North Eastern Regional Power Committee

Agenda
For
99th OCC & 23rd PCC Joint Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 16th July, 2014 (Wednesday)

Venue : "Coniferous Resort", Cherrapunjee.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 98th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 98th meeting of Operation Sub-committee held on 10th June, 2014 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2014/0143-0176 dated 16th June, 2014.

CONFIRMATION OF MINUTES OF 22nd MEETING OF PROTECTION SUB-COMMITTEE OF NERPC.

The minutes of 22nd meeting of Protection Sub-committee held on 10th June, 2014 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2014/0143-0176 dated 16th June, 2014.

No observations or comments were received from the constituents. The Sub-committee may confirm minutes of 98th OCCM & 22nd PCCM of NERPC.

ITEMS FOR DISCUSSION

B. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING JUN, 2014

As per the data made available by NERLDC, the grid performance parameters for June, 2014 are given below:

NER PERFORMANCE DURING JUN, 2014

	Energy Met(MU)			Energy Requirement (MU)		
			% inc(+)			% inc(+)
States	Jun-14	May-14	/dec(-)	Jun-14	May-14	/dec(-)
Arunachal Pradesh	47.01	45.54	3.2	49.38	48.17	2.5
Assam	684.38	592.54	15.5	742.77	655.00	13.4
Manipur	45.53	45.53	0.0	48.22	48.42	-0.4
Meghalaya	126.19	114.97	9.8	155.41	133.81	16.1
Mizoram	35.23	31.98	10.2	37.17	34.27	8.5
Nagaland	45.58	45.53	0.1	47.79	47.81	0.0
Tripura	91.19	92.31	-1.2	97.46	99.22	-1.8
Region	1075.10	968.4	11.0	1178.20	1066.71	10.5

	DEMAND MET IN MW		% inc(+)	DMEMAND IN MW		% inc(+)
States	Jun-14	May-14	/dec(-)	Jun-14	May-14	/dec(-)
Arunachal Pradesh	110	111	-0.9	111	115	-3.6
Assam	1215	1212	0.2	1343	1332	0.8
Manipur	117	109	7.3	118	110	7.1
Meghalaya	289	296	-2.3	294	299	-1.7
Mizoram	74	73	1.4	75	75	0.6
Nagaland	111	104	6.7	115	105	9.9
Tripura	230	233	-1.2	235	236	-0.4
Region	1998	1986	0.6	2252	2140	5.3

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	Jun-14	May-14
Total Generation in NER (Gross)	920.06	711.27
Total Central Sector Generation (Gross)	576.11	434.45
Total State Sector Generation (Gross)	343.95	276.82
Inter-Regional Energy Exchange		
(a) NER-ER	13.42	14.792
(b) ER-NER	210.88	280.435
© Net Import	197.46	265.643

AVERAGE FREQUENCY (Hz)

Month--->	Jun-14	May-14
	% of Time	% of Time
Below 49.9 Hz	37.28	22.3
Between 49.9 to 50.05 Hz	45.31	53.04
Above 50.05 Hz	17.41	24.66
Average	49.93	49.98
Maximum	50.67	50.59
Minimum	49.32	49.41

From the above table, it is seen that energy requirement & requirement met (MU) of the region increased considerably.

C.1 Synchronization of Pallatana Module -I

The CoD of Unit # 1 of OTPC was declared on 04.01.2014 and 3rd Gas Booster Compressor (GBC) is still in BHEL's factory at Hyderabad.

During 98th OCC meeting, GM, OTPC regretted the situation and stated that due care will be taken in future. Further, he informed that PG test for Unit #1 had been conducted successfully and all the tests pertaining to Unit #1 has been completed. He thanked NERLDC, NERPC for their efforts and co-ordination during the PG test and informed that now the Unit#1 is stable. Further, GM (Plant), OTPC informed the members that there is shortage in supply of gas by ONGC despite several requests for increasing the supply. About 3.19 MMSCD will be required for generating power at full load from the two units of Pallatana. The present supply of gas is enough to run one unit only. ONGC intimated that around 2.65 MMSCD of gas may be supplied from September 2014 which will be sufficient to generate power from the two units at 76 % Plant Load Factor, even though the normative PLF is 85 %. He informed the members that Unit-II is ready to be synchronized provided there is sufficient supply of gas for both the units. Since the enhancement of gas supply may be expected from September only, it was agreed that Pallatana will run at least one of the Units round the clock to increase the power availability in the region during severe shortage. On enquiry from the members, GM (Plant), OTPC confirmed that Unit-II is capable of generating power and will start generating immediately in case of outage of Unit-I. Members noted the same.

While deliberating on the status of transmission lines associated with evacuation of Pallatana generation, representative from NETC informed that loop in of one circuit of 400 kV D/C Silchar – Bongaigoan at Byrnihat S/S has been completed, but the line cannot be charged further since bay for loop out of this circuit is yet to be completed by Meghalaya. Further, NETC informed the members that 400 kV Silchar – Azara – II will be completed by June, 2014 and as intimated by Assam that 400kV sub-station is also ready for charging and once this line is completed, Azara-Byrnihat-I will be back charged through loop out circuit of Azara towards Byrnihat. NETC also mentioned that the balance section of Azara-Bongaigoan can be commissioned after 3 (three) months of getting the forest clearance for two locations in Aie valley and in Goalpara Division respectively.

SE(O) requested Meghalaya to take up the matter with their higher authority so that the 400 kV line can be charged up to Bongaigoan, otherwise evacuation of power from Pallatana will not be possible from single circuit especially when unit#2 is likely to commission soon. He enquired from Assam regarding power absorption at Azara sub-station.

SE, SLDC informed that he will take up with Me. PTCL and at the same time requested NERPC to discuss with higher authority so that matter can be resolved at the earliest.

AGM, APDCL informed that the downstream elements of Azara sub-station are ready and power can be drawn from the sub-station.

DGM, NERLDC informed that necessary formats have been sent to all the utilities of NER and requested POWERGRID & NETC to complete all the formalities as mandated in regulation before charging and declaring the line in commercial operation.

The Sub-committee also reviewed the status of commissioning of second unit of OTPC at Pallatana, following Transmission lines of POWERGRID and substation at Azara of Assam. The status as informed by OTPC, Assam and POWERGRID is as follows:

SN	Items	Present status
1	Trial operation and CoD of Unit -II of OTPC at Palatana	Trail operation is expected in June 2014 and CoD is expected in Sept, 2014
2	400KV D/C Silchar - Melriat line	December, 2014
3	400KV D/C Silchar - Imphal line	June, 2014
4	220KV D/C Mariani (New) – Mokokchung	June, 2014 (Status could not be updated since Nagaland representative was absent)
5	400KV D/C Byrnihat-Bongaigaon line	Byrnihat-Azara section of line is almost complete except stringing of 2 spans, which is expected to be completed by June 2014 subject to clearance by Appellate Tribunal for Electricity (APTEL) and Azara–Bongaigaon section of line is expected by June 2014
6	400kV Balipara – Bongaigaon D/C line # 3 & 4 with FSC	May, 2014 subject to availability of forest clearance for 5.2 kms of the line. [FSC commissioned on 11.01.2014]
7	400/220 kV sub-station at Azara of Assam	Sub-station is ready and test charging has been carried out on 28.03.2014. The LILO arrangement is also complete. If the 400kV Byrnihat – Ajara line is commissioned by PGCIL, then the substation at Azara can be charged at 400kV level.

