North Eastern Regional Power Committee

Agenda

For

127th OCC Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 14th December, 2016 (Wednesday)

Venue : "Hotel Nandan", Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 126th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 126th meeting of Operation Sub-committee held on 15th November, 2016 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2016/4556-4591 dated 25th November, 2016.

The Sub-committee may confirm the minutes of 126th OCCM of NERPC as no comments/observations were received from the constituents.

ITEMS FOR DISCUSSION

B. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING NOVEMBER, 2016

As per the data made available by NERLDC, the grid performance parameters for November, 2016 are given below:

NER PERFORMANCE DURING NOVEMBER, 2016

	Energy Met (MU)		w.r.t. Oct,16 % inc (+) /dec (-)	Energy Reqr. (MU)		w.r.t. Oct,16 % inc (+) /dec (-)	% inc (+) /dec (-) of energy reqr vs met. In Nov,16
States	**Nov-16**	**Oct-16**		**Nov-16**	**Oct-16**		
Ar. Pradesh	57.73	61.67	-6.39	58.87	63.04	-6.61	-1.97
Assam	694.49	812.85	-14.56	706.25	834.99	-15.42	-1.69
Manipur	60.66	61.72	-1.72	62.19	64.22	-3.16	-2.52
Meghalaya	136.75	149.79	-8.71	136.75	149.79	-8.71	0.00
Mizoram	41.52	38.90	6.74	42.74	40.17	6.40	-2.94
Nagaland	58.56	66.71	-12.22	59.82	68.16	-12.24	-2.15
Tripura	51.96	130.59	-60.21	53.00	131.88	-59.81	-2.00
Region	**1101.68**	**1322.23**	-16.68	**1119.62**	**1352.26**	-17.20	-1.63

States	Demand Met (MW)		w.r.t. Oct,16 % inc (+) /dec (-)	Demand in (MW)		w.r.t. Oct,16 % inc (+) /dec (-)	% inc (+) /dec (-) of Demand vs met. In Nov,16
	Nov-16	**Oct-16**		**Nov-16**	**Oct-16**		
Ar. Pradesh	127	126	0.79	127	128	-0.78	0.00
Assam	1524	1615	-5.63	1531	1673	-8.49	-0.46
Manipur	151	145	4.14	152	145	4.83	-0.66
Meghalaya	312	301	3.65	312	300	4.00	0.00
Mizoram	96	95	1.05	97	95	2.11	-1.04
Nagaland	126	130	-3.08	128	130	-1.54	-1.59
Tripura	266	284	-6.34	266	284	-6.34	0.00
Region	**2314**	**2439**	-5.13	**2377**	**2466**	-3.61	-2.72

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	**Nov-16**	**Oct-16**
Total Generation in NER (Gross)	1180.98	1437.79
Total Central Sector Generation (Gross)	947.74	1116.88
Total State Sector Generation (Gross)	233.24	320.90
Inter-Regional Energy Exchange		
(a) NER-ER	**33.07**	**13.15**
(b) ER-NER	**460.46**	**418.31**
(c)NER-NR	**401.67**	**396.19**
(d)NR-NER	52.14	10.16
© Net Import	77.85	19.13

AVERAGE FREQUENCY (Hz)

Month---->	**Nov-16**	**Oct-16**
	% of Time	% of Time
Below 49.9 Hz	9.28	5.72
Between 49.9 to 50.05 Hz	72.20	74.78
Above 50.05 Hz	18.50	19.50
Average	50.00	50.00
Maximum	50.27	50.25
Minimum	49.99	49.74

C. OLD ITEMS

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

During 127th OCC meeting, the status as informed by different beneficiaries is as follows:

SN	Items	Status as given in 127th OCC Meeting	Status as given in 126th OCC Meeting
a. New Projects			
1	Trial operation and CoD of Unit -II of Bongaigoan TPS of NTPC		Synchronization by November, 2016 & CoD by 31.03.2017

2	400/220kV, 2x315 MVA ICT of NTPC at Bongaigaon		December, 2016
3	Trial operation and CoD 36MW STG of Monarchak GBPP of NEEPCO		December, 2016 (subject to gas availability)
4	Kameng HEP of NEEPCO two units (2 x 150 MW) Next two units (2x150 MW)		Unit #1 Oct'17 Unit #2&#3 Nov'17 Unit #4 Dec'17
5	Pare HEP of NEEPCO (2 x 55 MW)		Unit #1 July'17 Unit #2&#3 Aug'17
6	400 kV D/C Silchar - Melriat line of PGCIL		March, 2017.
7	220kV Rangia - Salakati of AEGCL		December, 2016
8	132kV Monarchak – Surjamaninagar D/C of TSECL		March, 2017
9	400/132 kV, 2nd 125 MVA ICT at Pallatana		Synchronized on 08.10.2016 COD expected by 25.12.2016
10	132kV Pasighat – Aalong of Ar. Pradesh		December, 2016.
11	132kV Doyang– Wokha		December, 2016. (Nagaland requested NEEPCO to expedite)
12	220 kV, 20 MVAR Bus Reactor& bay at AGBPP		15.12.2016 (Problem with foundation of reactor need to be rectified)
13	132kV Surjamaninagar Bay at OTPC		March, 2017.
14	400kV D/C Balipara – Kameng of Ar. Pradesh		December 2016.
15	RHEP 80 MVAR Bus Reactor		Approved by SCM/RPC. Tendering to be done.
16	SLDCs (Ar. Pradesh, Manipur, Mizoram, Nagaland)		Manipur - Dec'16, Mizoram- Jan'17, Nagaland-handover

			of building by Dec'16, AP- Work started.
17	400/220 kV 315 MVA ICT-II at Bongaigaon		Manufacturing stage
18	220/132 kV, 2x160 MVA ICTs at Balipara		By 31st August 2017.
19	220/132 kV, 1x160 MVA ICT with GIS Bay at Kopili		By 31st August 2017.
20	400/132 kV, 1x315 MVA ICT-III at Silchar		December, 2017.
21	Replacement of 2x315 MVA ICTs with 2x500 MVA ICTs at Misa (PG)		December, 2017.
22	400 kV Silchar – Misa D/C		Under TBCB
23	1x125 MVAR Bus Reactor at 400 kV at Balipara		December, 2017.
24	1x125 MVAR Bus Reactor at 400 kV Bongaigoan		December, 2017.
25	Bays at Hailakandi & 132V Silchar-Hailakandi		March, 2017.
b. Elements under breakdown/ upgradation			
26	63MVAR Reactor at Byrnihat of Me.PTCL		CGL to visit site.
27	Up-gradation of 132 kV Lumshnong-Panchgram line		Reports given to be analyzed by MePTCL.
28	Switchable line Reactors at 400kV Balipara & Bongaigoan		Balipara - Oct'16 Bongaigaon - Dec'16.
29	PLCC Panels at Loktak end of Loktak – Ningthoukhong 132 kV feeder and Loktak - Rengpang 132 kV feeder		Work(s) have been included in tender for additional line of 132kV Loktak-Ningthoukong
30	LILO of 132kV Ranganadi – Nirjuli at Pare of NEEPCO by PGCIL		Dec'16

31	LILO of 132kV Ranganadi – Itanagar (Chimpu) at Pare of Ar. Pradesh		Bay at Pare under construction Bay 1: December 2016 Bay 2: March 2017
32	400KV 80MVAR Bus Reactor at OTPC Palatana		By 31.12.2016

Concerned constituents may kindly intimate the status.

C.2 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 draft LGBR 2016-17 of NERPC. State wise MU requirement and availability for these months are to be checked. Constituents may kindly verify if the above data are correct.

Requirement:

Name of State	Apr16	May16	Jun16	Jul16	Aug16	Sep16
Ar. Pradesh	67	71	68	73	73	73
Assam	775	791	816	872	872	847
Manipur	82	77	76	80	80	80
Meghalaya	170	175	165	175	175	170
Mizoram	42	42	42	45	45	45
Nagaland	65	68	72	77	77	72
Tripura	112	122	122	122	128	122
NER	**1313**	**1346**	**1361**	**1424**	**1450**	**1409**

Name of State	Oct16	Nov16	Dec16	Jan17	Feb17	Mar17
Ar. Pradesh	73	68	68	68	59	74
Assam	816	714	714	714	648	740
Manipur	85	88	95	92	88	90
Meghalaya	185	195	210	220	185	190
Mizoram	46	46	48	48	42	42
Nagaland	74	68	71	69	68	68
Tripura	133	112	122	128	102	128
NER	**1412**	**1291**	**1328**	**1339**	**1192**	**1332**

Availability:

Name of State	Apr16	May16	Jun16	Jul16	Aug16	Sep16
Ar. Pradesh	46	58	82	92	79	74
Assam	483	544	649	737	703	682
Manipur	58	69	85	108	102	99
Meghalaya	100	149	191	250	258	258
Mizoram	38	44	54	63	59	57
Nagaland	42	51	66	83	79	77
Tripura	185	204	204	222	213	208
NER	**950**	**1119**	**1330**	**1557**	**1493**	**1455**

Name of State	Oct16	Nov16	Dec16	Jan17	Feb17	Mar17
Ar. Pradesh	67	52	54	51	45	55
Assam	648	567	580	567	502	564
Manipur	95	81	76	71	61	69
Meghalaya	209	150	138	125	115	123
Mizoram	54	48	44	43	39	45
Nagaland	71	55	54	50	45	50
Tripura	225	211	224	222	190	217
NER	**1370**	**1163**	**1171**	**1130**	**997**	**1121**

In 123rd OCC meeting, as per suggestion by Member Secretary, NERPC it was decided that a comparison of actual vs figures projected in LGBR 2016-17 is to be prepared from now on.

