)	9436110871	rolmalaw10@gmail.com
Nagaland	A. Jakhalu, EE, SLDC	9436002696	atoho.jk@gmail.com
	Roko Iralu, SDO	9436832020	sldc.ngl@gmail.com
Tripura	Debrata Paul, Sr. Manager	9436500244	d_pal1966@rediffmail.com
	Mrinal Paul, Manager	9436137022	mrinalpaulnit@gmail.com
NERLDC	T.S.Singh, General Manager	9436302717	tssingh4@yahoo.co.in
	N.R.Paul, DGM (SO-I)	9436302723	nrpaul.123@gmail.com
	A.Mallick, DGM (SO-II)	9436302720	amaresh1965@yahoo.co.in
	Momai Dey (Engineer, SO-II)	9436302716	m.dey1403@gmail.com
NEEPCO	B. Goswami, Sr. Manager	9436163981	bhaskargoswami@rediffmail.com
	Joypal, Sr. Manager	943557772	joypal_roy@rediffmail.com
NHPC	R.C. Singh, Manager	9436894889	loktakphop@gmail.com
	Sajid Akhtar, Manager	9436678603	loktakphem@gmail.com
NTPC	J. Bhattacharya, AGM	9435720036	jb201413074@gmail.com
	S. Dan, DGM	9435325440	-
OTPC	M. Banerjee, GM	9971881879	mukul.banerjee@otpcindia.in

	T.K. Pandey, DGM	9402144712	-
NERTS	A. Patir, GM	9436302529	apatir@gmail.com
	P. Kanungo, DGM	9436302823	kanungo1966@gmail.com
NERPC	B. Lyngkhoi, Director/SE	9436163419	b_lyngkhoi@yahoo.com
	S. Mukherjee, AD-I/AEE	8794277306	nerpc@ymail.com

Constituent	Nodal Officers	Stations where data is desired	Weather Parameters desired
Arunachal Pradesh	Yes	Yes	Yes
Assam (AEGCL)	Yes	Yes	Yes
Manipur (MSPCL)	Yes	Yes	Yes
Meghalaya (MePTCL)	Yes	Yes	Yes
P&E Dept. ,Mizoram	Yes	Yes	Yes
DoP, Nagaland	Yes	Yes	Yes
Tripura (TSECL)	Yes	Yes	Yes
NEEPCO	Yes	Yes	Yes
NHPC	Yes	Yes	Yes
OTPC	Yes	Yes	Yes
NTPC	Yes	-	-
NERTS	Yes	-	-

DGM (SO-II), NERLDC informed that workshop regarding weather related will be conducted on 12.09.2015 at the same venue. He requested all the constituents to attend the workshop for the benefit of the region

The Sub-committee noted as above and decided to drop this agenda item, since all the names & contact numbers of Nodal Officer has been received.

D.7 Persistent over voltage at Palatana:

NERLDC informed that it has been observed that bus voltage at Palatana is persistently remaining above the upper limit of IEGC band which is not desirable from system operation point of view. The 80 MVAR bus reactor installed at Palatana has not yet been put in service. OTPC is requested to take action for early operation of the Reactor so that the same can be used for maintaining voltage at desired level.

DGM, OTPC stated that reactor is in healthy condition still they had sent a communication to NERLDC seeking clearance for charging. NERLDC informed that they look into the matter and revert back to OTPC.

Further, OTPC is also requested to restore the 125 MVA ICT, which is under long outage for strengthening connectivity of Tripura system which will help to control voltage to certain extent.

The Sub-committee requested OTPC & NERLDC to resolve the issue for early charging of faulty 125 MVA ICT and 80MVAR reactor.

During 112nd OCC meeting, DGM, OTPC informed that oil filtration is under progress and the reactor will be put into service by 31.08.2015.

Deliberation in the meeting

OTPC representative informed that reactor is now ready and requested representative from NERLDC & POWERGRID to witness during putting of reactor to the grid.

DGM (AM), NERTS stated that witnessing the Reactor during charging by POWERGRID is not required in any context and OTPC can take up the matter with NERLDC as per the prevailing practice of charging of elements.

DGM (SO II), NERLDC stated that Bus Reactor at Palatana is to be taken into service by OTPC whenever required.

The Sub-committee noted as above.

Action: OTPC

D.8 Power evacuation problem of Loktak Power Station:

NHPC informed that there are Four Nos. of 132 kV feeders installed at Loktak Power Station and details are as follow:

- I. Loktak – Ningthoukhong 132 kV Feeder (MSPCL)
- II. Loktak – Imphal 132 kV Feeder (PGCIL)
- III. Loktak – Rengpang 132 kV Feeder (MSPCL)
- IV. Loktak – Jiribam 132 kV Feeder (PGCIL)

Out of four feeders at LPS, most of the time Feeder No. III as indicated above i.e. Loktak – Rengpang 132 kV Feeder (MSPCL) usually kept under shut down due to fault in the feeder. However, this feeder does not help LPS for power evacuation as the total transmitted energy through this feeder in the year 2014-15 was 6.6 MU and for first four month of 2015-16 is only 2.6 MU. Also, maximum power flow is usually in the range of 2-3MW only.

In this monsoon season, various tripping of all the above mentioned feeders has been observed. Due to tripping of above said feeders or grid constraint, the generation of Loktak Power Station is always backed down by the NERLDC due to limitation of the Power Flow in the available feeders. For the same a data has been compiled for the month of July and August 2015 and it can be seen that approx. 3.9 MU generation losses has been faced by the loktak Power Station only due to backing down of generation on account of feeder tripping or grid disturbance. Therefore, it is prudent to mention that inspite of high water inflow and spillage, Loktak Power Station is not able to generate it's Declared Capacity.

Deliberation in the meeting

After detailed deliberation, it was felt that the frequent tripping on above lines I, III & IV is due to vegetation and hence requested Manipur & NERTS, POWERGRID to carry out regular patrolling and jungle clearance has to be carried out by them. The status of above activities has to be intimated by MSPCL & NERTS, POWERGRID to NERLDC/NERPC.