The Sub-committee requested OTPC to furnish the details for trial run of Unit #2 in advance to NERLDC. OTPC agreed.

Commissioning of Block-II of Palatana – Early commissioning of Block-II of Pallatana is very essential for NER grid in view of Load Growth as well as metrological forecast of likely failure of monsoon this year.

SN	Items	Present status
1	Trial operation and CoD of Unit -II of OTPC at Pallatana	
2	400KV D/C Silchar - Melriat line	
3	400KV D/C Silchar - Imphal line	
4	220KV D/C Mariani (New) – Mokokchung	
5	400KV D/C Byrnihat-Bongaigaon line	
6	400kV Balipara – Bongaigaon D/C line # 3 & 4 with FSC	
7	400/220kV substation at Azara of Assam	

C.2 SPS scheme for Pallatana

The following four (4) System Protection Scheme (SPS) associated with generating Unit#1 (363.3MW) of OTPC at Palatana has been planned for NER:

Case 1: Tripping of generating unit of OTPC at Palatana

Case 2: Tripping of 400 kV D/C Palatana- Silchar line (with generation from OTPC's plant at Palatana)

Case 3: Tripping of 400 kV Silchar-Byrnihat line (with generation from OTPC's plant at Palatana)

Case 4: Tripping of 400 KV Silchar – Byrnihat line (without generation from OTPC's plant at Palatana)

During 95th OCC meeting, the Sub-committee reviewed the status of implementation of the scheme and the status was as follows:

Case I & Case IV: Has already been implemented

Case 2-3: GM, OTPC stated that implementation of SPS -2 & 3 mentioned above was discussed in detail and the scheme was finalized in the meeting held with BHEL at Palatana on 17.01.2014. Subsequently

some modification has been carried out by BHEL and same will be circulated to all. The commercial offer for implementation of scheme is expected in 10days time and the scheme is will be implemented very soon after completion of procurement process.

OTPC had requested POWERGRID to look into following issues:

(a) SPS at OTPC end should not be modified with commissioning of 2nd Circuit of Silchar _ Bongaigaon 400kV line.

(b) Trip command from two different sources should be available to desynchronize the machine to avoid unwarranted tripping of generating Unit when the generation is more than 200MW. During 93rd OCC meeting, subcommittee had suggested OTPC for getting input from Circuit breakers at both ends of the line (Silchar & Byrnihat) through communication link and to discuss the matter with POWERGRID.

(c) Two out of three logics [i.e. inputs from circuit breaker (s), master trip relay (s) etc.] shall be utilized for de-synchronization of Gas Turbines. During 93rd OCC meeting, subcommittee had suggested OTPC to discuss the matter with POWERGRID.

During the 96th OCC meeting, the Sub-committee expressed concern for delay in implementation of SPS -2 & 3 and once again requested OTPC to pursue with BHEL for early implementation of the scheme.

SE(O) mentioned that OTPC has not communicated/share the BHEL's offer and the requirement schematic of the SPS as requested in the 97th OCC meeting, hence OTPC may kindly intimate the current status. GM, OTPC stated that he will send the above information soon and requested the forum if they can help in this regard.

The sub-committee requested NERLDC to carry out the system studies so that the requirement of SPS can be reviewed in associated with the following conditions:

i. With generation of three (3) units of Leshka HEP

ii. With 220 kV Agia – Nangalbibra in operation

iii. Demand of Tripura from Surjamaninagar S/s

After deliberation, it was agreed that the SPS schemes associated with Pallatana GBPP need to be reviewed after inclusion of the above points. It was agreed that the system study group/NERLDC will examine the different conditions and more effective SPS schemes may be designed by looking in totality with commissioning of Leshka HEP of Meghalaya and Surajmaninagar load of Tripura and the same may be intimated in next OCC.

The Sub-committee may like to discuss.

C.3 Details of Installations and self-certification (by STUs and CTUs) in respect of operationalisation of Under Frequency Relays (UFRs) in NER systems and additional requirement of UFR and df/dt relays:

During 98th OCC meeting, the Committee reviewed the status of UFR based load shedding as given below:

Ar. Pradesh: During 97th OCC meeting, CE, Ar. Pradesh stated that installation of UFRs for Stage-I i.e for load shedding of 5MW (at 92.2Hz) has been completed. The identification of feeders for installation of UFRs for load relief of another 15 MW (5 MW in each of 3 remaining stages) has been completed i.e. one at 33 kV Bhalukpong and two at Lekhi S/S. Installation of remaining stages would be completed by June, 2014. Status could not be updated since representative from Ar. Pradesh was absent.

Assam: UFRs based load shedding for 220MW have been implemented.

Manipur: ED, MSPDCL informed that identification of the feeders at different stages have been completed and sent to NERPC. Further, he stated that installation of UFRs for the required quantum of UFR based load shedding at different stages will be completed by July 2014.

Meghalaya: EE, SLDC informed that the existing standalone UFRs for Stage – I & II has already been installed at 33 kV Mawphlang S/S. Further, EE, SLDC informed that the installation of UFRs for Stage – III & IV will be completed by June 2014.

Mizoram: During 96th OCC, representative from Mizoram stated that the work associated with utilization of the existing standalone UFRs for Stage – I & II of revised UFR based load shedding would be completed by April, 2014. The remaining work will be completed by June 2014. Since no representative was present, the status could not be updated.

Nagaland: During 94th OCC meeting, EE, SLDC had stated that UFR for stage – III is already in place and installation of UFRs for Stage – I & II will be completed by February, 2014 and installation of UFRs for Stage – IV will be completed by April, 2014. Since no representative was present, the status could not be updated.

Tripura: The representative of Tripura informed that the work associated with utilization of the existing standalone UFRs for Stage – I & II of revised UFR based load shedding has been completed and the installation of UFRs for Stage – III &IV would be completed by July 2014.

EE(O) informed the members that UFR operation report in prescribed format on monthly basis is received from Mizoram regularly but other beneficiaries have not sent any information. He urged all the other beneficiaries to submit the report in time as per prescribed format so that the load relief quantum and the effectiveness of the UFRs may be highlighted.

The subcommittee once again requested all constituent states of the region to complete the installation of UFRs required for all four stages by June, 2014 end and start furnishing of UFR operation reports to NERPC & NERLDC on monthly basis before OCC meetings.