SE(C&O),NERPC highlighted that in case of Meghalaya the difference is glaring. S.E, SLDC, Meghalaya informed that revised figures for 2016-17 had already been provided to NERPC and requested NERPC to incorporate the same.

The revised figures for Meghalaya may be made furnished again for incorporation.

The comparison of the projected figures as per LGBR (2016-17) and actual figures are given below:

Requirement:

Name of State	Oct16(actual)	Oct16(LGBR)	Nov16(actual)	Nov16(LGBR)
Ar. Pradesh	63.04	73	58.87	68
Assam	834.99	816	706.25	714
Manipur	64.22	85	62.19	88
Meghalaya	149.79	185	136.75	195
Mizoram	40.17	46	42.74	46
Nagaland	68.16	74	59.82	68
Tripura	131.88	133	53.00	112
NER	**1352.26**	**1412**	**1119.62**	**1291**

Availability:

Name of State	Oct16(actual)	Oct16(LGBR)	Nov16(actual)	Nov16(LGBR)
Ar. Pradesh	61.67	67	57.73	52
Assam	812.85	648	694.49	567
Manipur	61.72	95	60.66	81
Meghalaya	149.79	209	136.75	150
Mizoram	38.90	54	41.52	48
Nagaland	66.71	71	58.56	55
Tripura	130.59	225	51.96	211
NER	**1322.23**	**1370**	**1101.68**	**1163**

Members may please discuss.

C.3 Monthly MW requirement & availability of each state of NER:

The following figures were taken from LGBR 2016-17 of NERPC. These figures are to be reviewed.

A. Peak Demand in MW

Name of State	Apr16	May16	Jun16	Jul16	Aug16	Sep16
Ar. Pradesh	142	142	137	137	142	147
Assam	1451	1472	1498	1508	1560	1539
Manipur	168	168	168	163	168	163
Meghalaya	405	405	405	405	400	405
Mizoram	90	90	95	90	90	90
Nagaland	125	125	125	140	140	140
Tripura	270	291	296	296	301	291
NER	**2651**	**2693**	**2724**	**2739**	**2801**	**2775**

Name of State	Oct16	Nov16	Dec16	Jan17	Feb17	Mar17
Ar. Pradesh	143	132	132	137	137	147
Assam	1513	1508	1518	1456	1352	1466
Manipur	163	179	184	179	179	173
Meghalaya	415	425	430	430	425	420
Mizoram	95	95	101	101	90	95
Nagaland	140	135	135	135	125	125
Tripura	321	275	260	250	250	281
NER	**2790**	**2749**	**2760**	**2688**	**2558**	**2707**

B. Peak Availability in MW

Name of State	Apr16	May16	Jun16	Jul16	Aug16	Sep16
Ar. Pradesh	127	144	195	165	140	138
Assam	1012	1134	1305	1249	1170	1222
Manipur	131	173	184	196	179	181
Meghalaya	257	304	373	433	455	482
Mizoram	83	100	123	117	108	111
Nagaland	109	129	145	142	134	137
Tripura	324	355	369	365	350	357
NER	**2043**	**2340**	**2695**	**2675**	**2534**	**2627**

Name of State	Oct16	Nov16	Dec16	Jan17	Feb17	Mar17
Ar. Pradesh	154	140	129	128	127	179
Assam	1251	1202	1169	1152	1108	1278
Manipur	188	175	147	151	142	188
Meghalaya	442	360	340	312	346	386
Mizoram	117	109	99	98	101	120
Nagaland	142	129	124	122	120	141
Tripura	386	369	373	370	355	392
NER	**2681**	**2484**	**2381**	**2331**	**2298**	**2682**

C. Off Peak Demand in MW (08:00 Hrs)

Name of State	Apr16	May16	Jun16	Jul16	Aug16	Sep16
Ar. Pradesh	78	78	75	75	78	81
Assam	943	898	944	950	952	939
Manipur	109	109	109	106	109	106
Meghalaya	223	223	223	223	220	223
Mizoram	59	59	62	59	59	59
Nagaland	75	75	75	84	84	84
Tripura	184	198	201	201	205	198
NER	**1670**	**1639**	**1689**	**1698**	**1706**	**1689**

Name of State	Oct16	Nov16	Dec16	Jan17	Feb17	Mar17
Ar. Pradesh	79	73	73	75	75	81
Assam	983	935	956	932	852	909
Manipur	106	116	120	116	116	112
Meghalaya	228	234	237	237	234	231
Mizoram	62	62	66	66	59	62
Nagaland	84	81	81	81	75	75
Tripura	218	187	177	170	170	191
NER	**1760**	**1687**	**1708**	**1677**	**1581**	**1661**

D. Off Peak Availability in MW (08:00 Hrs)

Name of State	Apr16	May16	Jun16	Jul16	Aug16	Sep16
Ar. Pradesh	40	50	99	122	102	100
Assam	734	824	1014	1126	1048	1068
Manipur	65	87	119	168	152	148
Meghalaya	198	230	305	416	428	445
Mizoram	50	61	88	102	93	93
Nagaland	72	84	105	123	115	116
Tripura	362	303	326	345	331	335
NER	**1420**	**1640**	**2054**	**2402**	**2269**	**2304**

Name of State	Oct16	Nov16	Dec16	Jan17	Feb17	Mar17
Ar. Pradesh	81	56	59	57	72	69
Assam	982	927	956	935	927	985
Manipur	132	115	92	84	94	102
Meghalaya	377	295	290	261	303	318
Mizoram	86	75	72	69	78	82
Nagaland	103	89	92	89	93	95
Tripura	343	317	335	329	322	339
NER	**2104**	**1875**	**1896**	**1824**	**1888**	**1989**

In 122nd OCC meeting, SE(C&O) informed that CEA has been requested to incorporate 100 MW Bangladesh drawal in LGBR 2016-17.

It was also noted by the 123rd OCC forum that one additional column may be added to above tables to monitor monthly actual versus forecast to bring in accuracy in the forecast.

A comparison of demand for the month of October & November is given below:

Name of State	Oct16(act)	Oct16(LGBR)	Nov16(act)	Nov16(LGBR)
Ar. Pradesh	128	143	127	132
Assam	1673	1513	1531	1508
Manipur	145	163	152	179
Meghalaya	300	415	312	425
Mizoram	95	95	97	95
Nagaland	130	140	128	135
Tripura	284	321	266	275
NER	2466	2790	2377	2749

Members may please discuss.

C.4 Implementation of Automatic Demand Management Scheme (ADMS)

In order to comply the Hon'ble CERC's Order, the OCC of NERPC agreed to implement the ADMS in atleast one sub-station of each state in NER on pilot basis (preferably in State Capitals) initially and accordingly the estimates were prepared and the cost is given as below:

Sr. No	State	Estimated Cost (Crore)	Scope of work
1	Arunachal Pradesh	4.5	Supply, installation and commissioning of RTU System in 1 no. of 132/33kV Substation & 2 no. of 33kV Substations including ADMS Software and hardware with Fibre Optic communication link & accessories between 33kV and 132kV S/Stns - (Chimpu).
2	Nagaland	5.0	Supply, installation and commissioning of RTU System in 1 no. of 132/33kV Substation & 2 no. of 33kV Substations including ADMS Software and hardware with Fibre Optic communication link & accessories between 33kV and 132kV S/Stns- (Nagarjan).
3	Mizoram	5.1	Supply, installation and commissioning of RTU System in 1 no. of 132/33kV Substation & 2 no. of 33kV Substations including ADMS Software and hardware with Fibre Optic communication link & accessories between 33kV and 132kV S/Stns – (Luangmual)
4	Manipur	4.5	Supply, installation and commissioning of RTU System in 1 no.of 132/33kV Substation & 2 no. of 33kV Substations including ADMS Software and hardware with Fibre Optic communication link & accessories between 33kV and 132kV S/Stns – (Kongba) .

5	Tripura	5.0	Supply, installation and commissioning of RTU System in 1 no. of 132/33kV Substation & 2 no. of 33kV Substations including ADMS Software and hardware with Fibre Optic communication link & accessories between 33kV and 132kV S/Stns – (S.M. Nagar).
6	Assam	4.3	Supply, installation and commissioning of RTU System in 1 no. of 132/33kV Substation including ADMS Software and hardware with Fibre Optic communication link & accessories between 33kV and 132kV S/Stns – (Kahilipara).
7	Meghalaya	1.9	Supply and Commissioning of ADMS Software with necessary hardware in SLDC – (NEHU).

The 17th TCC/RPC approved the above estimates and Member Secretary,NERPC requested all NER States to send the proposal to NLDC/CEA at the earliest for funding from PSDF so that ADMS can be implemented in the region as directed by Hon'ble CERC.

In 126th OCCM, SE(C&O),NERPC requested the constituents to once again send their proposals to NLDC/CEA as early as possible.