Action: MSPCL & NERTS, POWERGRID.

D.9 No PLCC Panels in two feeders of MSPCL:

NHPC informed that at Loktak Power Station, no PLCC Panels are installed in two nos. of 132 kV feeders of MSPCL i.e. Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder. Since PLCC Panel is very important equipment for Protection of the feeders and even communication between two station. This issue was already raised in the previous meetings several times.

Deliberation in the meeting

Representatives of MSPCL informed that the PLCC Panels for said lines has already been included in the scope of ongoing R&M works of their Substations. The forum requested Manipur to verify the detail scope and inform in next OCCM.

The Sub-committee noted as above.

Action: Manipur

D.10 Scheduling of ISGS Generation:

NHPC informed that as per the notification issued by CERC in the amendment of IEGC 2010, Regulation 6.5.17 of Principal Regulations shall be substituted with the

following: "In case of any grid disturbance, scheduled generation of all the ISGSs supplying power under long term / medium term/short term shall be deemed to have been revised to be equal to their actual generation and the scheduled drawals of the beneficiaries/buyers shall be deemed to have been revised accordingly for all the time blocks affected by the grid disturbance. Certification of grid disturbance and its duration shall be done by the RLDC". The same has been followed by the RLDC and ISGS.

In this regard, it is kindly inform that after stabilization of the system, Loktak Power Station usually send the "**Actual Ex-Bus**", and accordingly NERLDC revise the schedule based on the data sent by the LPS. But while calculating schedule, NERLDC add / subtract the proportionate portion of IEX (i.e. Indian Energy Exchange of Meghalaya share) block-wise. Since the energy sent by the Power Station is actual Ex- Bus (Which also included the portion of IEX), It is therefore the revise schedule should be exactly same as LPS Actual Ex-Bus.

Deliberation in the meeting

NERLDC informed that the above clause mentioned by them is for grid disturbance related issue and not grid constraints, hence, it does not relevant with the issue raised by NHPC. Moreover, NERLDC mentioned that scheduling of ISGS is being followed by them as per regulations. NHPC agreed.

SE(O) meanwhile informed that surrender power of 8MW of Meghalaya from Loktak HEP will be made available to Manipur w.e.f. 00:00 hrs of 16.09.2015 and requested NHPC to supply the above power to Manipur and not to commit the power to Power Exchange.

The Sub-committee noted as above.

Action: NHPC

D.11 Estimated Transmission Availability Certificate (TAC) for the month of August, 2015:

NETC and NERTS, POWERGRID have submitted TAC data of August, 2015 in the first/second week of September, 2015. This will enable issuance of verification by NERLDC and certification by NERPC on monthly basis within stipulated time frame. Both NETC and NERTS were advised to follow the agreed time schedule in future to avoid accumulation of reports and corresponding delay.

D.12 Non-reporting of RTUs of Constituents:

a) AEGCL:

Only 14-18 RTUs out of 50 are reporting partially with 10 to 20 % data. It is very difficult to run the GRID without proper real-time data. So AEGCL may confirm the realistic time by which all 50 RTUs is expected to be restored and real-time data can be provided for Grid Management.

The following Generating Stations and Sub-stations need utmost attention.

Generating Stations: NTPS, LTPS, Karbi Langpi

Sub-stations: Sarusajai, Samaguri, Mariani, BTPS, Dhaligaon, Rangia (Bhutan line data not available), Badarpur, Pailapool, Haflong, Dullavchera, Bokajan.

b) Me.ECL:

Generating Stations: Umiam-II (20 MW), Umiam, Leshka (126 MW), Umtru

Sub-stations: 132 kV Khliehriat, Byrnihat S/S.

c) TSECL:

Generating Stations: 1. Gumti (since January, 2011), 2. Baramura (partial, U-5 data NA, CB status N/S) and 3. Rokhia (U-3 N/A, all CB status suspect)

Substations: Dharmanagar, Badharghat, Kamalpur, Jirinia, Budhjungnagar, Ambasa, Udaipur (Palatana line not connected) 7-8 RTUs are reporting against 15 RTUs.

d) Manipur: 4 RTUs

e) Nagaland: 3 RTUs

f) Mizoram: 1 RTU

g) MARIA_PG unstable.

h) Kopili and Doyang RTU not reporting.

i) Kathalguri and RC Nagar *10% data available.*

During 111th OCC meeting, GM, NERTS, POWERGRID informed that old RTUs are to be replaced immediately. Services required for these RTUs cannot be supported by the suppliers. All the constituents of NER are requested to replace their old RTUs at the earliest.

The Sub-committee requested all constituents of NER to procure new RTUs and replaced the old RTUs at the earliest so that real time data can be monitored for the benefit of the grid.

DGM (SOII), NERLDC requested all constituents of NER to furnish timeline of installation of new RTUs.

Deliberation in the meeting

NTPC representative informed that SEM at NTPC has to be installed by POWERGRID before 20.09.2015 and once again requested them to comply the same.

DGM (AM) stated that SEM has already been dispatched to Bongaigoan and the SEM will be installed as mentioned above.

Sr. Manager, NEEPCO stated that since POWERGRID has mentioned that they are not in a position to help the constituents regarding maintenance of RTUs, he requested them to furnish all the details to the constituents so that they can examine the matter.

DGM (AM), NERTS informed that all the details were handed over to NEEPCO by email to ED (O&M), NEEPCO, the same can be availed by them from corporate office NEEPCO.

NEEPCO re-iterated that handing over of details was done in proper manner and requested them to do the same. They requested the forum to intervene in the matter.

After detailed deliberation, the sub-committee requested NERTS, POWERGRID to once again look into the matter and give the details of the RTUs to constituents so that the RTUs can be maintained by them properly.

DGM (SO-II), NERLDC also requested NEEPCO to look into the RTUs dedicated to STGs of NEEPCO at R.C. Nagar since RTUS are not reported properly from above station and suggested to submit a report regarding data availability of AGTPP/AGTPP EXT to NERPC jointly by NERLDC and NEEPCO.