The Sub-committee may now like to know about the status of implementation of UFRs based load shedding in respect of Ar. Pradesh, Manipur, Meghalaya, Mizoram, Tripura and Nagaland

C.4 Lines under long outages

During the 97th OCC meeting, the issue for restoration of these lines was reviewed by the committee and the status was as follows:

a) 220kV BTPS – Agia line (one ckt) – [Since Nov'97]: During 96th OCC meeting, the representative of Assam informed that the work associated with 15 kms of the line (out of 42km) has been completed and the target for completion of rest of the work is **June, 2014.**

b) 132kV Mariani – Mokokchung line - [Since Apr'02]

During 93rd OCC meeting, SDO, DoP, Nagaland had informed that the work associated with replacement of insulators in the section of line within Nagaland territory has been completed and the line was test charged in January, 2014 from Mokokchung till Langtho (the border point of Nagaland) and now the remaining portion from Langtho – Mariani, which is under the jurisdiction of Assam, has to be completed by Assam. AGM of Assam had requested Nagaland to check the adequacy of CT ratio at Mokokchung end and had enquired about the test charging voltage level. DGM, POWERGRID had requested Nagaland to check their CT ratio before charging the above line.

During 95th OCC meeting, the representative of Nagaland informed that CE, Nagaland has already communicated to MD, AGECL in this regard vide their letter No. CEL/TB/NERPC/OCC/MEETING/3326 dated 04-03-2014. During 96th OCC meeting, the representative of Assam informed that work associated with the section of the line in Assam territory, beyond Langtho, was executed by Nagaland on deposit work basis and hence replacement of insulator in other section of line, within territory of Assam, can be taken up by Nagaland on deposit work basis. Subcommittee requested Assam and Nagaland to sort out the issue as early as possible. Since no representative from Nagaland was present, the subcommittee requested Assam to sort out the issue with Nagaland as early as possible.

During 98th OCC, Representative from AEGCL informed that AEGCL has checked the portion of the line pertaining to AEGCL and the following expenditures are required:

Replacement of insulators - ` 14 lakhs

Execution cost - ` 11 lakhs

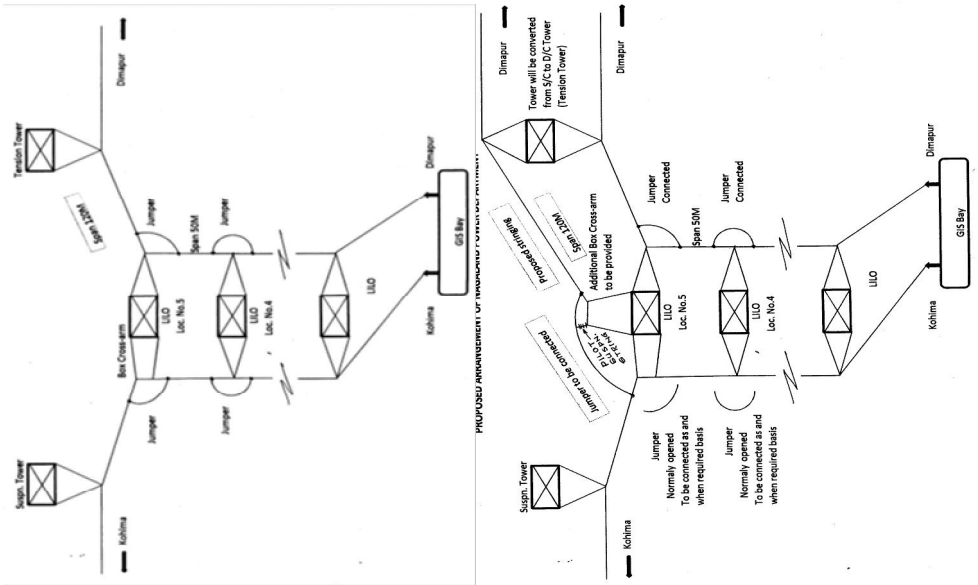
Total - ` 25 lakhs

The portion of the line pertaining to Nagaland will be intimated accordingly.

c) 39km of 132kV Rengpang – Jiribam line – [Since Oct'02]

During 98th OCC meeting, DGM, MSPDCL informed that work for relocation of three (3) new towers (due to ground clearance problem caused due to road cutting by BRTF) is in progress and line would be charged by June, 2014. However, till then, the line will be idle charged from both ends.

d) LILO of 132 kV Dimapur (Nagaland) – Kohima (Nagaland) line at 220/132 kV Dimapur (PGCIL) Substation- [Since Aug'11]:



Before Modification After Modification

During 93rd OCC meeting, the subcommittee had suggested DoP, Nagaland to utilize the LILO arrangement at GIS substation at Dimapur for the connectivity to Kohima. The EE, SLDC, Nagaland informed that the CB of GIS bay tripped on 6th February 2014 while the line was operating through LILO arrangement. The DGM POWERGRID informed that the problem with the CB of GIS bay would be rectified by 20th February 2014 and requested Nagaland to use the LILO arrangement at Dimapur GIS substation of POWERGRID. Nagaland agreed.

During 95th OCC meeting, DGM, POWERGRID informed that the project proposal for suggested modification (i.e. incorporation of additional Box Cross Arm at Tower Location No. 5) has been approved by competent authority of POWERGRID with following condition.

"Normal arrangement should be as per approved and implemented scheme i.e. Dimapur (PG) – Dimapur (State) 132kV S/C and Dimapur (PG) – Kohima 132kV S/C. Only during contingency at Dimapur (PG), it may be operated as Dimapur (State) – Kohima 132kV S/C."

The communication in this regard has already been issued, vide letter No. NESH/OS/F-1004/475 dated 25-02-2014, addressed to EE, Electrical Transmission division, DoP, Govt. of Nagaland.

During 96th OCC meeting, EE, DoP, Nagaland informed that they have no objection to the arrangement suggested by POWERGRID. The work associated with above modification will be taken up soon and the work is likely to be completed by May 2014.

Since no representative from Nagaland was present, the status could not be updated.

POWERGRID, Nagaland, Assam and Manipur may kindly intimate the current status.

C.5 CT Ratio of Transmission Lines in NER:

For determining present loadability limits of Transmission lines of NER (132 kV & above), all constituents are requested to send the following details of CTs at both ends of their lines at the earliest: Present Setting of CT Ratio & PSM Setting (for protection) and CT specification.

NERLDC informed that the details of CTs have been received from Tripura, Meghalaya, Nagaland, Assam and Kopili (NEEPCO). The representative of Assam informed that the details of CTs were submitted during 96th OCC meeting. Assam has handed over the CT details to NERLDC/NERPC during the meeting. NEEPCO informed that details of CT for the remaining stations have already been sent to NERLDC. NERLDC requested NEEPCO to submit again as it is not received by them. Manipur stated that the details of CT will be furnished by June, 2014. The subcommittee requested others to submit the CT details to NERLDC at the earliest.