All concerned utilities may kindly intimate the status.

C.5 Reactive Power Planning:

In the 4th meeting of NPC, it had been agreed that states should adopt a proactive approach in the matter of reactive power planning, and that the provisions regarding reactive power planning similar to those mandated in the IEGC for the CTU should be included in the respective State Grid codes.

It was informed in the meeting that Sub-Committee of PSDF had forwarded few schemes of capacitor installation by states to respective RPC for approval of RPCs. It was of the view that RPC might be able to justify the requirement of capacitor installation of state.

After detailed deliberation, it was agreed that the proposal of capacitor installation planning by states/entities would be referred to RPCs and to PSDF Sub-Committee routed through RPCs and the proposal would be vetted by the respective RPC.

In 125th OCCM, SE(C&O),NERPC once again reiterated the need for this scheme and requested all the states to finalize their estimate before the forthcoming TCC/RPC meetings.
The DPR cost furnished by Mizoram & Nagaland is Rs. 16.87 Cr and 25 Cr respectively and the system study has been carried out by ERDA, New Delhi.
The 17th TCC/RPC approved the above DPR cost of Mizoram & Nagaland.

Member Secretary, NERPC requested Mizoram & Nagaland to send the proposal to NLDC/CEA at the earliest for funding from PSDF.

In 126th OCCM, S.E.(C&O),NERPC requested the other states to finalize their proposals and submit the same at the earliest.

All the utilities may please inform the status.

C.6 Reasons For Demand - Supply Gap And Its Variation:

It was deliberated in the 4th NPC meeting that monthly power supply position prepared & published by CEA based on the data furnished by the states reflected shortages in almost all the states. However, a number of those states intimated adequate availability of power. This meant that the deficit/shortage in such states was actually not the deficit in true sense but demand-supply gap due to reasons other than shortage of power. The other reasons for the demand-supply gap could be inadequate availability of power, transmission constraint, distribution constraint, financial constraint, etc. The reason for demand-supply gap needed to be clearly mentioned to reflect true picture of power supply position in different states and also to invite attention of various agencies including policy makers to the specific problem areas in the power sector for suitable solution.

After deliberation it was decided in the meeting that all the RPCs would advise the states in their respective regions to intimate broad break-up of demand-supply gap due to various reasons, or at least, the main reason(s) for demand-supply gap in each month.

In 125th OCCM, Sr. Engineer, NERLDC informed that AEGCL, TSECL are providing the detailed breakup of shortfall figures. Meghalaya and Mizoram are reporting nil shortfall while no figures are being received from DoP, Ar. Pradesh, MSPCL and DoP Nagaland.

In 126th OCCM, S.E.(C&O),NERPC informed the forum that as per communication received from GM Division CEA, unscheduled load shedding and scheduled load shedding for peak demand met instance is to be provided. Accordingly, all the constituents & NERLDC were requested to indicate the latter from November, 2016 onwards. The forum requested DoP Ar. Pradesh, MSPCL and DoP Nagaland to submit the shortfall figures periodically.

DoP, Ar. Pradesh, MSPCL, DoP Nagaland /NERLDC may please deliberate.

D. NEW ITEMS

D.1 Generation Planning (ongoing and planned outages)

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

Generating Station	Units running	MW	MU	Reservoir
Khandong				
Kopili				
Kopili-II				

Ranganadi			Subject to inflow	
Doyang				
Loktak				
AGBPP	-	-	-	-
AGTPP	-	-	-	-

Hydro planning

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

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

D.2 Outage Planning Transmission elements

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

Furnishing request of shut down of the element, which was approved by NERPC, by Indenting Agency (ISTS licensees/STUs/Generating Companies) to NERLDC: Planned shutdown approved by NERPC shall be considered for implementation by NERLDC on D-3 basis. If an outage is to be availed on say 10th of the month, the shutdown availing agency would reconfirm to NERLDC on 7th of the month by 10:00 Hr. This practice is necessary to ensure optimal capacity utilization and the time required for associated system study/coordination by/amongst RLDC/NLDC.

In 124th OCCM, SE(C&O) strongly opined that constituents should inform to NERPC/NERLDC in case shutdown is not avail as approved in the OCC meeting and should mention clearly the reason for not availing the shutdown. The full list of shutdown would be placed in the next OCC by NERLDC so that proper record can be made in future for generating units as well as transmission lines. All constituents endorsed the view of SE(C&O).

The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for December, 2016 - January, 2016 at Annexure- D.2., which is available in the website of NERPC.

D.3 Estimated Transmission Availability Certificate (TAC) for the month of August & September, 2016:

NETC and POWERGRID have submitted the outage data for the month of August & September, 2016. So the attributability of outage of the said elements may please be finalized.

Members may please discuss.

D.4 Furnishing of Technical and Commercial data for computation of PoC Charges and Losses for Q1 of 2017-18 (April 2017 – June 2017):

In the 3rd Validation Committee meeting for PoC application period Oct'15-Dec'15, held on 30th September 2015, at NLDC conference Hall, CERC had proposed a methodology for ratification of projected data at RPC form.

In line with the decision in the Validation Committee meeting, Members may please submit generation, demand and YTC data for Q1 of 2017-18..

Members may please submit data for Q1 (2017-18).

D.5 Assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) by SLDC on respective Inter-State Transmission Corridor

Updated PSSE Base Cases have been **mailed to all the SLDCs on 01.12.16**. All SLDCs are requested to assess the Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) **for the month of January'16** using these cases, and submit the study cases and results to NERLDC **by 15th December, 2016**.

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 conducted by NERLDC will be shown during the meeting**.**

SLDCs are requested to check the TTC of their control areas as computed by NERLDC and **issue comments, if any by 20th December'16.**

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

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

Members may please discuss.

D.6 Information of Events of Load crash on account of inclement weather conditions:

As per directives of DPE & MoP, Govt. of India, NERLDC have to prepare reports indicating events in the Grid that occurred on account of inclement weather conditions, particularly events involving load crash. For preparation of these reports, the following inputs are required from affected states:

a. Date and Time-frame of such incidence ii. Affected areas
b. Reason for load crash iv. Tripping of LT feeders (33 kV / 11 kV level). SLDCs may indicate affected areas if detailed information is not available.
c. Quantum of load crash and generation loss v. Details of Restoration
d. Any corrective measures (presently taken / suggested for future)

A sample format which is being used by NERLDC for event reporting had been circulated.

As and when such events occur, SLDCs are requested to inform about the event to NERLDC immediately after the incident and prepare a report as per the above format and send the same to NERLDC at rtsdnerldc@gmail.com and nerldc@yahoo.co.in. It is pertinent to mention here that AEGCL, MePTCL & TSECL are sending the Load crash reports to NERLDC on regular basis.

The latest status as informed by NERLDC in 126th OCC:

Arunachal Pradesh	Not furnishing
Assam	Yes
Manipur	Yes
Meghalaya	Yes
Mizoram	Yes
Nagaland	Yes
Tripura	Yes (But not as per format)

NERLDC requested all the SLDCs to also indicate the restoration details & corrective measures adopted, in the load crash reports.

All state utilities, NERLDC may please intimate the status.

D.7 Furnishing of UFR Report and status of Implementation:

As per recommendation of enquiry Committee, the status of installation of UFR in NER was already circulated earlier. It is gathered that, 18.5 MW quantum is yet to be implemented in Arunachal Pradesh & Manipur.

The 123rd OCC forum decided that monthly report is not being furnished. As per clauses of relevant regulations, and Order of Hon'ble CERC in matter of Petition no. 113/MP/2014, NERLDC and NERPC are mandated to submit status of UFR operation and non-operation to CERC. SLDCs were thus requested to submit UFR operation details (feeder-wise quantum of load relief to be indicated) on monthly basis, and even if no UFR operated in particular month, it should indicated as NIL.

The latest status as informed by NERLDC in 125th OCC:

Arunachal Pradesh	Furnished for Sept'16
Assam	Furnished for Oct'16
Manipur	Furnished for Aug'16
Meghalaya	Furnished for Sept'16
Mizoram	Furnished for Sept'16
Nagaland	Furnished for Oct'16
Tripura	Furnished for Oct'16

NERLDC requested DoP Ar. Pradesh, MSPCL, MeECL and DoP Mizoram to submit the data for Oct'16 forthwith, and also requested all SLDCs to furnish their UFR operation reports in case of Grid Events.

NERPC/NERLDC may please inform the status.

D.8 Load Forecast Error:

At present day-ahead hourly load forecast data on daily basis is being prepared by NERLDC based on the data sent by SLDCs. It has been observed that there is a huge difference between the forecasted load and the actual demand met.

A comparison between the forecasted load and the actual demand met of all the states of NER was circulated earlier.

In 125th OCCM, AGM (SO-I), NERLDC stated that presently all SLDCs are furnishing day ahead load forecast data and it is observed that these figures vary considerably with actual drawal figures and requested all SLDCs to follow some procedure either with the help of previous day actual drawal pattern or similar day load pattern depending on the weather forecast or any other method which they feel suitable. In real time in case of any unforeseen change the same can be managed by partial requisition or URS requisition or purchase from market etc., whichever is suitable. He once again requested the SLDCs to provide the procedures being followed.