The Sub-committee noted as above.

Action: NERTS, NEEPCO and all constituents of NER

D.13 Frequent tripping of 220 kV New Mariani-Mokokchung D/C line on over voltage:

Since commissioning of 220 kV New Mariani-Mokokchung D/C line it is observed the lines are tripping very frequently due to over voltage, The over voltage problem is so acute that even one circuit cannot be kept in operation on continuous basis. This is creating problem in smooth operation of the grid as a result of which power supply to Nagaland through this route is getting affected.

Deliberation in the meeting

DGM (AM) stated that the issue has already been discussed during the 5th SCM at Imphal and Bus Reactor of 220kV, 31.5 MVAR has already been recommended and the same has been approved in the 15th NERPC meeting. Further, considering considerable lead time for new procurement and installation of Reactor, he requested NERLDC to make study to examine the non-requirement / underutilization of any Reactor in NER Grid so that the same can be used to mitigate the issue of Overvoltage Problem in Mokokchung immediately as stop gap arrangement.

The Sub-committee noted as above and dropped for the time being. NERTS will intimate the status once the work is started.

D.14 Transformer Tap optimization:

System study was conducted by NERLDC considering load, generation and network pattern of September, 2015 during Peak & Off Peak periods. Suggested taps position of important transformers in NER for maintaining bus voltages within permissible limit as well as to minimize system losses are attached at **Annexure D.14.I.**

All constituents are requested to furnish details of present Tap- Position of Transformers as per format in **Annexure D.14.II.**

Deliberation in the meeting

After detailed deliberation, the Sub-committee opined that frequent changing of tap position is not desirable and hence the issue was dropped.

D.15 Furnishing of Technical & Commercial Data for Computation of PoC Charges & Losses for 3rd Quarter of 2015-16 (Oct'15- Dec'15):

As per provisions of the CERC (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 as amended from time to time, the following data are

required for Computation of PoC Charges & Losses for **3rd Quarter of 2015-16 (Oct'15- Dec'15)**

1. Technical details of new transmission elements and generating units which are expected to commence commercial operation during **Oct'15- Dec'15**
2. Yearly Transmission Charges
3. Nodal Generation information and forecast withdrawal data

As per provisions of the CERC (Sharing of Inter State Transmission Charges and Losses) (Third Amendment), Regulations, 2015, the Designated ISTS Customers (DICs) are required to submit node-wise forecast injection/withdrawal information and maximum injection/withdrawal data for corresponding quarter of last three years to the Implementing Agency for computation of PoC Charges & Losses for **3rd Quarter of 2015-16 (Oct'15- Dec'15)**.

Filled up formats may be sent in soft copy to NLDC through e-mail to implementingagency@powergrid.co.in or implementingagency@posoco.in. A written communication confirming the furnishing of data by e-mail to NLDC may also be sent.

Implementing Agency letter in this regard has been issued and is attached in **Annexure D.15**.

Constituent	Forecasted Nodal injection/withdrawal	Maximum injection/withdrawal of last 3 years
Arunachal Pradesh	Yes	Yes
Assam (AEGCL)	Yes	-
Manipur (MSPCL)	Yes	Yes
Meghalaya (MePTCL)	Yes	Yes
P&E Dept. ,Mizoram	Yes	Yes
DoP, Nagaland	Yes	Yes
Tripura (TSECL)	Yes	Yes
NEEPCO	Yes	Yes
NHPC	-	-
OTPC	Yes	Yes
NTPC	-	-

All constituents agreed to submit the data as per formats for Quarter 4 of 2015-16 (January- March '16) by 31st October, 2015.

D.16 Submission of Daily Hourly Shortfall along with Demand Forecast

At present day-ahead hourly demand forecast data on daily basis sent by SLDCs are available. For scheduling of ISGS power, load forecast data are also required. It is requested to furnish day-ahead hourly Shortfall data along with demand forecast data on daily basis by 2000 Hr of previous day. Day ahead load forecasting will be done on daily basis for which both the data are required (Load forecast = Demand Forecast - Shortfall).

Deliberation in the meeting

DGM (SO-II), NERLDC informed that at present only SLDCs of AEGCL, MSPCL, MePTCL & TSECL are furnishing the above data. He requested the remaining constituents (SLDCs of DOP, Arunachal Pradesh, DOP, Nagaland & P&E Deptt. Mizoram) to furnish the above data.

All remaining constituents agreed to submit the data to NERLDC soon.

Action: Remaining constituents.

D.17 Constraint in inter-state corridor & intra-state elements of Tripura System in case of exporting 100 MW power to Bangladesh under certain scenarios

DGM (SO-II), NERLDC stated that it has been agreed to provide 100 MW power to Bangladesh through 132 kV Surjamaninagar (TSECL) – Comilla (Bangladesh) D/C lines.

Presently, one circuit of 400 kV Palatana – Surjamaninagar D/C (Charged at 132 kV) & One 400/132 kV, 125 MVA ICT at Palatana are under operation. Other circuit of 400 kV Palatana – Surjamaninagar D/C (Charged at 132 kV) could not be completed yet since the bay originally designated for this line was used by 132 kV Palatana – Udaipur line (which was used by Palatana for drawing start-up power in commissioning phase).

It has been observed from system study results that there will be constraint in inter-state corridor & intra-state elements of Tripura System in case of exporting 100 MW power to Bangladesh under certain scenarios.

To address these constraint, it is required to expedite commissioning of 2nd 400/132 kV, 125 MVA ICT at Palatana & second circuit of 400 kV Palatana – Surjamaninagar(TSECL) D/C (Charged at 132 kV) for short term measures and to commission of 400 kV Palatana – Surjamaninagar (TBCB) D/C line & 400/132 kV,

2x315 MVA ICT at Surjamaninagar(TBCB) & 132 kV Surjamaninagar(TSECL) – Surjamaninagar (TBCB) D/C line with high capacity/HTLS.