Concerned constituents may kindly intimate the status.

C.6 Furnishing Geographic Co-ordinates of Nodes of NER Grid:

Power Maps of NER states are being developed by CBIP. To represent nodes of NER Grid in power maps, Co-ordinates of **existing Nodes, Nodes under construction** & **identified future Nodes** (66 kV & above) of NER Grid are required. Power Utilities of NER are requested to furnish latitude & longitudes of Nodes of NER Grid.

During the 97th OCC meeting, Ar. Pradesh & Tripura stated that the above data will be furnished by May, 2014. Assam and Meghalaya informed that the above data will be furnished by June, 2014. Meghalaya has furnished the above data.

The forum requested POWERGRID to help in getting latitude and longitude of stations of NER grid. DGM, NERTS stated that POWERGRID can help the constituents by providing the GPS equipment and the concern person of the constituents can co-ordinate with in-charge of nearby substation of POWERGRID.

The sub-committee requested the constituents to tie up with POWERGRID in this matter so that data as required by NERLDC can be furnished at the earliest.

Committee may like to discuss.

C.7 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 2014-15 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	Jun14	Jul14	Aug14	Sep14	Oct14
Ar. Pradesh	57	61	62	64	70
Assam	645	725	735	715	790
Manipur	49	59	59	61	65
Meghalaya	145	160	150	145	170
Mizoram	36	39	37	35	43
Nagaland	54	60	50	60	65
Tripura	105	120	120	125	120
NER	**1091**	**1224**	**1213**	**1205**	**1323**

Availability:

Name of State	Jun14	Jul14	Aug14	Sep14	Oct14
Ar. Pradesh	62	79	74	65	58
Assam	554	655	666	614	524
Manipur	66	85	87	79	72
Meghalaya	211	279	222	250	232
Mizoram	47	56	50	42	46
Nagaland	47	58	62	55	52
Tripura	164	180	180	185	147
NER	**1151**	**1403**	**1341**	**1290**	**373**

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

Constituents may kindly furnish the data to NERLDC.

C.8 Monthly MW requirement & availability of each state of NER:

The following figures were taken from minutes of 96th OCCM. These figures are to be reviewed.

A. Peak Demand in MW

Name of State	Jun14	Jul14	Aug14	Sep14	Oct14
Ar. Pradesh	120	121	90	139	136
Assam	1400	1400	1400	1350	1380
Manipur	110	125	110	135	140
Meghalaya	320	300	260	310	335
Mizoram	80	85	85	86	87
Nagaland	110	105	110	100	140
Tripura	250	240	250	260	310
NER	**2390**	**2358**	**2345**	**2380**	**2528**

B. Peak Availability in MW

Name of State	Jun14	Jul14	Aug14	Sep14	Oct14
Ar. Pradesh	130	130	100	101	130
Assam	1200	1200	1050	1045	993
Manipur	130	130	90	122	134
Meghalaya	300	320	350	401	415
Mizoram	85	90	95	91	91
Nagaland	95	95	100	95	86
Tripura	210	230	260	300	295
NER	**2200**	**2235**	**2045**	**2155**	**2145**

As decided in 96th OCCM, SLDCs are requested to provide the following data:-

A. Off Peak Demand in MW

Name of State	Jun14	Jul14	Aug14	Sep14	Oct14
Ar. Pradesh	72	72	74	77	75
Assam	888	893	918	868	856
Manipur	75	78	81	81	84
Meghalaya	213	201	202	202	201
Mizoram	56	55	54	57	57
Nagaland	79	81	72	72	84
Tripura	179	182	182	175	202
NER	**1487**	**1490**	**1500**	**1460**	**1485**

B. Off Peak Availability in MW

Name of State	Jun14	Jul14	Aug14	Sep14	Oct14
Ar. Pradesh	123	130	129	121	121
Assam	968	964	955	903	914
Manipur	146	123	123	114	114
Meghalaya	360	452	460	437	390
Mizoram	88	95	94	89	84
Nagaland	82	89	88	83	78
Tripura	283	291	291	284	284
NER	**1948**	**2069**	**2068**	**1955**	**1910**

D. N E W I T E M S

D.1 Generation Planning (ongoing and planned outages)

NEEPCO/NHPC/OTPC may kindly intimate the availability for hydro stations:

Khandong –	MU
Kopilli –	MU
Ranganadi -	MU
Doyang –	MU
Loktak –	MU
Pallatana -	MU

During 98th OCC meeting, DGM, NEEPCO informed that Kopili Stage-II unit will be put back in service by June, 2014. Further, he informed that due to heavy leakage in the tunnel, emergency shutdown was availed for Kopili station (complete) for one month w.e.f. 28.05.2014. Details of unit wise status are given below: -

Unit – I: R & M carried out and the unit is ready to generate as soon as tunnels are ready.

Unit – II: Will be ready to generate after 7 to 8 days of repairing tunnels. Hence, a total of 25 days will be required to restore the generation.

Unit – III: Tender floated for replacement of defective parts.

Unit – IV: Ready to generate as soon as tunnels are ready.

NEEPCO may kindly intimate the current status.

OTPC informed that Block-I has to undergo Combustion Inspection (CI) within 8000 Fixed Firing Hours as per stipulation of GE. Hence, they propose to undertake CI in the month of August, 2014. OTPC may kindly intimate the duration of proposed shutdown.

The Committee may discuss and approve the proposed shutdown by Generating Stations.

D.2 Outage Planning Transmission elements

The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for July - September, 2014 as enclosed at **Annexure- D.2**.

D.3 Monthly Power Supply Position to Rural Villages:

Month & Year:

Name of the State	Number of Distribution Companies in the State	Name of Distribution Company	Total Electrified villages		Average Hours of Power Supply to rural areas in the month (Hours)	Energy supplied to Rural Areas during the month (MU)
			Total No. of inhabited villages as per 2011 census	No. of inhabited villages Electrified		

Even after repeated request, only Assam, Mizoram and Tripura have submitted the required information regularly in above simplified format. Ministry of Power and CEA are insisting for submission of above information on monthly basis. All constituent states of NER are requested to submit required information on monthly basis by 15th of next month.

The Sub-Committee may like to discuss.

D.4 Review of Pallatana SPS:

Meghalaya informed that with the available of 126 MW of Myntdu Leshka HEP, the Special Protection Scheme of Pallatana needs to be reviewed.

Committee may like to discuss.

D.5 Enhancement of SPS related load shedding:

NERLDC informed that it has been observed that there was number of tripping of Palatana machines during Apr14. Due to tripping of Palatana machines, NER Grid was operated in vulnerable condition. Though, there was relief of around 40-50 MW (Off Peak) & 80-90 MW (Peak) after activation of SPS I, it is felt that the quantum is not sufficient to maintain the healthiness of NER Grid. To operate NER Grid in safe, secure and reliable mode, it is required to enhance SPS related load shedding to 250 MW [RTC].

