

North Eastern Regional Power Committee

Agenda

For

103rd OCC Sub-Committee Meeting

Time of meeting : 10:00 Hrs.

Date of meeting : 13th November, 2014 (Thursday)

Venue : "Hotel Nandan", Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 102nd MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 102nd meeting of Operation Sub-committee held on 16th October, 2014 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2014/1982-2017 dated 24th October, 2014.

No observations or comments were received from the constituents. The Sub-committee may discuss & confirm minutes of 102nd OCCM of NERPC.

ITEMS FOR DISCUSSION

B. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING OCT, 2014

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

NER PERFORMANCE DURING SEPTEMBER, 2014

States	Energy Met (MU)		% inc(+)/dec(-)	Energy Reqr. (MU)		% inc(+)/dec(-)
	Oct-14	Sep-14		Oct-14	Sep-14	
Ar. Pradesh	53.37	53.95	-1.1	70.0	70.00	0.0
Assam	727.01	688.04	5.7	790.0	825.00	-4.2
Manipur	65.47	59.79	9.5	66.0	65.00	1.5
Meghalaya	128.03	131.21	-2.4	170.0	145.00	17.2
Mizoram	37.57	34.46	9.0	43.0	36.00	19.4
Nagaland	59.69	54.64	9.2	65.0	60.00	8.3
Tripura	96.08	92.98	3.3	120.0	120.00	0.0
Region	1167.21	1115.06	4.7	1324.00	1321.00	0.2

States	Demand Met (MW)		% inc(+)/dec(-)	Demand in (MW)		% inc(+)/dec(-)
	Oct-14	Sep-14		Oct-14	Sep-14	
Ar. Pradesh	126	115	9.6	136	139	-2.2
Assam	1257	1207	4.1	1380	1350	2.2
Manipur	134	126	6.3	140	135	3.7
Meghalaya	273	280	-2.5	335	310	8.1
Mizoram	80	78	2.6	87	86	1.2
Nagaland	118	116	1.8	140	117	19.7
Tripura	266	256	3.9	310	260	19.2
Region	2141	2112	1.4	2528	2380	6.2

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	Oct-14	Sep-14
Total Generation in NER (Gross)	1083.71	1214.34
Total Central Sector Generation (Gross)	703.04	807.99
Total State Sector Generation (Gross)	380.67	406.35
Inter-Regional Energy Exchange		
(a) NER-ER	18.19	117.37
(b) ER-NER	128.19	49.29
© Net Import	110.00	-68.08

AVERAGE FREQUENCY (Hz)

Month---->	Oct-14	Sep-14
	% of Time	% of Time
Below 49.9 Hz	25.06	28.68
Between 49.9 to 50.05 Hz	52.9	55.3
Above 50.05 Hz	22.04	16.02
Average	49.97	49.95
Maximum	50.49	50.37
Minimum	49.53	49.34

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

The peak met (MW) also increased from the previous month.

C.1 Synchronization of Palatana Module -I

During 102nd OCC meeting, representative from OTPC informed that CoD of Unit-II is expected to be commissioned by October / November 2014.

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	Status as given in 102 nd OCC Meeting	Status as on 103 rd OCC
1	Trial operation and CoD of Unit -II of Palatana	Trial run is expected by end of Oct 2014 and CoD is expected in 3 rd Week of Nov, 2014	
2	400KV D/C Silchar - Melriat line	June, 2015	
3	400KV D/C Silchar - Imphal line	December, 2014	
4	220KV D/C Mariani (New) – Mokokchung	December, 2014	
5	400KV D/C Byrnihat-Bongaigaon line	December, 2014	
6	400kv Balipara – Bongaigaon D/C line 3 & 4 with FSC	November, 2014	
7	400/220 kV sub-station at Azara of Assam	Completed	

During 102nd OCC meeting, the Sub-committee requested OTPC to furnish the details for trial run of Unit #2 in advance to NERLDC. OTPC agreed.

The Sub-committee requested Assam to implement the Reverse Power Relay as decided in the system study committee meeting at the earliest which is given below:

- 1. If the flow is above 45-50 MW, relay at Azara should operate accordingly with 5 minutes time delay.***
- 2. If the flow is above, 50 MW, the reverse power relay at Azara should operate instantaneously.***

AEGCL agreed to implement the required settings at the earliest and the status would be intimated to NERPC/NERLDC accordingly.

Concerned constituents may kindly intimate the status.

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)

The OCC Sub-committee continuously review the status of implementation of the scheme and the status as intimated in the 99th OCC Meeting is given below:

Case I & Case IV: Already implemented.

Case II & III: 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 offer of BHEL is intimated by OTPC but the required schematic diagram as agreed in the 97th OCC meeting is unavailable.

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. ***It is agreed in earlier OCC meetings that the SPS associated with Palatana need to be reviewed including enhancement of load shedding and NERLDC was requested accordingly to review the SPS on 99th OCC meeting.***

(b) Trip command from two different sources should be available to desynchronize the machine to avoid unwanted 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 102nd OCC meeting, OTPC representative informed that the ramp down rate of GTG = 18 MW / min and the ramp down rate of STG is very low. Reduction from full load to 200 MW therefore takes time.

After deliberation, OTPC was requested to implement at the earliest the required technical modifications for SPS Case - III through BHEL or any other firm. OTPC was requested to intimate the action plans within a week.

OTPC may kindly intimate the status.

Enhancement of quantum of load relief during SPS operation: The matter was deliberated in last OCC meeting and it was decided to convene meeting of identified committee for the review of SPS schemes to ensure higher load relief as well as changes to be incorporated in the schemes in view of changes in network topology. ***Further OTPC informed the house the status of SPS-3 [NERLDC is of the opinion that the elaborate scheme furnished by M/s BHEL may not be necessary and tripping of the identified CB will be serve the purpose.*** In addition the SPS-3 requires to be upgraded to incorporate addition of Silchar-Azara 400 kV line.