During 5th Standing Committee Meeting held at Imphal on 08.08.15, OTPC informed that procurement of 2nd ICT at Palatana is under progress. During 5th Standing Committee Meeting, Director, CEA stated that about 100 MW power is planned to be exported to Bangladesh from Tripura by December, 2015 and for reliable transfer of power to Bangladesh both the circuits from Palatana to Surajmaninagar are required. He requested TSECL to disconnect their 132 kV line to Udaipur from Palatana so that the other circuit of Palatana-Surajmaninagar can be connected. Construction of 3rd 132 kV line bay at Palatana was approved in this meeting.

Deliberation in the meeting:

DGM (AM) stated that the issue has already been discussed in detailed during the 5th SCM held at Imphal and hence the issue should not be discussed again in the Sub-committee meeting. If any issue is not addressed, the matter can be taken up with Standing Committee of CEA.

DGM(SO II), NERLDC requested Palatana, OTPC to expedite commissioning of 2nd 400/132 kV, 125 MVA ICT at Palatana & for construction of additional 132 kV line bay for second circuit of 400 kV Palatana –Surjamaninagar(TSECL) (Charged at 132 kV) for short term measures.

The Sub-committee noted as above.

D.18 Up-gradation of 220/132kV Salakati Sub-station from Conventional to SAS on completion of 25 years age and Capitalization during Tariff Block (2014-2019)

DGM (AM), NERTS informed that the 220/132kV Salakati Sub Station was commissioned in the year 1987 and thus, completed 28 years which is 3 years more than the age of Substation. At present, the condition of various equipments / items like LTAC, DCDB, Battery Banks, Power & Control Cable, CT, CVT, Isolator, Bus Post Insulators, String insulators, C&R Panels etc. have deteriorated considerably and requires replacement for further extension of Substation life. Meanwhile, only obsolete ABCBs are replaced with SF6CBs.

In view of above, it is proposed to replace all the above mentioned obsolete equipments / items and up-grade the Substation from conventional to SAS on completion of 25 Years under PoC Mechanism. The tentative expenditure will be around Rs 10.00 Crores.

Deliberation in the meeting:

All the members agreed to the proposal and requested POWERGRID to take up the issue in the next NERPC meeting for approval.

D.19 Up-gradation of 132kV Halflong, 132kV Jiribam, 132kV Kumarghat and 132kV Aizawl Sub-station on completion of 25 years age and Capitalization during Tariff Block (2014-2019)

DGM (AM), NERTS informed that the up-gradation of Haflong, Jiribam, Kumarghat and Aizawl sub stations on completion of 25 Years from AIS to GIS/Hybrid with Double Bus Bar Arrangement, Bus Bar Protection and LBB Scheme in SAS configuration to enhance reliability / continuity of power supply has already been approved in 15th NERPC Meeting at Guwahati on 21st August 2015.

Accordingly, a committee of POWERGRID representatives from Region and Corporate Engineering & AM Department visited Aizawl Sub Station to explore the possibility of up-gradation from AIS to GIS/Hybrid without interruption of power flow during up-gradation works. After detailed study it is found that conversion to GIS will be preferable compared to Hybrid under following consideration:

- (a) Up-gradation to GIS will have minimum outage compared to Hybrid. In case of GIS outage will be only during changeover of primary connection. However, in case of Hybrid, the outage will be during installation as well as changeover of Primary and secondary connection.
- (b) Up-gradation to GIS will generate more space for future expansion which is non-existing in case of Hybrid. Further, due to space saving in case of GIS one transformer 132/33kV can be installed additionally for dedicated station supply.

Hence, it is proposed to up-grade the above stations from AIS to GIS in line with the approval during 15th NERPC Meeting. The tentative cost for Up-gradation will be Rs. 20.00 – Rs. 22.00 Crores for each station.

Deliberation in the meeting:

All the members noted and requested POWERGRID to inform RPC members during next TCC/NERPC Meeting.

D.20 Exemption of Telemetry & Speech for commissioning of Pasighat-Roing-Teju-Namsai – Provisional Clearance:

DGM (AM), NERTS informed that it may be noted that construction works of Passighat--Roing-Teju-Namsai(1) is going on through POWERGRID. Telemetry data of the same is not possible until Passighat- Along-Daporizo-Ziro(A) or Namsai-Rupai-Tinsukia(B) communication link is made available there with provision of Optical/PLCC which is presently not available. Also GPRS connectivity is not OK at these locations.

Hence it is proposed for provisional permission of commissioning of the above substations without Telemetry data (provisional clearance for 1.5 year or connecting comm-link line readiness whichever is earlier). However, voice connectivity will be provided through Mobile phone while commissioning itself.

Deliberation in the meeting:

DGM(SO II), NERLDC stated that telemetry is to be provided by the respective power utility for trial operation as per regulations of CERC.

The Sub-committee requested NERTS, POWERGRID to take up the matter in the next UCC meeting of NERPC meeting for approval.

D.21 Line loading of 132kV Dimapur – Bokajan Line:

Assam stated that on 21/08/15 at 18:04 hrs line loading of 132KV Dimapur-Bokajan line increased up to 65 MW. As a result, NERLDC shillong instruct SLDC, Assam to open the line at Bokajan instantaneously. Instead of opening this line at Bokajan SLDC, Assam opened this line at 132KV Golaghat substation where power flow was 18MW towards Mariani. As a consequence all LTPS machines tripped in operating under frequency relay. It is therefore requested to discuss this incident in next OCC meeting for discussion whether the situation at that time was so alarming that NERLDC instrumental to open the 132 KV line at 65 MW of Load.

DGM (AM), NERTS informed that in one of the phases the CT ratio is 300/1A for which load restriction by NERLDC was correct.

Deliberation in the meeting:

After detailed deliberation, the Sub-committee requested NERTS, POWERGRID to enhance the CT ratio at Dimapur to 600:1 to increase the loadability on above line.