As per regulation no 5.2.o of IEGC, all Users, STU/ SLDC, CTU/RLDC and NLDC, shall also facilitate identification, installation and commissioning of System Protection Schemes (SPS) (including inter-tripping and run-back) in the power system to operate the transmission system closer to their limits and to protect against situations such as voltage collapse and cascade tripping, tripping of important corridors/flow-gates etc.

During 97th OCC meeting, representative of Assam did not agree with the view of NERLDC and strongly opposed the load shedding upto 250MW during the tripping of generating unit at Palatana. The sub-committee requested NERLDC to review the proposal so that the issue can be discussed further in the next OCC meeting.

During 98th OCC meeting, Asst. Secretary, NERPC suggested that the quantum of load shedding due to tripping of Palatana GBPP may be contributed by the constituents according to the share allocation from the project by Ministry of Power so that the quantum of load relief may be justified. He also opined that the merchant power sale of Palatana GBPP will be shared by all the beneficiaries in proportion to their shares, so that the total amount of load relief may be justified. Members agreed to the proposal.

The Sub-Committee suggested that sub-group committee which has been formed by NERPC shall discuss this issue also so that the same can be finalized at the earliest.

NERLDC may kindly deliberate on the issue.

D.6 Status/Load ability of 132 kV Lumshnong – Panchgram Line:

Meghalaya informed that since the line is old, loading of above line needs to be fixed at a safe thermal limit. Hence both Assam & Meghalaya may look into the matter for strengthening of the system.

During 98th OCC meeting, Assam informed the members that healthiness of the line has been checked by AEGCL till Panchgram and it was found that the line is very old and cannot be loaded up to 50 MW. Healthiness of the line from Lumshnong end may be confirmed from Me. PTCL.

After discussion, it was agreed that reconductoring of the line is required to strengthen the transfer capability and possibility of funding the same from PSDF may be explored as the expenditure involved is huge.

Committee may like to discuss.

D.7 Status of Construction of:

1. **220/132/33 kV sub-station at Sonapur**
2. **LILO of 132 kV Kahilipara – Umtru Line at Byrnihat.**

During 98th OCC meeting, the Sub-committee appreciated the views of Assam in for better reliability and redundancy not only in Assam & Meghalaya but in the region as a whole. The committee requested Assam & Meghalaya to resolve the matter bilaterally and finalized the same at the earliest.

Assam/Meghalaya may kindly intimate the current status.

D.8 Frequent disruption of power supply to Kameng HEP:

The Balipara Khuppi Kimi Transmission System comprising of 132 kV Single Circuit Balipara Khuppi Kimi Transmission line (76 km long) and 3X5 MVA 132/33 kV Khuppi Substation was constructed by NEEPCO for supply of construction power to various work-fronts of Kameng HEP. After commissioning of the Project, the same line would also be utilized for evacuation of power from the Project. Kameng HEP has been drawing construction power through this system since 15-05-07 in accordance with the Bulk Power Supply Agreement dated 04-05-07 made between NEEPCO and Department of Power, Govt. of Arunachal Pradesh.

Further, in view of the request of DoP, A.P. in the meeting on 25-11-2002, the Department of Power, Govt. of Arunachal Pradesh was allowed to draw 2 MW from one of the spare 33 kV feeder point of the 132/33 kV Khuppi Substation. Subsequently, Department of Power, Govt. of Arunachal Pradesh started drawing power for supplying to various locations of the West Kameng & East Kameng Districts of Arunachal Pradesh from this 33 kV feeder and the present drawal has reached to a level of around 6 to 8 MW peak power.

In addition to the above, in the month of February'2011, NEEPCO received a request from Department of Power, Govt. of Arunachal Pradesh for permission for a Tee-connection at Tipi (near Bhalukpong) from the 132 kV Balipara Khuppi Transmission Line. As Tee-connection at 132 kV level is not permissible as per the IE Rules, the same was allowed for two months only, at the intervention of the Chairman, NERPC; within which time, the LILO System was supposed to be commissioned. Accordingly, the Tee-connection was energized on 31-05-11. However, the said LILO is yet to be completed and commissioned, despite requests and reminders from NEEPCO as well as NERPC. The said Tee-connection is now being used to draw a considerable quantum of power.

During last few months, frequent disconnection of the Balipara Khuppi Transmission System has been come across. On telephonic enquiry, Balipara substation intimated that due to over-drawal by Department of Power, Govt. of Arunachal Pradesh the circuit Breaker is manually opened at Balipara end for load shedding. However, out of this quantum of power, NEEPCO's drawal is limited to the contracted quantity of 2 MW only Such frequent load–shedding is causing disruption of ongoing construction activities which is likely to affect the overall commissioning schedule of the Project.

In view of the above circumstances, NERPC is requested to take up the matter with Department of Power, Govt. of Arunachal Pradesh through OCC Forum so that such frequent load–shedding is not resorted to.

Committee may like to discuss.

D. 9 Augmentation of Transformation Capacity at 400/220/33 kV Misa sub-station of POWEWRGRID in NER:

At present, the Transformation Capacity at 400/220/33kV Misa Sub Station is 2X315MVA at 400/220kV level. But it has been observed that combined loading of ICT # 1 & 2 becomes more than 300MW during outages of various elements in NE Grid as detailed below:

SN	MW ICT # (1+2)	DATE	TIME	ELEMENT UNDER OUTAGE
1	312	19.12.13	20:00	Pallatana Generation
2	310	28.02.14	18:00	Kathalguri 2 units
3	382	01.03.14	20:00	Pallatana Generation
4	334	02.03.14	20:00	Kathalguri 2 units
5	342	03.03.14	20:00	Kathalguri 3 units
6	300	04.03.14	20:00	Kathalguri 4 units
7	364	05.03.14	18:00	Kathalguri 4 units
8	342	08.03.14	20:00	Kathalguri 2 units
9	334	09.03.14	18:00	Kathalguri 4 units
10	338	10.03.14	19:00	Kathalguri 4 units
11	390	15.03.14	18:00	Pallatana Generation + Kathalguri 3 units
12	300	16.03.14	18:00	Pallatana Generation + Kathalguri 3 units
13	306	10.04.14	19:00	Kathalguri 2 units
14	410	22.04.14	21:00	Kathalguri 2 units + BTPS-Agia-Sarusaji
15	310	29.04.`14	21:00	Pallatana Generation
16	334	07.05.14	19:00	Pallatana Generation
17	410	08.05.14	18:00	Kathalguri 3 units
18	348	19.05.14	20:00	Pallatana Generation
19	370	20.05.14	20:00	Pallatana Generation + Kathalguri 2 units
20	380	21.05.14	18:00	Pallatana Generation
21	382	22.05.14	21:00	Pallatana Generation
22	344	23.05.14	21:00	Pallatana Generation
23	308	25.05.14	23:00	Pallatana Generation

Thus, under said circumstances as above, the N-1 philosophy fails and the Grid becomes vulnerable to collapse in the event of tripping of any one ICT at Misa. The situation is going to be more critical in future with increase of load.