In 126th OCCM, NERLDC displayed a comparison graph of one particular day in October, depicting the variations in Load forecast versus Actuals. The variations were quite significant, and even the diurnal trend of load was not being captured in the load forecasts. NERLDC requested all SLDCs to share the forecast methodology being followed, for improvement and bringing in accuracy in the forecasts.

NERLDC may please intimate the status.

D.9 Submission of Weekly Outage Report by Utilities.

NERLDC has provided format for submission of weekly outage report by all utilities of NER. The weekly outage reports are required for analysis of Tripping/ Grid Disturbances by Sub-group Committee of NERPC. In absence of the reports it is very difficult to find out the root cause.

MSPCL, MePTCL, P&E, Mizoram, DoP, Nagaland, BgTPP, AGBPP, AGTPP, DHEP, Loktak, Palatana and Kopili are furnishing the details on weekly basis regularly.

DoP, Arunachal Pradesh, AEGCL Ranganadi and Khandong are not furnishing as per the format. DoP, Arunachal Pradesh, AEGCL Ranganadi and Khandong are requested to furnish the details as per the formats.

TSECL is not furnishing the details. NERLDC has requested TSECL repeatedly to furnish the weekly outage report but till now no report has been received. Many disturbances related to Tripura system cannot be analysed properly in absence of these reports.

In 125th OCCM, Sr. Manager, TSECL agreed to submit weekly outage reports to NERLDC. NERLDC requested DoP, Arunachal Pradesh, AEGCL Ranganadi and Khandong to furnish the details as per the formats.

In 126th OCCM, NERLDC intimated that TSECL is presently giving the weekly outage data since 01.09.2016 and had given till last week.

It was, however, noted that the weekly outage report being furnished does not have complete details required for analysis of grid events. The reasons for tripping as per weekly outage report is same as that noted during real-time operations in most cases. NERLDC requested all constituents to provide more relevant data in the weekly outage report.

NERLDC may please intimate the status.

D.10. NER common data centre (DC) and disaster recovery (DR) centre

As per R-APDRP Scheme the cost of DC & DR beyond the sanctioned amount of GOI and other associated costs to run & operate both the DC & DR is to be shared by all the NER States on the basis of No. of Towns approved under the R-APDRP Schemes. It is noticed that there is inordinate delay in receiving the share from various beneficiary states against the claim raised by APDCL & TSECL. This is causing difficulties in managing the regular O & M operation. Matter be discussed for expediting the release of money by all the NER states.

The 17th TCC referred the matter to OCC forum for discussion.

In 126th OCCM, Sr. Manager, TSECL informed that since commercial operation of the DR centre at Agartala bills were raised to the other six states but no payment has been made till date, though it was decided at the time of conception that DC&DR centre operating costs are to be shared among all the states. The forum urged TSECL to provide details in elaborate manner. Sr. Manager, TSECL agreed to revert back in next OCC meeting.

TSECL may please deliberate

D.11. State-wise energy requirement for 2017-18 and growth w.r.t. 2016-17

CEA vide letter dated. 28.09.2016 stated that as per instructions from MoP the assessment and finalization of generation targets for 2017-18 has been preponed by two months. Considering the urgency it is desired that all SLDCs furnish energy requirement and demand growth for 2017-18.

NERPC/CEA may please deliberate.

D.12. Certification of open cycle generation of AGBPP for FY 15-16:

As per methodology decided in 87th OCC meeting and modus operandi decided in 19th & 20th CCM the open cycle generation of AGBPP for FY 15-16 is to be certified. Accordingly it is requested of NERLDC to kindly verify "the generator operation in OC mode due to some fault and problem is resolved in a reasonable time, with DC revision". After verification by NERLDC, certification would be done by NERPC.

NERLDC may please inform the outage verification status.

Members may please deliberate.

D.13. SPS- Testing without information on dated 23/08/2016:

At 14:21 Hrs OTPC – Palatana GT-1 & GT-2 Generator Line breaker tripped, and both GT-1 & GT-2 came into House load. On analyzing the tripping event it was found that 400 KV Silcher- Byrnihat trip signal received at Palatana end, that lead to tripping of GT-1 & GT-2 Generator Line breakers on SPS-3 protection.

The 127th OCC forum requested NERTS to kindly clarify whether SPS actually operated and whether a mal-operation occurred.

NERTS may please inform the status.

D.14. Renovation and Modernization of Umiam Stage-III HEPP (2 x 30 Mw)

In line with the policy for taking up Renovation & Modernization (R & M) of old hydroelectric power plants initiated by the Ministry of Power, Government of India, MEECL has decided to take up R & M of Umiam Stage-III HEP (2 x 30 Mw) commissioned in 1979,considering the aggravated condition of the power plant.

In 126th OCCM, S.E., MePGCL informed that Umiam Stage-III has already completed its useful life having been in service for 37 years since commissioning. He requested that R&M cost be funded from PSDF.

S.E.(C&O),NERPC informed that R&M of power plants are not specifically funded from PSDF under PSDF regulations. However they may be funded under extraordinary Cl.4.1.(e). He requested MePGCL to submit the proposal at the earliest so that the matter may be followed up with NLDC/CERC.

MeECL may please inform the status.

D.15. Reporting of commissioned transmission elements for TARANG App.

TARANG (Transmission App for Real Time Monitoring and Growth) Mobile App & Web Portal has been developed by REC Transmission Projects Company Ltd (RECPTL) for progress monitoring of transmission systems on Pan-India basis, which was launched by Hon'ble Minister of State for Power on 17th August 2016. The app can be downloaded on smartphones or be accessed through its website (www.tarang.website).

As part of the responsibility charter, POSOCO has been assigned the responsibility to update the systems under operation in the 'Completed Transmission Systems' section of the app.

In order to provide this information to the Ministry of Power, it is requested to provide the details of commissioning of transmission elements in respective state for each month by the 3rd day of the next month to NERLDC.

In 126th OCCM, Sr. Engineer, NERLDC emphasized the need for furnishing this data for TARANG app devised by Ministry of Power, Govt. of India for information to the public. It was also mentioned that during recent visit to Guwahati on 11.11.2016, the same was emphasized by Joint Secretary (Power). NERLDC requested all utilities to submit the data to: nerldc@yahoo.co.in by 3rd of every month for the previous month.

NERLDC may please inform the status.

D.16. Frequency control through Primary response from governor action on generating units

In continuation to discussions in 125th OCC meeting on this matter, and letter from ED-NLDC dtd. 10th October'16, it is requested that all generators may take urgent action to ensure Primary response as per stipulation [As per Sec.1(4) of Part-II of CEA's Grid Connectivity standards, 0-10% droop for hydro generator governors ; 3-6% droop for Thermal generator governors].

Also, as per Section 11.2.(i) of CEA's Technical Standards for Construction, all generating stations must store important analog data in 1 seconds interval.

NEEPCO has informed that AGTPP and Ranganadi HEP have properly working DAS, that are capable of storing Machine side data like Voltage, frequency, Active power generation, Reactive power generation, Line currents, etc. Also, it was confirmed in last OCC that DAS at AGBPP is installed but not time-synchronized.

All generating stations may confirm that their governors are properly tuned for giving primary response as per regulations.

Also, NEEPCO may intimate the status of installation of DAS for their remaining generating stations.

In 126th OCCM, Sr. Manager, NEEPCO informed that all their plants have DAS installed. AGM(SO-I),NERLDC clarified that in case of oscillations/ disturbance response of generators(in ms) cannot be captured by SCADA due to low resolution of data.

NERLDC requested NEEPCO to ensure that all their installed DAS are time synchronized and data during events is not lost. Also, the resolution of data of DAS to be checked by NEEPCO and ensured that at least 1 sec resolution data is available.

NEEPCO may please inform the status.

D.17. Strengthening of Southern Part of NER Grid:

Major loads in Southern part of NER grid to power systems of South Assam, Tripura (including radial load to Bangladesh), Mizoram & Manipur, are fed through 400/132 kV substation at Silchar (PG).

Also, maximum generation capacity of NER is present in Southern part of NER Grid (Palatana = 726 MW; AGTPP = 130 MW; Loktak = 105 MW; Monarchak = 101 MW; Generation capacity of Tripura, Mizoram)

Major upcoming corridors are planned or already under operation / execution to major load centers in Southern part of NER Grid like 400 kV Silchar – Misa D/C, 400 kV Silchar – Melriat D/C, 400 kV Silchar – Palatana D/C, 400 kV Silchar – Byrnihat – Bongaigaon, 400 kV Silchar – Azara – Bongaigaon, 400 kV Silchar – Imphal D/C and 400 kV Silchar – P.K.Bari D/C.

In case of eventuality of 400/132 kV Silchar Sub-station, Southern Part of NER Grid will be insecure.

In view of this issue, it is proposed to implement the following for strengthening of Southern Part of NER Grid:-

400 kV Imphal (PG) – Melriat D/C

400 kV Melriat – Palatana D/C

400 kV Surjamaningar – Bangladesh Node – West Bengal Node D/C

In 126th OCCM, Sr. Engineer (SO-II), NERLDC said that for Southern part of NER Grid, all the important corridors are originating from 400 kV Silchar substation. In case of any eventuality causing outage of 400 kV Silchar (PG) substation, the entire Southern part of NER Grid would collapse. With increased load being served in utilities of NER, it is necessary to plan a parallel corridor bypassing 400 kV Silchar, so as to ensure security of the entire NER Grid.