SE (O) informed that the Protection Audit by M/S Tractebel, Romania will be carried out at NERPC/NERLDC, Shillong w.e.f. 14.09.2015 to 18.09.2015. The schedule for respective constituents are given below:

14.09.2015: P&E Deptt. Mizoram, MSPCL, TSECL & NHPC

15.09.2015: NTPC, OTPC and AEGCL

16.09.2015: NEEPCO, POWERGRID and MePTCL

17.09.2015: DOP, Ar. Pradesh and DOP, Nagaland

18.09.2015: NERLDC and NERPC.

He requested all the constituents to come prepare as per Task –I given by the Enquiry Committee for fruitful outcome.

He also requested all the constituents to make it convenient to attend the workshop of NERLC scheduled to be held on 12.09.2015 where IMD representatives will highlight on the issue related to weather as discussed in the meeting. He mentioned that all the Nodal Officers should compulsory attend the above workshop.

The Sub-committee noted as above.

Additional Agenda by NERLDC:

Dedicated voice communication: Under existing VOIP communication system (executed by ORANGGE Ltd) NERLDC requested to provide two nos. of voice links in all 132kV station and four no of voice communication channel at important station like BNC HVDC, all 400kV stations such as Bongaigaon, Balipara, Misa, Silchar (currently no voice communication), BYRNIHAR, AZARA, Palatana and all CGS(NTPC-BTPS, Ranga, Kopili, Khandong, Kathalguri, Doyang, RC Nagar) stations.

Deliberation in the meeting:

POWER GRID accepted the proposal and assured to do the same at the earliest.

Action: NERTS, POWER GRID

Date & Venue of next OCC meeting

It is proposed to hold the 114th OCC meeting of NERPC on first week of October, 2015. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

Annexure-I**List of Participants in the 113th OCC Meetings held on 11/09/2015**

SN	Name & Designation	Organization	Contact No.
1.	Sh. Nangkong Perme, EE, SLDC	Ar. Pradesh	09436288643
2.	Sh. M.K. Bordoloi, CGM, SLDC	Assam	09435203996
3.	Sh. B.C. Borah, AGM, SLDC	Assam	09435119248
4.	Sh. Karuna Sarma, AGM	Assam	09435013532
5.	Sh. T.N. Sarma, DGM, SLDC	Assam	09435007369
6.	Sh. J.P. Choudhury, AGM	Assam	09954055295
7.	Sh. A.N. Dev Choudhury, AGM	Assam	09854120791
8.	Sh. Sanajaoba Singh, Manager, MSPCL	Manipur	09856792770
9.	Sh. G. Tapan Kumar Sharma, Manager	Manipur	08974138850
10.	Sh. F.E. Kharshing, SE, SLDC	Meghalaya	09863066960
11.	Sh. B. Wankhar, EE ,SLDC	Meghalaya	09436105914
12.	Sh. C.C. Lalrinmawia, SDO, MRT	Mizoram	09436155551
13.	Sh. Zoramdina, AE (SLDC)	Mizoram	08415901755
14.	Sh. A. Jakhalu, EE(TRANS)	Nagaland	09436002696
15.	Sh. U. Debbarma, DGM	Tripura	09436462842
16.	Sh. D. Pal, Sr. Manager	Tripura	09436500244
17.	Sh. Babul Roy, Manager	NERLDC	09436335377
18.	Sh. Anupam Kumar, Sr. Engineer	NERLDC	09436335379
19.	Sh. A. Mallick, DGM (SO-II)	NERLDC	09436302720
20.	Sh. S. Konar, Ch. Manager	NERLDC	09436335370
21.	Ms. Momai Dey, Engineer	NERLDC	0943635376
22.	Sh. P. Kanungo, DGM (AM)	PGCIL	09436302823
23.	Sh. Abhijit Kalita , Sr. Manager	NEEPCO	09435339831
24.	Sh. Suranjan Sarkar, Sr. Manager	NEEPCO	08974009294
25.	Sh. Joypal Roy, Sr. Manager	NEEPCO	09435577726
26.	Sh. Tanya Taji, Sr. Manager	NEEPCO	09436042053
27.	Sh. Narendra Kr Gupta, Manager	OTPC	09774233426
28.	Md. Sajid Akhter, Manager	NHPC	09436678603
29.	Sh. Shaibal Ranjan Dan, DGM(O)	NTPC	09435325440
30.	Sh. Atanu Nath, Associate Manager	NTPC	09547808241
31.	Sh. Sandeep Kumar Dutta, Dy. Manager	NTPC	09435026764
32.	Sh. P.K. Mishra, MS	NERPC	09968380242
33.	Sh. B.Lyngkhoi, Director/S.E (O)	NERPC	09436163419
34.	Sh. S. Mukherjee, AD-I/AEE	NERPC	08794277306
35.	Sh. Shaishav Ranjan, AD-II/A.E	NERPC	08794276168

Loadability of Lines of NER Grid (Inter-State Transmission Lines and Important lines of Intra-State level as per Adopted CT Ratios, CEA Manual on Transmission Planning Criteria and NRCE Guidelines