Hence, augmentation of transformation capacity at 400/220kV Misa Sub Station is essential to stabilise & strengthen the Grid for ensuring reliable and secure power NER constituents.

At present, one of the ICTs at Misa is 3 X 105MVA (1-Phase), 400/220kV with a spare unit which were commissioned during December 1995. Considering the space

constraints and also, connectivity of various Generations at 220kV level viz. Kathalguri GBP, Kopili HEP, Doyang HEP etc. at Misa, it is proposed to install 2X500MVA, 400/220/33kV (3-Phase) ICTs in place of existing 4 units of 1-Phase ICTs and accommodate associated bays on GIS to manage the installation in available limited space. On removal of 1-Phase ICTs at Misa the same can be kept as regional spare against ICTs at Balipara and Bongaigaon.

During 98th OCC meeting, Members agreed in principle the requirement of augmenting the transformer capacity. However, system studies may be done taking into consideration commissioning of Azara S/s and other vital elements which may affect the loading of stressed elements. It was agreed that NERLDC will carry out necessary system studies and the issue will be reviewed in next OCC meeting.

Committee may like to discuss.

D.10 Pallatana Generation:

Tripura informed that on 10th May 2014, Palatana Generation was available. But schedule has given to the beneficiary. TSECL has brought to the notice of NERLDC/NERPC.

Committee may like to discuss.

D.17 Partial Requisition Based Scheduling in NER:

Tripura informed that Partial Requisition based schedule has been implemented in the region except for Hydel Generation. But hydel generation frequently changes their schedule which is effected the DSM & penalty imposed for that.

Committee may like to discuss.

D.18 PG Test of Pallatana:

Tripura informed that as per request of OTPC Palatana, NERLDC have given consent for carrying out of 60 % capacity test from 00:00 hrs to 04:00 hrs of dated 04.06.2014 without getting any confirmation from SLDC Tripura. More over NERLDC has given full schedule to Tripura from OTPC Palatana in “0” revision for the date 04.06.2014. Regarding the test run NERLDC have intimated SLDC, TRIPURA at 21:30 hrs on 03.06.2014 through mail. During this period we were unable to manage our power system resulting huge commercial losses. Further balancing of drawal schedule under DSM has become more critical under such situation with commercial heavy penalty.

Committee may like to discuss.

D.20 Action by NERLDC to control overdrawal by beneficiaries:

NERLDC informed that it has been observed that despite of repeated requests made by NERLDC in real time, beneficiaries fail to maintain their drawal within the scheduled quantum most of the times resulting in not only violation of various clauses of IEGC & other regulations but also putting the NER grid in jeopardy. NERLDC is compelled to issue violations messages and also to open feeders to save the situations. It is to be noted that the list of violations messages issued by NERLDC are compiled and sent to various authorities including CERC periodically as per regulations.

Committee may like to discuss.

D.26 Estimated Transmission Availability Certificate (TAC) for the month of June, 2014.

The Estimated Transmission System Availability for the month of June, 2014, furnished by PGCIL, is **99.9820%.** The detail outage data for calculation of Transmission System Availability furnished by PGCIL, is at **Annexure D.26.** NER constituents are requested to kindly communicate their views and observations, if any, by 28th July, 2014 so that Final TAC for the month of June, 2014 may be finalized by NERPC Secretariat.

The Sub-Committee may like to discuss.

E. NEW ITEMS

E.1 Implementation of islanding scheme in NER

During the 94thOCC meeting, the committee had decided the following islanding scheme and associated frequencies levels for creation of islands in NER:

SN	Islanding Scheme	Lines required to be opened	UFR Location	Implementing Agency
1	**ISLAND AT 48.80 Hz with 5 Sec delay:** Island comprising of generating units of AGBPP (Gas), NTPS (Gas) & LTPS (Gas) and loads of Upper Assam system & Deomali area (Ar.	(a) 220 kV New Mariani (PG) – AGBPP	UFR-1 [At New Mariani (PG)]	**PGCIL**
		(b) 220 kV Mariani – Misa	UFR-2 [At Mariani, Samaguri of AEGCL]	**AEGCL**
		(c) 220 kV Mariani – Samaguri		

	Pradesh) **[Total Generation: 380-400MW and load: 200MW (off peak)-300MW (peak)]**	(d) 132 kV Mokukchung – Mariani		
		(e) 132 kV Dimapur (PG) – Bokajan	UFR-3 [At Dimapur (PG)]	**PGCIL**
		(f) Generators to be desynchronized for reduction of generation [if Generation > Load in the islanded pocket]		
		(g) De-synchronization / isolation of one GT and one ST from each of two modules of AGBPP, which are in operation, leading to reduction of generation of about 80-90 MW [i.e each module will contribute to reduction of about 40-45 MW (GT:30MW+ST:15MW)].	At AGBPP [UFRs of line bays & Generator to be used]	**NEEPCO**
		(h) Lines required to be opened for load shedding of 30MW (off-peak) and 50MW (peak) [if load > generation in the islanded pocket]		
		(i) 132kV Tinsukia – Ledo S/C line (at 48.7Hz instantaneous).	UFR [At Tinsukia]	**AEGCL**
		(j) 66kV Tinsukia – Rupai S/C line (at 48.6Hz instantaneous)		**AEGCL**
		(k) 132kV Jorhat – Bokakhat line (at 48.5Hz instantaneous)	UFR [At Jorahat / Bokakhat]	**AEGCL**
2	**<u>ISLAND AT 48.50 Hz with 5 Sec delay :</u>** Island comprising of generating units of AGTPP (Gas), generating units at Baramura (Gas), Rokhia (Gas) & Gumati (Hydro) and loads of Tripura system & Dullavcherra area (Assam) **[Total Generation: 150-160MW and load: 110MW (off-peak) &170-180MW (peak)]**	132 kV Palatana – Udaipur	UFR-1 [At Palatana]	**OTPC**
		132 kV Palatana – Surjamani Nagar		
		132 kV Silchar – Dullavcherra	UFR-2 [At Silchar]	**PGCIL**
		132 kV AGTPP – Kumarghat	UFR-3 [At Kumarghat]	**PGCIL**
		132 kV P K Bari – Kumarghat		

3	**ISLAND AT 47.90 Hz:** Isolation of NER from NEW grid at ER-NER boundary with rest of the generation and load of NER	To be decided after system study

Both the Islanding schemes were implemented as discussed in OCC/PCC forum and it was decided that two UFRs (one as back up) are to be provided for disconnection of lines as well as generators. Further subcommittee had suggested for use the UFR of the generators as back up for de-synchronization of Gas Turbine (s) and for developing the logic to identify the Units, which are in service / operation so that these modules are de-synchronized/ isolated from the system in order to achieve the load and generation balance and to activate the Automatic Governor Control of each module. It was also decided that in future, in case any problem arises, both islanding schemes will reviewed and modified as per system requirement.