The proposal was agreed in principle by the forum.

The forum requested NERLDC to conduct further studies and revert back, so that it can be placed in upcoming SCM of NER.

NERLDC may please inform the status.

D.18. Revision of restoration procedure documents-furnishing latest updating state network/SLD/DG set details etc.--letter issued from nerldc on 24/10/16

NERLDC is going for revision of restoration procedure shortly, so it is very important to incorporate all latest state network/SLD/DG set details. A letter in this reference has already been sent but reply from constituents has not received till today. So all are requested to send the information at the earliest.

NERLDC may please inform the status.

AGENDA ITEMS FROM NERLDC:

D.19. Electricity Demand Patterns of all states of NER for 2008-2016

A report has been prepared by POSOCO for analysis of Demand Patterns of years 2008-2016 period. Based on the report, patterns can be identified for meeting the demand in respect of time of day, day of year, evening / morning peak, seasons, etc.

The report has been mailed to all the states of NER on 17th Nov'16. It is requested that concerned persons of states may go through the report and mark their comments in respect of the specific state-wise pattern observed in meeting demand. This would help identifying constraints / characteristics of load / others in states of NER. Any specific inputs like local holiday, festivals etc may please be mentioned as mapped with the profile of Demand met.

Mapping of the load patterns is required in respect of the following parameters:

Constraints in power drawal from ISTS system due to congestion / constraint in ISTS lines.

Constraints in power drawal from ISTS system due to congestion / constraint in Intra-State lines

Constraints in load serving by DISCOM on account of non-adequate Distribution Transformation capacity, leading to chopping-off of Peak Demands

Low power availability due to Financial Constraints of DISCOM / Regulation of Power Supply, etc.

Disturbance in state on account of militancy, etc. leading to poor growth of economy Imposition of Demand restriction by DISCOM to reduce AT&C losses. Political decisions in state leading to high growth / decay of demand Prevailing Climatic conditions.

Human behavior like early riser, Office closing and starting times, etc.

Type of loads – Residential (Lighting, Heating, Air-conditioning etc), Commercial (Heavy industry requiring constant power supply, etc.), Tariff mechanism of states = Time of use, etc. Availability of Peak Load / Base Load plants in state Etc.

For getting constraints in meeting load or characteristics of load, report may be forwarded to concerned persons in DISCOM for comments. All the comments may be compiled together by SLDC and send to NERLDC via email to nerldc@yahoo.co.in

Members may please discuss.

D.20. Finalization of the Annual Load Generation Balance Report (LGBR) for Peak as well as Off-peak scenarios and the Annual outage plan for 2017-18 by 31.12.16 as per IEGC

As per IEGC, each SLDC shall submit LGBR for its control area, for peak as well as off-peak scenario, by 31st 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.

As per IEGC, all SEBs/STUs, Transmission Licensees, CTU, ISGS, IPPs, MPPs and other generating stations shall provide to the respective RPC Secretariat their proposed outage plan in writing for the next financial year by 31st October of each year. These shall contain identification of each generating unit/transmission line/ICT etc., the preferred date for each outage and its duration and where there is flexibility, the earliest start date and latest finishing date.

For performing system studies, load forecasting, outage management and various other activities, it is necessary that LGBR report for the upcoming Financial Year is available beforehand. All entities are requested to furnish their details to NERPC for finalisation of LGBR.

For purpose of system studies, it is requested that Demand Figures of states for the months of April'17, May'17, and June'17 be indicated to NERLDC.

Members may please discuss

D.21. Status of reactors under outage in NER Grid

400 kV Nodes in NER Grid are experiencing high voltage during Off-Peak hours. As per information available with NERLDC, the following reactors are under outage:

63 Mvar Line Reactor of 400 kV Balipara - Bongaigaon III line at Bongaigaon is under out since 12.11.16.

400 kV, 80 Mvar Bus Reactor at Misa is under outage since 03.12.16.
400 kV, 63 Mvar Bus Reactor at Byrnihat is under outage since 09.12.14
400 kV, 80 Mvar Bus Reactor at Palatana is under outage since 15.03.16
200 kV, 2x12.5 Mvar Bus Reactor at Samaguri is under long outage.
132 kV, 2x2 Mvar Bus Reactor at Dharmanagar is under long outage.

It is requested to inform the status of restoration of the above reactors at the earliest.

Apart from the above reactors, it is also requested to provide commissioning status of the following reactors:

20 Mvar Line Reactor of 220 kV AGBPP - New Mariani (PG) line at AGBPP

Conversion of line Reactors of 400 kV Balipara - Bongaigoan I & II lines at Balipara and Bongaigaon to Bus reactors (4 Nos.)

400 kV, 1x125 Mvar Bus Reactor at Balipara
400 kV, 1x125 Mvar Bus Reactor at Bongaigaon.
400 kV, 1x80 Mvar Bus Reactor at Ranganadi.
220 kV, 1x31.5 Mvar Bus Reactor at Mokokchung (PG).

In view the Critical voltage profile of NER Grid in Off-Peak hours, it is suggested no shutdown of Reactors in NER Grid shall be availed unless in case of Emergency.

Members may please discuss

D.22. Validation of PSSE SAV Case used for PoC calculations

Checking of the Base Case information is absolutely essential for computation of correct PoC Charges and Losses.

Excel file containing data of PSSE Network that will be used for performing studies for Q4 of 2016-17 (Jan'17 to Mar'17) was mailed to all the constituents on 25th November'16. The fields that need to be checked were highlighted in Yellow and a brief explanation is also indicated. It was requested to check the Excel File thoroughly so that it represents the present network.

As per discussions in Validation Committee Meeting of NER on 24.11.2016 for PoC, it was requested to intimate the following for consideration in base case:

New Generating stations declared/expected to be declared COD till 31st December 2016

New ISTS lines whose expected COD is by 1st February 2017

Comments on base case has been received only from SLDC-Assam, SLDC-Meghalaya, SLDC-Tripura, OTPC and NETC. Utilities were requested to send their comments by 30th November 2016, for consideration in Jan'17 – Mar'17 case.

All utilities are requested to give their comments at the earliest.

Also, BgTPP-NTPC, NERTS-POWERGRID and NEEPCO / DoP, Nagaland are requested to confirm CoD of following elements before 1st February 2017:

- 400/220 kV, 2x315 MVA ICTs at Bongaigaon => By Dec'16 as per 126th OCC
- 220 kV, 20 MVAR line reactor at AGBPP => By 15th December as per 126th OCC
- 132 kV Doyang - Wokha S/C => By 15th December as per 126th OCC

Members may please discuss.

D.23. Timely submission of data for preparation of reports

Various reports prepared by NERLDC for onward reporting to various agencies and information dissemination. For preparation of these reports, the following information are required by NERLDC as per the stipulated timeframe:

Monthly Unit-wise generation of Generating plants (Central / State / Private) by 01st date of every month for previous month (For Unit-wise generation report)

Maximum demand met figures by States by 01st of every month for previous month (For Power Supply Position report)

Projected Node-wise Demand and Generation Figures of 5 months ahead (ex. For April'17 in month of Dec'16) by 10th of every month, for Monthly TTC/ATC computations

Monthly Power Supply Position (PSP) and Unit-wise Generation (UG) report of NER are prepared by NERLDC by 1st of every month for onward reporting to CEA, MoP, NERPC.

Inspite of repeated requests to NTPC for furnishing the Unit-wise generation details, the details are not being received on time. This is causing delay in reporting to NERPC/CEA / MoP.

The matter had been specifically raised with BgTPP-NTPC vide email dtd. 01st November'16. However, NTPC did not submit their unit-wise generation data of Nov16.

Similar issue is being faced for Monthly TTC computations, where BgTPP-NTPC is not furnishing their projected injection figures on time, after repeated requests.

Members may please discuss.

D.24. Comments on Staff Paper or Draft Regulations

Honourable CERC has notified the following Staff Paper or Draft Regulations:

Staff Paper on National Open Access Registry vide public notice 25th November'16. It is available at http://www.cercind.gov.in/2016/draft_reg/SP.pdf

The comments/suggestions of the stakeholders are invited on the above staff paper latest by 20.12.2016.

Members may please discuss

D.25. Constraint in Bipolar Operation of +/- 800 kV HVDC Biswanath Chariali – Agra

As communicated by NLDC, in case of operation of the HVDC Bipole BNC-Agra link for power flow in Agra-BNC direction, it is not possible to operate the Bipole link in Constant Power mode. In this scenario for operation in Agra-BNC direction, only constant current mode is possible wherein upon tripping of any pole, the other will not share load and the filters may also not disconnect.

During lean hydro (Winter) months, NER may import power from NR through this Bipole link to relieve congestion of Eastern-Regional grid. In constant current mode operation, if the filter banks do not trip immediately after reduction of power flow through the link, the 400 kV Nodes in NER may experience severe overvoltage (due to low fault level of around 4000 MVA at 400 kV Biswanth Chariali) that may lead to tripping of the 400 kV lines from Biswanth Chariali, Ranganadi, Balipara, Bongaigaon, and trigger a major disturbance in NER.'