S.No.	Name of the Line	Design Voltage in kV	Charged Voltage in kV	Length in ckt km	Type of conductor	Conductor Configuration	Conductor Size in sqm mm	CT Ratio at End-1	Adopted CT ratio at End-1	CT Ratio at End-2	Adopted CT ratio at End 2	Ampacity at End 1	Ampacity at End 2	Loading Limit (MVA) as per minimum CT ratio at End 1	Loading Limit (MVA) as per minimum CT ratio at End 2	As per CEA Transmission Planning Criteria Jan-2013						As per NRCE Guidelines					
																Conductor Temperature (°C)	Ambient Temperature (°C)	Thermal Ampacity in A	Thermal Capacity in MVA	Emergency Loading Capacity in MVA (110% of Nominal)	Whether adopted CT ratio is sufficient at End 1	Whether adopted CT ratio is sufficient at End 2	Ampacity at 75°C Conductor Temp and 20°C Ambient Temp	MW Capacity at 75°C Conductor Temp and 20°C Ambient Temp	Ampacity at 75°C Conductor Temp and 20°C Ambient Temp	MW Capacity at 75°C Conductor Temp and 20°C Ambient Temp	
As per Information furnished by NERTS, POWERGRID and NEEPCO and NETC																											
1	AGTPP - Agartala-I	132	132	8	ACSR Panther	Single	210	600/1	300/1	400/1	400/1	300	400	69	91	75	45	366	84	92	N	Y	366	84	496	113	
2	AGTPP - Agartala-II	132	132	8	ACSR Panther	Single	210	600/1	300/1	400/1	400/1	300	400	69	91	75	45	366	84	92	N	Y	366	84	496	113	
3	Kolsib - Badarpur	132	132	107	AAAC Panther	Single	600/1	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
4	Aizwat - Kolsib	132	132	66	AAAC Panther	Single	600/1	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
5	Aizwat - Kumarghat	132	132	133	ACSR Panther	Single	210	300/1	300/1	300/1	300/1	300	300	69	69	75	45	366	84	92	N	Y	366	84	496	113	
6	Aizwat - Zambawk	132	132	7	ACSR Panther	Single	210	300/1	300/1	600/1	600/1	300	600	69	137	75	45	366	84	92	N	Y	366	84	496	113	
7	Badarpur - Badarpur	132	132	1	AAAC Panther	Single	600/1	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
8	Badarpur - Jiribam	132	132	67	AAAC Panther	Single	600/1	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
9	Badarpur - Khliehriat-I	132	132	77	AAAC Panther	Single	600/1	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
10	Badarpur - Kumarghat	132	132	119	AAAC Panther	Single	600/1	600/1	400/1	400/1	400/1	400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113	
11	Dimapur - Imphal	132	132	169	ACSR Panther	Single	210	300/1	300/1	300/1	300/1	300	300	69	69	75	45	366	84	92	N	N	366	84	496	113	
12	Dowang - Dimapur-I	132	132	93	ACSR Panther	Single	210	300/1	300/1	300/1	300/1	300	300	69	69	75	45	366	84	92	N	N	366	84	496	113	
13	Dowang - Dimapur-II	132	132	93	ACSR Panther	Single	210	300/1	300/1	300/1	300/1	300	300	69	69	75	45	366	84	92	N	N	366	84	496	113	
14	Gohpur - Niruli (Nanagar)	132	132	43	ACSR Panther	Single	210	600/1	300/1	600/1	300/1	300	300	69	69	75	45	366	84	92	N	N	366	84	496	113	
15	Imphal - Imphal	132	132	2	ACSR Panther	Single	210	600/1	400/1	600/1	400/1	600	400	137	91	75	45	366	84	92	Y	Y	366	84	496	113	
16	Jiribam - Aizwat	132	132	172	ACSR Panther	Single	210	400/1	400/1	400/1	400/1	400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113	
17	Jiribam - Halfong	132	132	101	ACSR Panther	Single	210	400/1	400/1	400/1	400/1	400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113	
18	Jiribam - Lokak-II	132	132	82	ACSR Panther	Single	210	300/1	300/1	400/1	400/1	300	400	69	91	75	45	366	84	92	Y	Y	366	84	496	113	
19	Khandong - Umraneshoo	132	132	132	ACSR Panther	Single	210	300/1	300/1			300		69	0	75	45	366	84	92	N	N	366	84	496	113	
20	Umraneshoo - Halfong	132	132	132	ACSR Panther	Single	210			400/1	400/1	400		69	0	91	75	45	366	84	92	N	Y	366	84	496	113
21	Khandong - Khliehriat-I	132	132	42	ACSR Panther	Single	210	300/1	300/1	600/1	300/1	300	300	69	69	75	45	366	84	92	N	N	366	84	496	113	
22	Khandong - Khliehriat-II	132	132	41	AAAC Panther	Single	600/1	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
23	Khandong - Kopol-I	132	132	11	ACSR Panther	Single	210	600/1	300/1	600/1	300/1	600	300	137	69	75	45	366	84	92	Y	N	366	84	1306	113	
24	Khandong - Kopol-II	132	132	12	ACSR Zebra	Single	600/1	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
25	Khliehriat - Khliehriat - I	132	132	8	AAAC Panther	Single	600/1	600/1	600/1	600/1	600/1	600	600	69	69	75	45	366	84	92	N	N	366	84	496	113	
26	Kumarghat - R.C.Nagar (Agartala)	132	132	104	ACSR Panther	Single	210	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
27	Lokak - Imphal-II	132	132	35	ACSR Panther	Single	210	600/1	400/1	600/1	600/1	300	300	69	69	75	45	366	84	92	Y	Y	366	84	496	113	
28	Niruli - Ranganadi-I	132	132	22	ACSR Panther	Single	210	600/1	600/1	500/1	500/1	500	500	114	114	75	45	366	84	92	Y	Y	366	84	496	113	
29	Ranganadi - Ziro	132	132	45	ACSR Panther	Single	210	300/1	300/1	300/1	300/1	300	300	69	69	75	45	366	84	92	N	N	366	84	496	113	
30	Kohima-Dimapur-I(PG)-I	132	132	58	ACSR Panther	Single	210	300/1	300/1	300/1	300/1	300	300	69	69	75	45	366	84	92	N	N	366	84	496	113	
31	Silchar - Srikona-I	132	132	1	ACSR Panther	Single	210	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
32	Silchar - Srikona-II	132	132	1	ACSR Panther	Single	210	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
33	Silchar - Badarpur I	132	132	19	ACSR Panther	Single	210	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
34	Silchar - Badarpur II	132	132	19	ACSR Panther	Single	210	600/1	600/1	600/1	600/1	600	600	137	137	75	45	366	84	92	Y	Y	366	84	496	113	
35	Trepuri-Depota-Balipara-I	132	132	28	ACSR Zebra	Single	484	800/1	800/1	800/1	800/1	800	800	183	183	75	45	560	128	141	Y	Y	560	128	776	294	
36	Misa - Dimapur-I	220	220	124	ACSR Zebra	Single	484	500/1	500/1	500/1	500/1	500	500	191	191	75	45	560	213	235	N	N	560	213	772	294	
37	Misa - Dimapur-II	220	220	124	ACSR Zebra	Single	484	500/1	500/1	500/1	500/1	500	500	191	191	75	45	560	213	235	N	N	560	213	772	294	
38	Misa - Kopol-I	220	220	73	ACSR Zebra	Single	484	500/1	500/1	500/1	500/1	500	500	191	191	75	45	560	213	235	N	N	560	213	772	294	
39	Misa - Kopol-II	220	220	73	ACSR Zebra	Single	484	500/1	500/1	500/1	500/1	500	500	191	191	75	45	560	213	235	N	N	560	213	772	294	
40	Misa - Kopol-III	220	220	76	AAAC Zebra	Single	479	800/1	800/1	800/1	800/1	800	800	305	305	75	45	560	213	235	Y	N	560	213	772	294	
41	Misa - Samaguri-I	220	220	34	ACSR Zebra	Single	484	500/1	500/1	500/1	500/1	500	500	191	191	75	45	560	213	235	N	N	560	213	772	294	
42	Misa - Samaguri-II	220	220	34	ACSR Zebra	Single	484	500/1	500/1	500/1	500/1	500	500	191	191	75	45	560	213	235	N	N	560	213	772	294	
43	AGBPP - Mariani (Charge at 220 kV)	400	400	163	ACSR Moose	Twin	597	800/1	800/1	800/1	800/1	800	800	305	305	75	45	1262	481	529	N	N	1262	481	1747	666	
44	AGBPP - Misa (Charge at 220 kV)	400	400	220	383	ACSR Moose	Twin	597	800/1	800/1	800/1	800	800	305	305	75	45	1262	481	529	N	N	1262	481	1747	666	
45	Misa - Mariani (Charge at 220 kV)	400	400	220	220	ACSR Moose	Twin	597	800/1	800/1	800/1	800	800	305	305	75	45	1262	481	529	N	N	1262	481	1747	666	
46	Balipara - Bongajgon I	400	400	290	ACSR Moose	Twin	597	1000/1	1000/1	1000/1	1000/1	1000	1000	693	693	75	45	1262	874	962	N	N	1262	874	1747	1210	
47	Balipara - Bongajgon II	400	400	290	ACSR Moose	Twin	597	1000/1	1000/1	1000/1	1000/1	1000	1000	693	693	75	45	1262	874	962	N	N	1262	874	1747	1210	