During 97th OCC meeting, MS I/C informed that the first meeting of subgroup was held in the conference hall of NERLDC at Shillong on 11.04.2014 taking representation from Assam, Meghalaya, POWERGRID, NEEPCO, NERLDC and NERPC. It was also decided to include representation from other states / organization as and when required / depending on the interest shown by the organization. The following officers were nominated for the 1st meeting of the subgroup:

Assam: Sh. Gunajit Bhuyan, AGM (MRT) & Sh. Ashutosh Bhattacharji, Mgr

Meghalaya: Sh. F.E. Kharshiing, SE, SLDC & Sh. H. Shangpliang, EE (MRT)

PGCIL: Sh. P. Kanungo, DGM, Sh. M. Madhavan, Mgr & Sh. Supriya Paul, Er

NEEPCO: Sh. Tanya Taji, Sr. Mgr & Sh. Jaypal Roy, Mgr.

NERLDC: Sh. P.P. Bandapodhyay, DGM & Sh. A. Mullick, CM

NERPC: Sh. B. Lyngkhoi, SE(O) and Sh. S.M. Jha, EE(O)

OTPC has requested to include Shri S.R. Das as their nominee for the subgroup.

In the meeting of Operation and Protection sub-group, it was brought to the notice that most of UFRs associated with two islanding schemes operated as expected and it was decided to reduce the time delay setting of UFR to 2 secs (in place of 5 sec). Assam had informed that there is some change in load connected with NTPS and subgroup had requested Assam to provide details of connected load. Assam & NEEPCO was also requested to intimate about the low frequency setting for tripping of Gas based Generators at NTPS (of Assam), at AGBPP & AGTPP (of NEEPCO) and to intimate frequency at which machines at NTPS, AGBPP & AGTPP tripped on 19-03-2014 so that the matter can be discussed further.

During the meeting the DGM, POWERGRID suggested to reduce the time delay setting of UFR to 500ms instead of 2 secs as proposed in last subgroup meeting. The subcommittee felt that following information should be collected before deciding about the final setting of UFRs.

(a) Operation of UFRs, installed on various lines associated with the particular Island, on 19-03-2014 [i.e { UFRs at New Mariani, Dimapur of Powergrid; UFRs at Mariani, Samaguri of AEGCL and UFRs at AGBPP associated with Islanding Scheme –I (at 48.8 Hz) } and { UFRs at Silchar, Kumarghat of Powergrid; and UFR at Palatana of OTPC associated with Islanding Scheme –II (at 48.5 Hz) }]

(b) Operation of UFRs, installed on various lines associated with the particular Islanding Scheme –I (at 48.8 Hz), on 19-03-2014 [i.e UFRs at Tinsukia, Jorahat / Bokakhat of AEGCL]

(c) Whether carrier inter-tripping (wherever available) functioned as expected?

(d) Operation of frequency relays **of generators** at AGBPP (NEEPCO), NTPS (AEGCL), LTPS (AEGCL) on 19-03-2014 and frequency at which generating Unit (s) tripped

(e) Time delay setting low frequency relays **of generators** at AGBPP (NEEPCO), NTPS (AEGCL), LTPS (AEGCL)

(f) Operation of frequency relays **of generators** at AGTPP (NEEPCO), Baramur (TSECL), Rokhia (TSECL) and Gumati (TSECL) on 19-03-2014 and frequency at which generating Unit (s) tripped

(g) Time delay setting low frequency relays **of generators** at AGTPP (NEEPCO), Baramur (TSECL), Rokhia (TSECL) and Gumati (TSECL)

(h) Whether generating Units tripped due to operation of UFRs of line (s) or due to operation of frequency relay of generating unit or due to some other reason.

(i) Number of generating unit (s) tripped at the station on 19-03-2014.

(j) The details of load connected with NTPS and LTPS on 19-03-2014 and maximum load connected with NTPS & LTPS

(k) Why the NTPS could not survive with its own load? This has happened in past in many occasions, even during last major grid disturbance on 31st July 2013 NTPS survived with its own connected loads.

(l) Any other information which the generating company (ies) would like to share with the forum which has relevance with the proposed islanding scheme.

The subcommittee also requested all constituent states of the region to provide details of UFR operation [i.e. location, frequency at which UFRs operated / frequency setting of UFRs and the quantum of load shedding happened due to operation of UFRs] on 19-03-2014.

The subcommittee felt that due to isolation of NER grid from National grid on the day of the incidence (i.e. 19-03-2014), the power number become very small [reduced to about 30-40MW/Hz from 3000-3400MW/Hz when it was in synchronism with National grid] and hence the rate of fall of frequency might have been fast. Under such scenario, only UFRs may not serve the objective. There could be requirement of df/dt relays along with UFRs. System studies would definitely help to arrive at some conclusion. But in absence of adequate information about the old machines in the islanded pocket, it has become difficult to carry out system studies. Although Prof. P. Tripathi of IIT, Guwahati was requested to help in this

regard, but no progress has happened in this direction so far. In view of all these difficulties the sub-committee suggested that after receiving above information from Assam, NEEPCO, TSECL and constituent states of the region, the subgroup would meet again to study / investigate the matter and decide further course of action.

During 98th OCC meeting, DGM, NERTS suggested to reduce time delay for the UFRs from 5secs to 500ms. DGM, NERLDC supported the same & also expressed urgent need for the review of the schemes by convening meeting of the committee at the earliest.

NEEPCO and Assam are requested to provide the required information and sub-committee may like to discuss further on the islanding scheme.

E.2 Major Events in North-Eastern Regional Grid during the period June 2014

NERLDC informed that there was no major Grid Disturbances in NER during the month of June, 2014.

Some of the grid incidences occurred during the month of June, 2014 is given below. The Sub-committee may kindly discuss and give suggestions to avoid repetition again.

A. Category IV Grid Disturbance occurred in NER on 10.05.14:

At around 0254 Hrs, 400 kV Silchar- Byrnihat (carrying 215 MW) tripped. This caused overloading & subsequent tripping of 132 kV Khleihriat – Badarpur S/C on over-current. This resulted overloading & subsequent tripping of 132 kV Haflong – Jiribam, 132 kV Dimapur – Imphal S/C, 132 kV Loktak – Imphal S/C on power swing. Due to tripping of these lines, Southern Part of NER Grid comprising of South Assam, Manipur, Mizoram & Tripura separated from rest of NER Grid and subsequently GTG I & STG I of Palatana tripped triggering the operation of SPS I. Southern part of NER Grid was collapsed due to load generation imbalance.