Considering the importance of this link in operation of NER grid, NERTS may intimate the following:

- Issues related to operation of +/- 800 kV Agra-BNC bipole in Constant Power Mode
- Time required for disconnection of Filter Banks at BNC in case while running in Constant Current Mode, 1 Pole gets blocked / tripped?
- Maximum possible Power Flow in Agra to BNC direction (separately for different modes of operation)

NERTS, POWERGRID may intimate the forum.

D.26. LFO in NER Grid from 09:20 Hrs on 08th Dec'16 at AGTPP.

A low frequency oscillation has been observed in NER Grid from around 09:20 Hrs on 08th Dec'16.

The beginning of oscillation coincides with beginning of Desynchronization process of AGTPP GT # 2, that was taken under Emergency Shutdown. Also, one lobe of continuous oscillation end coincides with the time of actual Desynchronization of AGTPP GT # 2.

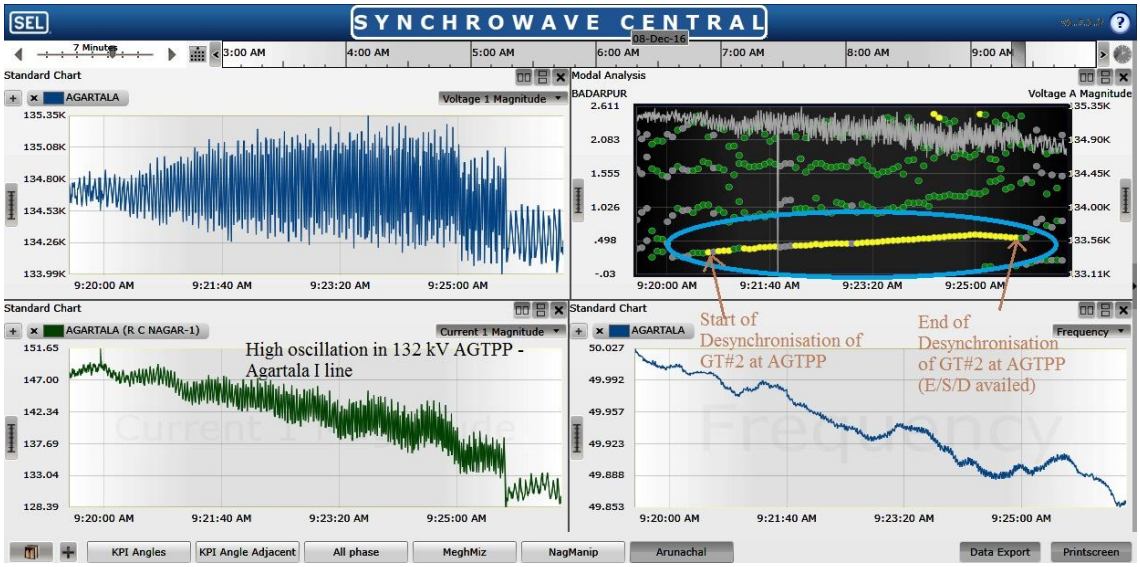
The oscillations are continuously going on near 132 kV Agartala bus, as observed from PMU, and is prominently in voltage. There is no significant effect on Active power / frequency. At present, there is about 5-6 A oscillation in current on 132 kV Agartala - AGTPP I line.

Considering the above situation and request from AGTPP to bring down voltage from 136 kV (Which is normal) to 132 kV (Nominal). It is suspected that AVRs at units of AGTPP are acting in a manner leading to growth of oscillations.

It is also to be mentioned that Sustained Low Frequency oscillations around 0.4 Hz is being observed at 132 kV Agartala PMU over the last few days.

AGTPP is requested to view this matter seriously and check their terminal voltage, excitation currents, and also furnish to NERLDC the Event Logger from 09:15 Hrs of 8th Dec'16 onwards.

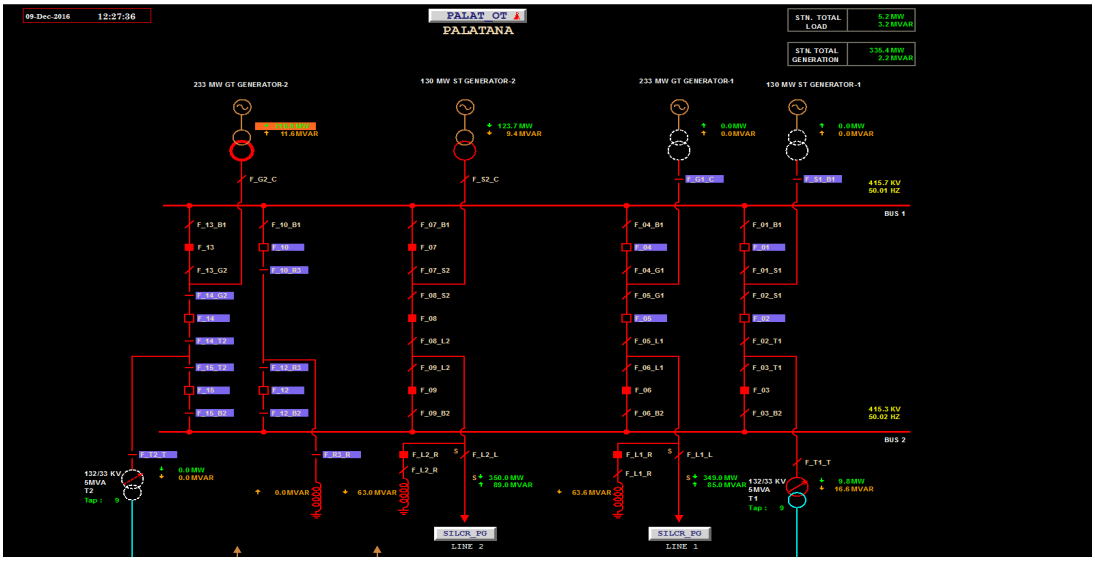
AGTPP, Palatana, Monarchak and TPGL is requested to provide data of 1 milli-second resolution of Terminal voltage of units / MW generation / MVAR generation.



Members may please discuss

D.27. Breaker arrangement at Palatana:

OTPC, Palatana machine tripped at 1155 hrs on 07.12.16. OTPC, Palatana are keeping only one tie breaker closed for BUS 1 and BUS 2. So tripping of that tie CB is isolating Generator side BUS and Line side BUS. In normal circumstance all the Tie Breaker should be in service and parallel elements [e.g. 400 kV Silchar -Palatana D/C lines] should not be connected from the same BUS.



Members may please discuss.

D.28. Shut Down for OPGW related works:

Discussion and approval from NERPC is required for OPGW replacement activity for proper co-ordination.

Members may please discuss.

D.29. Dedicated voice communication and Data channel:

Dedicated voice communication with Substations and Generating Stations needs to be checked daily. Currently in most of the stations only one link is installed. In some stations VOIP phones are out (NLDC, Doyang, Kathalguri etc). Redundant of links need to be established on priority. Details of status of voice communication is attached in Annexure-I.

SCADA data from KATHALGURI, DOYANG, KOPILI, KHANDONG, RANGANADI, ITANAGAR, ZIRO etc are out since long due to which Grid management activity is severely affected.

RTU Outage details are given below:

Sl. No.	Station Name	Date of Outage
1	Ranganadi	21.05.16
2	Ziro	07.08.16
3	Kopili	09.05.15
4	Doyang	24.01.15
5	Khandong	16.09.16
6	Khatalguri	25.07.16
7	Haflong	14.09.16
8	Itanagar	01.08.16

All stake holders are requested to take suitable action for early restoration.

Members may please discuss

AGENDA ITEM FROM NETC:

D.30. NETC-Palatana-Bongaigaon transmission system: protection work at 8 nos. locations of 400 kV D/C Palatana-Silchar line vulnerable due to massive land slide and soil erosion

Palatana-Bongaigaon 400 kV D/C transmission system was developed for evacuation of power from 726.6 MW capacity, Gas Based Combined Cycle Power Plant (GBCCPP) of ONGC Tripura Power Company (OTPC) situated at Palatana, Tripura. The length of transmission system is 663 Km. 5 assets of the transmission system were commissioned in phases from 2012 to 2015.

Palatana-Silchar 400 kV D/C transmission line was commissioned in the month of July 2012 and is passing through 73 KMs of forest stretch in the state of Tripura. During construction, hill cutting was minimised by using uneven leg extensions for better stability.

During last year, this region experienced frequent earthquakes of high intensity and heavy monsoon with incessant rains which is not a normal phenomenon. The horizontal seismic forces are said to have created voids in soil in lower strata and water seepage caused sinkage of land mass.

There were several road blockage and land-slides experienced last year and the subject transmission line corridor also got affected.

Due to foregoing, 8 towers location of 400 kV D/C Palatana-Silchar transmission lines are badly affected which is beyond the control of NETC. Temporary measures were taken in few most vulnerable locations by POWERGRID who is Project Management Consultant for this project. These measures are not working satisfactorily and hence immediate steps shall be taken for protection of 8 nos. towers before onset of next monsoon.

The details of locations with site photographs and estimated expenditure enclosed at **Annexure D.30**. The estimated expenditure of Rs. 70.77 Lakhs has been worked out by POWERGRID.