S.No.	Name of the Line	Design Voltage in kV	Charged Voltage in kV	Length in ckt km	Type of conductor	Conductor Configuration	Conductor Size in sq mm	CT Ratio at End-1	Adopted CT ratio at End-1	CT Ratio at End-2	Adopted CT ratio at End 2	Ampacity at End 1	Ampacity at End 2	Loading Limit (MVA) as per minimum CT ratio at End 1	Loading Limit (MVA) as per minimum CT ratio at End 2	Conductor Temperature (°C)	Ambient Temperature (°C)	Thermal Ampacity in A	Thermal Capacity in MVA	As per CEA Transmission Planning Criteria Jan-2013			As per NRCE Guidelines			
																				Emergency Loading Capacity in MVA (110% of Nominal)	Whether adopted CT ratio is sufficient at End 1	Whether adopted CT ratio is sufficient at End 2	Ampacity at 75° C Conductor Temp and 45° C Ambient Temp	MW Capacity at 75° C Conductor Temp and 45° C Ambient Temp	Ampacity at 75° C Conductor Temp and 20° C Ambient Temp	MW Capacity at 75° C Conductor Temp and 20° C Ambient Temp
24	Pailapool-Jiribam(PG)	132	132		ACSR Panther	Single	210	400/1				400		91	0	75	45	366	84	92	Y	N	366	84	496	113
25	Pailapool-Srikona	132	132		ACSR Panther	Single	210	400/1		400/1		400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113
26	Panchgram-Balarpur(PG)	132	132		ACSR Panther	Single	210	400/1				400		91	0	75	45	366	84	92	Y	N	366	84	496	113
27	Panchgram-Khichriat	132	132		ACSR Panther	Single	210	400/1		400/1		400	400	91	0	75	45	366	84	92	Y	N	366	84	496	113
28	Panchgram-Srikona	132	132		ACSR Panther	Single	210	400/1		400/1		400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113
29	Panchgram-Lumshong	132	132		ACSR Panther	Single	210	400/1		400/1		400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113
30	P.K Bari - Kumarghat	132	132	1	ACSR Panther	Single	210	400/1		400/1		400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113
31	Agartala - Dhalabli	132	132	45	AAAC	Single		400/1		400/5		400	80	91	18	75	45	366	84	92	Y	N	366	84	496	113
32	Bunamra - Tellamara(Gamaitila)	132	132	14	ACSR Panther	Single	210	400/1		400/1		400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113
33	P.K Bari - Dharmnagar	132	132	35	AAAC	Single		400/1		400/5		400	80	91	18	75	45	366	84	92	Y	N	366	84	496	113
34	Udaipur - Palatana	132	132	12	ACSR Panther	Single	210	400/1		n/a		400		91	0	75	45	366	84	92	Y	N	366	84	496	113
35	Surajmani Nagar - Palatana	132	132	35	ACSR Panther	Single	210	600-400/1		600-400/1				0	0	75	45	366	84	92	N	N	366	84	496	113
36	Surajmani Nagar - Palatana	132	132	35	ACSR Panther	Single	210	600-400/1		600-400/1				0	0	75	45	366	84	92	N	N	366	84	496	113
37	Mawlai- Stage-I	132	132		ACSR Panther	Single	210	400/1				400	0	91	75	45	366	84	92	N	Y	366	84	496	113	
38	EPIP II - Killing I	132	132		ACSR Panther	Single	210	400/1		400/1		400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113
39	EPIP II - Killing II	132	132		ACSR Panther	Single	210	400/1		400/1		400	400	91	91	75	45	366	84	92	Y	Y	366	84	496	113