Generation Loss: 466 MW (AGTPP: 54 MW, Palatana: 315 MW, TSECL: 97 MW)
Load Loss: 217 MW (MSPCL: 25 MW, Mizoram: 31 MW, TSECL: 125 MW & South Assam: 36 MW)

B. Palatana Module I Tripping (11 Nos):

At 1449 Hrs on 01.05.14, Palatana GTG- I tripped. Due to tripping of GTG-I, STG- I also tripped. There was a generation loss of **325 MW (GTG I- 210 MW & STG I- 115 MW)**

At 0045 Hrs 02.05.14, Palatana GTG- I tripped. Due to tripping of GTG-I , STG- I also tripped. There was a generation loss **of 140 MW (GTG I- 70 MW & STG I- 70 MW)**

At 1229 Hrs on 03.05.14, Palatana GTG- I tripped. Due to tripping of GTG-I, STG- I also tripped at 1245 Hrs. There was a generation loss of **327 MW (GTG I- 215 MW & STG I- 112 MW)**

At 0616 Hrs on 07.05.14, Palatana GTG- I tripped. Due to tripping of GTG-I, STG- I also tripped. Tripping of Palatana machines triggered the operation of SPS-I resulting in load relief of 25 MW in South Assam area. There was a generation loss of **330 MW.**

At 0559 Hrs on 08.0514, Palatana GTG- I tripped. Due to tripping of GTG-I, STG- I also tripped at 0612 Hrs. There was a generation loss of **160 MW.**

At 1717 Hrs on 08.0514, Palatana STG- I tripped. There was a generation loss of **48 MW.**

At 0130 Hrs 09.05.14, Palatana GTG- I tripped. Due to tripping of GTG-I , STG- I also tripped. There was a generation loss of **75 MW**

At 0254 Hrs 10.05.14, Palatana GTG- I tripped. Due to tripping of GTG-I , STG- I also tripped. There was a generation loss of **80 MW**

At 1415 Hrs on 10.05.14, Palatana STG- I tripped. There was a generation loss of **49 MW.**

At 1755 Hrs on 12.0514, Palatana STG- I tripped. There was a generation loss of **112 MW.**

At 1628 Hrs on 31.05.14, Palatana STG- I tripped. There was a generation loss of **14 MW.**

C. Disturbance in Manipur System (7 Nos):

At 1232 Hrs on 02.05.14, 132 kV Imphal(PG) – Imphal I and II lines tripped. Due to tripping of these elements, power supply to Imphal area of Manipur was interrupted.
Load Loss: 41 MW

At 1635 Hrs on 03.05.14, 132 kV Imphal(PG) – Imphal I and II lines tripped. Due to tripping of these elements, power supply to Imphal area of Manipur was interrupted**.**
Load Loss: 40 MW

At 1350 Hrs on 07.05.14, 132 kV Imphal (PG) – Imphal I and II, 132 kV Loktak- Imphal, 132 kV Imphal- Ningthoukhong and 132 kV Loktak- Ningthoukhong lines tripped. Due to tripping of these elements, power supply to Imphal and Ningthoukhnong area of Manipur was interrupted.
Load Loss: 40 MW

At 1630 Hrs on 09.05.14, 132 kV Imphal(PG) – Imphal I and II lines tripped. Due to tripping of these elements, power supply to Imphal area of Manipur was interrupted.
Load Loss: 55 MW

At 1147 Hrs on 20.05.14, 132 kV Imphal(PG) – Imphal I and II lines tripped. Due to tripping of these elements, power supply to Imphal area of Manipur was interrupted.
Load Loss: 46 MW

At 1440 Hrs on 26.05.14, 132 kV Dimapur - Imphal(PG) and 132 kV Loktak-Jiribam lines tripped. Due to tripping of these elements, power supply to Manipur was interrupted.
Load Loss: 18 MW

At 1719 Hrs on 28.05.14, 132 kV Imphal(PG) – Imphal I and II and 132 kV Loktak- Imphal lines tripped. Due to tripping of these elements, power supply to Imphal area of Manipur was interrupted.
Load Loss: 38 MW

D. <u>Disturbance in Meghalaya System (5 Nos):</u>

At 0108 Hrs on 07.05.14, 132 kV Khleihriat (PG) - Khleihriat I & II and 132 kV Khandong- Khleihriat I & II lines tripped. Due to tripping of these elements, power supply to Khliehriat area of Meghalaya was interrupted
Load Loss: 25 MW

At 1631 Hr on 09.05.14, 132 kV Khleihriat (PG) - Khleihriat I & II lines tripped. Due to tripping of these elements, power supply to Khliehriat Area of Meghalaya interrupted.
Load Loss: 60 MW

At 2232 Hr on 14.05.14, 132 kV Khandong- Khleihriat I and 132 kV Khleihriat (PG) - Khleihriat I & II lines tripped. Due to tripping of these elements, power supply to Khliehriat Area of Meghalaya interrupted.
Load Loss: 46 MW

At 1418 Hr on 16.05.14, 132 kV Khandong- Khleihriat I and 132 kV Khleihriat (PG) - Khleihriat I & II lines and Leskha Unit I, II and III tripped. Due to tripping of these elements, there was a generation loss at Leshka and power supply to Khliehriat Area of Meghalaya interrupted.
Generation Loss: 68 MW
Load Loss: 36 MW

At 1627 Hr on 16.05.14, 132 kV Khandong- Khleihriat I and 132 kV Khleihriat (PG) - Khleihriat I & II lines and Leskha Unit I, II and III tripped. Due to tripping of these elements, there was a generation loss at Leshka and power supply to Khliehriat Area of Meghalaya interrupted.
Generation Loss: 70 MW
Load Loss: 50 MW

E. Disturbance in Assam System (2 Nos):

At 1015 Hr on 14.05.14, 220 kV Sarusajai - Samaguri I & II lines tripped. Due to tripping of these elements, power supply to Capital Area (Assam) disrupted.
Load Loss: 233 MW

At 1815 Hr on 17.05.14, 220/132 kV, 3x100 MVA ICT I, II & III at Sarusajai tripped. Due to tripping of these elements, power supply to Capital Area (Assam) disrupted.
Load Loss: 250 MW

F. Major Events in North-Eastern Regional Grid:

List of multiple tripping of elements and tripping of important elements in North-Eastern Regional Grid during the period **w.e.f. 01st May, 2014 to 31st May, 2014** along-with (Letters for **Furnishing Event information** on weekly basis are being sent to the power utilities of NER by e-mail. Constituents are requested to furnish details of tripping reported in the letters.

Any other item:

Date and Venue of next OCC

It is proposed to hold the 100th OCC meeting of NERPC on first week of August, 2014. The exact venue will be intimated in due course.

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