Therefore, it is proposed to build protection wall at 8 locations on immediate basis. Booking of such expenditure is proposed to be met through PoC mechanism.

Submitted for kind consideration and approval please.

ADDITIONAL AGENDA OF POWERGRID

AGENDA – 1 : Re-conductoring of 132kV Kopili-Khandong # 1 with HTLS Conductor

The transformation capacity of Kopili is going to become 2X160MVA, 220/132kV after installation of 2nd ICT which is under progress. However, there are two 132kV circuits between Kopili and Khandong HEP. The Circuit # 2 is strung with ZEBRA conductor but, the Old Circuit # 1 is strung with ACSR Panther conductor. Thus capacity of Circuit # 1 is not sufficient to evacuate power between Kopili and Khandong in the event of outage of Circuit # 2. Thus, to have (N-1) scheme in transmission between Kopili and Khandong HEP the existing ACSR Panther Conductor is to be replaced with HTLS Panther equivalent conductor in Circuit # 1.

Members may please discuss

AGENDA – 2 : Transmission Line Surge Arrester – An Alternative to arrest Frequent Tripping of 132kV Lines in NER during Monsoon

In North Eastern Region around 70% Trippings of Lines are mainly due lightening. Again more than 80% Lightning related tripping are in 132kV Lines. In order to arrest tripping of 132kV Transmission lines of NER during lightning installation of TLSA is must.

A presentation on TLSA is attached for necessary discussion.

Issue may be discussed

Any other item:

Date and Venue of next OCC

It is proposed to hold the 128th OCC meeting of NERPC on second week of January, 2016. The date & exact venue will be intimated in due course.

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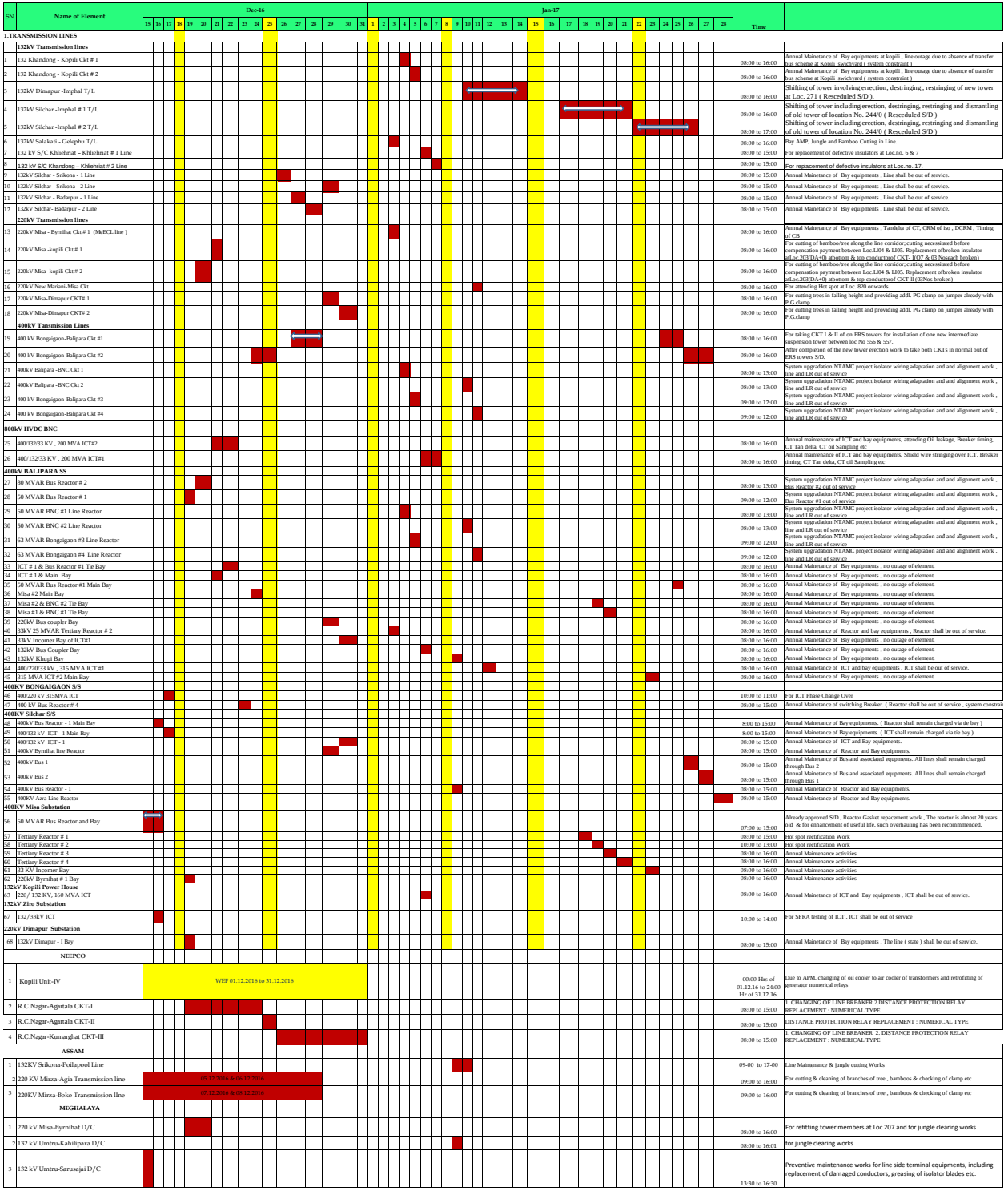
PROPOSED SHUTDOWN OF ELEMENTS FOR 127th OCCM- BAR CHART