Note :

- 1) At present for purpose of TTC calculations, line loadings are considered as per Normal Loading limit (Thermal Limit) as specified in CEA's Manual on Transmission Planning Criteria or in NRCE Guidelines
- 2) The line loadings considered for study purpose are at 75 degree C conductor temperature and 45 degree C ambient temperature.
- 3) The line loadings will go up as there is a reduction in Ambient temperature from 45 degree Celsius
- 4) Further, as per NRCE Guidelines, all lines should be capable of carrying power as per specified in the Guidelines.
- 5) As per Operational Guidelines issued by NRCE, in case relay settings restrict the transfer of power, it would be checked by the owner of the terminal equipment if they are in line with the guidelines given by the Task Force on Power System Analysis under contingencies. If they are not in line with the same, the relay settings would have to be aligned with the same
- 6) As per CEA's Manual on Transmission Planning Criteria, all lines should be able to carry Emergency Loading in cases of contingencies for a duration of 1 to 2 hours

Transformer Tap Optimisation Data

Senario : September 2015

03-Sep-15

Sl. No.	Substation	Voltage Ratio (kV)	Transformer No.	Capacity in MVA	Controlled Bus	Tap Step (%)	Total Tap Positions	Nominal Tap	OFFPEAK Suggested	PEAK Suggested	Voltage Profile			
											Off-Peak		Peak	
											Pre-Opt	Post-Opt	Pre-Opt	Post-Opt
1	Balipara	400/220	1	315	400kV	1.25	17	9	NO+1	NO+1	421	420	424	424
		220/132	2	50	132kV	1.25	17	9	NO+2	NO+2	137	132	139	134
		220/132	3	50	132kV	1.25	17	9	NO+2	NO+2				
2	Bongaigaon	400/220	1	315	400kV	1.25	17	9	NO-2	NO-2	425	424	424	423
3	Salakati	220/132	1	50	132 kV	1.25	17	13	NO+1	NO+2	142	142	141	140
		220/132	2	50	132 kV	1.25	17	13	NO+1	NO+2				
4	Misa	400/220	1	315	400kV	1.25	17	9	NO-1	NO-1	421	420	425	423
		400/220	2	315	400kV	1.25	17	9	NO-1	NO-1				
5	RHEP	400/132	1	360	400 kV	2.5	17	9	NO-2	NO-2	417	416	423	421
		400/132	2	360	400 kV	2.5	17	9	NO-2	NO-2				
6	Azara	400/220	1	315	400kV	1.25	17	9	NO-1	NO-1	421	421	420	420
		400/220	2	315	400kV	1.25	17	9	NO-1	NO-1				
7	Silchar	400/132	1	200	400 kV	1.25	17	9	NO	NO	411	411	411	411
		400/132	2	200	400 kV	1.25	17	9	NO	NO				
8	Byrnihat	400/220	1	315	400 kV	1.25	17	9	NO	NO-2	424	424	426	424
		400/220	2	315	400 kV	1.25	17	9	NO	NO-2				
		220/132	5083/1	160	132 kV	1.25	17	9	NO	NO+2	141	141	143	140
		220/133	5083/1	160	132 kV	1.25	17	9	NO	NO+2				
9	Palatana	400/132	1	125	132 kV	1.25	17	9	NO+2	NO+2	135	134	135	133
10	Dimapur	220/132	1	100	220 kV	1.25	17	9	NO	NO	236	237	236	238
		220/132	2	100	220 kV	1.25	17	9	NO	NO				
11	Mokokchung	220/132	1	30	220 kV	1.25	13	9	NO-1	NO	238	238	238	239
		220/132	2	30	220 kV	1.25	13	9	NO-1	NO				
12	KOPILI	220/132	1	60	132 kV	1.25	17	9	NO	NO	139	140	140	140
		220/132	2	160	132 kV	1.25	17	9	NO	NO				
13	Sarusajai	220/132	1	100	132kV	1.25	17	9	NO-2	NO	134	139	139	139
		220/132	2	100	132kV	1.25	17	9	NO-2	NO				
		220/132	3	100	132kV	1.25	17	9	NO-2	NO				
14	Samaguri	220/132	1	50	132kV	1.25	17	9	NO+2	NO+2	140	137	140	137
		220/132	2	50	132kV	1.25	17	9	NO+2	NO+2				
		220/132	3	50	132kV	1.25	17	9	NO+2	NO				
15	Mariani	220/132	1	100	220 kV	1.25	17	9	NO+1	NO	238	240	238	240
		220/132	2	100	220 kV	1.25	17	9	NO+1	NO				
16	Tinsukia	220/132	1	50	220 kV	1.25	17	9	NO-1	NO-2	242	242	240	241
		220/132	2	50	220 kV	1.25	17	9	NO-1	NO-2				
17	BTPS	220/132	HT1819/13078	160	220 kV	1.25	17	9	NO+2	NO	234	238	231	235
		220/132	6004522	80	220 kV	1.25	17	9	NO+2	NO				
18	Agia	220/132	T8265/4	50	220 kV	1.25	23	13	NO-1	NO	234	237	231	235
19	Boko	220/132	T09286/1	50	220 kV	1.14	17	9	NO-1	NO	233	236	232	234
20	NTPS (Local)	220/132	A.T.No.1	50	220 kV	1.25	17	9	NO	NO	242	242	240	240
		220/132	A.T.No.1	50	220 kV	1.25	17	9	NO	NO				

Note : a) NO indicates Nominal Tap position, b) NO-1 when HV bus is controlled bus, indicates transferring MVAR from HV bus to LV bus to reduce voltage of the HV bus and increase voltage of LV bus