SN	Name of Element	Time	
I.TRANSMISSION LINES			
	132kV Transmission lines		
1	132 Khandong - Kopili Ckt # 1	08:00 to 16:00	Annual Mainetance of Bay equipments at kopili , line outage due to absence of transfer bus scheme at Kopili switchyard (system constraint)
2	132 Khandong - Kopili Ckt # 2	08:00 to 16:00	Annual Maintenance of Bay equipments at kopili , line outage due to absence of transfer bus scheme at Kopili switchyard (system constraint)
3	132kV Dimapur -Imphal T/L	08:00 to 16:00	Shifting of tower involving erection, destringing , restringing of new tower at Loc. 271 (Resceduled S/D).
4	132kV Silchar -Imphal # 1 T/L	08:00 to 16:00	Shifting of tower including erection, destringing, restringing and dismantling of old tower of location No. 244/0 (Resceduled S/D)
5	132kV Silchar -Imphal # 2 T/L	08:00 to 17:00	Shifting of tower including erection, destringing, restringing and dismantling of old tower of location No. 244/0 (Resceduled S/D)
6	132kV Salakati - Gelephu T/L	08:00 to 16:00	Bay AMP, Jungle and Bamboo Cutting in Line.
7	132 kV S/C Khlieihriat – Khlieihriat # 1 Line	08:00 to 15:00	For replacement of defective insulators at Loc.no. 6 & 7
8	132 kV S/C Khandong – Khlieihriat # 2 Line	08:00 to 15:00	For replacement of defective insulators at Loc.no. 17.
9	132kV Silchar - Srikona - 1 Line	08:00 to 15:00	Annual Mainetance of Bay equipments , Line shall be out of service.
10	132kV Silchar - Srikona - 2 Line	08:00 to 15:00	Annual Mainetance of Bay equipments , Line shall be out of service.
11	132kV Silchar - Badarpur - 1 Line	08:00 to 15:00	Annual Mainetance of Bay equipments , Line shall be out of service.
12	132kV Silchar- Badarpur - 2 Line	08:00 to 15:00	Annual Mainetance of Bay equipments , Line shall be out of service.
	220kV Transmission lines		
13	220kV Misa - Byrnihat Ckt # 1 (MeECL line)	08:00 to 16:00	Annual Mainetance of Bay equipments , Tandelta of CT, CRM of iso , DCRM , Timing of CB
14	220kV Misa -kopili Ckt # 1	08:00 to 16:00	For cutting of bamboo/tree along the line corridor; cutting necessitated before compensation payment between Loc.1,104 & 1,105. Replacement oftroken insulator atLoc.203(DA+0) abottom & top conductorof CKT- I(O7 & 03 Noseach broken)
15	220kV Misa -kopili Ckt # 2	08:00 to 16:00	For cutting of bamboo/tree along the line corridor; cutting necessitated before compensation payment between Loc.1,104 & 1,105. Replacement oftroken insulator atLoc.203(DA+0) abottom & top conductorof CKT-II (IINos broken)
16	220kV New Mariani-Misa Ckt	08:00 to 16:00	For attending Hot spot at Loc. 820 onwards.
17	220kV Misa-Dimapur CKT# 1	08:00 to 16:00	For cutting trees in falling height and providing addl. PG clamp on jumper already with P.G.clamp
18	220kV Misa-Dimapur CKT# 2	08:00 to 16:00	For cutting trees in falling height and providing addl. PG clamp on jumper already with P.G.clamp
	400kV Tansmission Lines		
19	400 kV Bongaigaon-Balipara Ckt #1	08:00 to 16:00	For taking CKT I & II of on ERS towers for installation of one new intermediate suspension tower between loc No 556 & 557.
20	400 kV Bongaigaon-Balipara Ckt #2	08:00 to 16:00	After completion of the new tower erection work to take both CKTs in normal out of ERS towers S/D.
21	400kV Balipara -BNC Ckt 1	08:00 to 13:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
22	400kV Balipara -BNC Ckt 2	08:00 to 13:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
23	400 kV Bongaigaon-Balipara Ckt #3	09:00 to 12:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
24	400 kV Bongaigaon-Balipara Ckt #4	09:00 to 12:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
	800kV HVDC BNC		
25	400/132/33 KV , 200 MVA ICT#2	08:00 to 16:00	Annual maintenance of ICT and bay equipments, attending Oil leakage, Breaker timing, CT Tan delta, CT oil Sampling etc
26	400/132/33 KV , 200 MVA ICT#1	08:00 to 16:00	Annual maintenance of ICT and bay equipments, Shield wire stringing over ICT, Breaker timing, CT Tan delta, CT oil Sampling etc
	400kV BALIPARA SS		
27	80 MVAR Bus Reactor # 2	08:00 to 13:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , Bus Reactor #2 out of service
28	50 MVAR Bus Reactor # 1	09:00 to 12:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , Bus Reactor #1 out of service
29	50 MVAR BNC #1 Line Reactor	08:00 to 13:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
30	50 MVAR BNC #2 Line Reactor	08:00 to 13:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
31	63 MVAR Bongaigaon #3 Line Reactor	09:00 to 12:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
32	63 MVAR Bongaigaon #4 Line Reactor	09:00 to 12:00	System upgradation NTAMC project isolator wiring adaptation and and alignment work , line and LR out of service
33	ICT # 1 & Bus Reactor #1 Tie Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
34	ICT # 1 & Main Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
35	50 MVAR Bus Reactor #1 Main Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
36	Misa #2 Main Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
37	Misa #2 & BNC #2 Tie Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
38	Misa #1 & BNC #1 Tie Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
39	220kV Bus coupler Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
40	33kV 25 MVAR Tertiary Reactor # 2	08:00 to 16:00	Annual Mainetance of Reactor and bay equipments , Reactor shall be out of service.
41	33kV Incomer Bay of ICT#1	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
42	132kV Bus Coupler Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
43	132kV Khupi Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
44	400/220/33 kV , 315 MVA ICT #1	08:00 to 16:00	Annual Mainetance of ICT and bay equipments , ICT shall be out of service.
45	315 MVA ICT #2 Main Bay	08:00 to 16:00	Annual Mainetance of Bay equipments , no outage of element.
	400KV BONGAIGAON S/S		
46	400/220 kV 315MVA ICT	10:00 to 11:00	For ICT Phase Change Over
47	400 kV Bus Reactor # 4	08:00 to 15:00	Annual Mainetance of switching Breaker. (Reactor shall be out of service , system constrain
	400KV Silchar S/S		
48	400kV Bus Reactor - 1 Main Bay	8:00 to 15:00	Annual Mainetance of Bay equipments. (Reactor shall remain charged via tie bay)
49	400/132 kV ICT - 1 Main Bay	8:00 to 15:00	Annual Mainetance of Bay equipments. (ICT shall remain charged via tie bay)
50	400/132 kV ICT - 1	08:00 to 15:00	Annual Mainetance of ICT and Bay equipments.
51	400kV Byrnihat line Reactor	08:00 to 15:00	Annual Mainetance of Reactor and Bay equipments.
52	400kV Bus 1	08:00 to 15:00	Annual Mainetance of Bus and associated equipments. All lines shall remain charged through Bus 2
53	400kV Bus 2	08:00 to 15:00	Annual Mainetance of Bus and associated equipments. All lines shall remain charged through Bus 1
54	400kV Bus Reactor - 1	08:00 to 15:00	Annual Mainetance of Reactor and Bay equipments.
55	400KV Azra Line Reactor	08:00 to 15:00	Annual Mainetance of Reactor and Bay equipments.
	400KV Misa Substation		
56	50 MVAR Bus Reactor and Bay	07:00 to 15:00	Already approved S/D , Reactor Gasket repacement work , The reactor is almost 20 years old & for enhancement of useful life, such overhauling has been recommmended.
57	Tertiary Reactor # 1	08:00 to 15:00	Hot spot rectification Work
58	Tertiary Reactor # 2	10:00 to 13:00	Hot spot rectification Work
59	Tertiary Reactor # 3	08:00 to 16:00	Annual Maintenance activities
60	Tertiary Reactor # 4	08:00 to 16:00	Annual Maintenance activities
61	33 KV Incomer Bay	08:00 to 16:00	Annual Maintenance activities
62	220kV Byrnihat # 1 Bay	08:00 to 16:00	Annual Maintenance activities
	132kV Kopili Power House		
63	220/ 132 KV, 160 MVA ICT	08:00 to 16:00	Annual Mainetance of ICT and Bay equipments , ICT shall be out of service.
	132kV Ziro Substation		
67	132/33kV ICT	10:00 to 14:00	For SFRA testing of ICT , ICT shall be out of service
	220kV Dimapur Substation		
68	132kV Dimapur - I Bay	08:00 to 15:00	Annual Mainetance of Bay equipments , The line (state) shall be out of service.
	NEEPCO		
1	Kopili Unit-IV	00:00 Hrs of 01.12.16 to 24:00 Hr of 31.12.16.	Due to APM, changing of oil cooler to air cooler of transformers and retrofitting of generator numerical relays
2	R.C.Nagar-Agartala CKT-I	08:00 to 15:00	1. CHANGING OF LINE BREAKER 2.DISTANCE PROTECTION RELAY REPLACEMENT : NUMERICAL TYPE
3	R.C.Nagar-Agartala CKT-II	08:00 to 15:00	DISTANCE PROTECTION RELAY REPLACEMENT : NUMERICAL TYPE
4	R.C.Nagar-Kumarghat CKT-III	08:00 to 15:00	1. CHANGING OF LINE BREAKER 2. DISTANCE PROTECTION RELAY REPLACEMENT : NUMERICAL TYPE
	ASSAM		
1	132KV Srikona-Poilapool Line	09-00 to 17-00	Line Maintenance & jungle cutting Works
2	220 KV Mirza-Agia Transmission line	09:00 to 16:00	For cutting & cleaning of branches of tree , bamboos & checking of clamp etc
3	220KV Mirza-Boko Transmission line	09:00 to 16:00	For cutting & cleaning of branches of tree , bamboos & checking of clamp etc
	MEGHALAYA		
1	220 kV Misa-Byrnihat D/C	08:00 to 16:00	For refitting tower members at Loc 207 and for jungle clearing works.
2	132 kV Umtru-Kahilipara D/C	08:00 to 16:01	for jungle clearing works.
3	132 kV Umtru-Sarusajai D/C	13:30 to 16:30	Preventive maintenance works for line side terminal equipments, including replacement of damaged conductors, greasing of isolator blades etc.

Day-time Shutdown

Continuaous S/D

Sl. No.	Station	ULDC Phone Nos.	Remarks
1	AGARTALA GAS	23640132/131	23640131 No. is not rspnding
2	AGARTALA SLDC	23810013/11	Not working
3	AIZAWL-PG	23640113	Ok
4	BADARPUR	23640134	Ok
5	BALIPARA	23640136/137	Ok
6	BONGAIGAON-PG 400KV	23640135/138	Ok
7	BONGAIGAON-PG 220 KV	Na	
8	MOKOKCHUNG	NA	
9	DIMAPUR-PG	23640142/143	Ok
10	DOYANG	23640145/120	Ok
11	HAFLONG	23640146	Ok
13	IMPHAL-PG	23640150/125/149/147	Ok
14	ITANAGAR	23640151	Not working
15	JIRIBUM	23640130	Not working
16	KATHALGURI	23640154	Ok
17	KHANDONG	23640117	Ok
18	KHLIEHRIAT PG	23640158	Ok
19	KOHIMA	Na	
20	KOLASIB	23640111	Not working
21	**KOPILI**	**23640114**	Ok
22	KUMARGHAT	23640112	Not working
23	LOKTAK	23640129	Ok
24	MISA	23640124	Ok
25	RANGANADI	23640119	Ok
26	***Silchar_PG***	***n/a***	
27	**Palatona**	**23640127**	Not working
28	**ZIRO PG**	**NA**	
29	**NEW MARIANI PG-**	**23640121**	Ok
30	**NTPC_BONGA**	**Na**	
31	**Byrnihat**	**n/a**	
32	**BNC**	**n/a**	

Annexure-A

Sl. No.	Tower Location	Estimated cost of protection work (in Rs.)	Photograph
01	Loc. 07 at Palatana, Udaipur	16,48,756.00	
02	Loc. 165 at Brahmacherra, Teliamura	2,81,938.00	
03	Loc. 449 at Chandpur, Near Churaibari	7,21,574.00	
04	Loc. 457 at Laxminagar, Near Churaibari	4,12,297.00	
05	Loc. 459 at Laxminagar, Near Churaibari	6,97,367.00	

06	Loc. 460 at Laxminagar, Near Churaibari	5,93,650.00	
07	Loc. 461 at Laxminagar, Near Churaibari	5,49,581.00	
08	Loc. 467 at Churaibari	21,71,616.00	
	Total:	**Rs. 70,76,779.00**	