The matter was studied and deliberated by the system study group of NERPC on 14.10.2014 at NERLDC, Shillong. The minutes are reproduced below: -

1. Lumshnong – Khliehriat will be disconnected and Lumshnong will be fed from Panchgram

Once Palatana trips, then Lumshnong S/s will be tripped and a load relief of 15 MW may be expected.

2. Dharmanagar - P.K. Bari will remain disconnected and Dharmanagar & Dullavcherra will be fed from Silchar S/S radially.

Once Palatana trips, then 132kV Sichar-Dullavcherra feeder will be tripped at Silchar End through SPS and relief of 14 MW load can be achieved.

The change in wiring pattern may be incorporated by NERTS for implementing tripping from Silchar side.

The above suggestions may be reviewed by system study committee as and when required.

Concerned constituents may kindly intimate the status.

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:

The OCC regularly review the status of UFR based load shedding in the region. The following details are confirmed in 102nd OCC meeting.

Assam & Nagaland: UFRs based load shedding for 220MW & 20MW have been implemented by both the States. However, UFR operation and amount of load relief reports are to be sent to NERLDC regularly. Assam & Nagaland agreed to do the needful.

Manipur: Informed that UFRs based load shedding for all the four stages have been implemented, however, the exact amount of load relief would be furnished soon. Relays have been tested and reports are sent to NERLDC. UFR operation and amount of load relief reports will be sent to NERLDC regularly.

Tripura: UFRs based load shedding for Stages I & II have been implemented. Tendering is done for Stages III & IV, after evaluation of tenders; approval from TSECL Board will be taken. It is expected to implement Stages III & IV by November 2014.

Meghalaya: UFRs based load shedding for Stages I, II & III completed. 4th stage implementation process is held up due to law and order problem in Garo Hills. Reports of UFR operations are sent regularly to NERLDC.

Arunachal Pradesh: EE, SLDC informed that Stage - I is completed. Stage - II is under consideration and may be expected by December 2014. Stage - III and Stage - IV may be expected to be completed by March 2015. ***The Sub-committee requested Ar. Pradesh to furnish the feeder's name of Stage II, III & IV at the earliest. Ar. Pradesh agreed.***

Mizoram: EE, SLDC, Mizoram informed that UFR based load shedding for Stages I has been completed. Stage - II is under consideration which may be expected to be implemented by December 2014. Status of Stage - III & IV will be intimated in next OCC meeting. Mizoram is sending the UFR reports regularly for the implemented stages.

Concerned constituents may kindly intimate the status.

C.4 Lines under long outages

During the 101st OCC meeting, the issue for restoration of these lines was reviewed by the committee and the status was as follows:

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

Manipur representative informed that towers are faulty in locations 90 and 91 due to constructions railway line and road by Ministry of Railway and BRTF. Compensation for the same is awaited from the 2 parties and repairing work may be completed after 2 months from receipt of the compensations.

During 102nd OCC meeting, Manipur representative stated that the line would be completed by end of November 2014.

Manipur may like to inform the status.

C.5 CT Ratio of Transmission Lines in NER:

During 102nd OCC meeting, CT ratios of transmission lines of NER are to be enhanced for enhancement of transfer capability & reliable grid operation. List of these transmission lines are available in minutes of 102nd OCCM of NERPC.

NEEPCO has submitted CT configuration details; it is requested to furnish the adopted CT ratio details.

Concerned transmission utilities are requested to enhance CT ratio of these elements at the earliest.

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 101st OCC meeting, NERLDC informed that all the beneficiary states except Manipur have submitted the required information.

Now NERLDC informed that NEEPCO (Khupi S/S), POWERGRID (Mariani, Mokokchung, Melriat, Namsai, Tezu & Roing), NHPC (Loktak HEP & Lower Subhansiri HEP), OTPC (Palatana GBPP) and NTPC (Bongaigaon TPP) have not furnished these data till date.

During 102nd OCC meeting, Manipur representative stated that they had already sent to GM, NERLDC. Tripura representative submitted to NERLDC during the meeting. NERTS agreed to submit soon. NEEPCO will check and submit. OTPC agreed to submit soon.

POWERGRID (Biswanath Chariali, Mariani, Mokokchung, Melriat, Namsai, Tezu & Roing), NHPC (Lower Subhansiri HEP), OTPC (Palatana GBPP) and NTPC (Bongaigaon TPP) have not furnished these data till date.

Concerned constituents may intimate the current status.

C.7 Single Line Diagram of Sub-stations, Switching Stations & Power Stations of NER:

P&E, Mizoram, Me. PTCL, TSECL and POWERGRID (except Mariani) have furnished Single Line Diagram of their Sub/Switching Stations.

All other constituents of NER are requested to furnish Single Line Diagram of Sub-Stations, Switching Stations & Power Stations owned by them at the earliest as these diagrams are required for proper visualization.

Constituents may kindly furnish the information at the earliest.

C.8 Status of implementation of re-setting of Run Back frequency of Pallatana Unit:

This issue was also deliberated in 102nd OCC meeting. It was decided that the setting of re-setting frequency is to be set at 50.5 Hz.

OTPC may please intimate the status of implementation.

C.9 Finalization of Annual Load Generation Balanced Report (LGBR) for peak as well as off-peak scenarios and the Annual outage plan for 2015-2016 by 31.12.2014 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.

Constituents may please intimate the status.

C.10 Latest status of FGMO/RGMO implementation in different generating stations:

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

Constituents may please furnish the above information.

C.11 Submission of list of feeders connected to essential load:

As per clause no 5.8.c of IEGC, essential loads are to be restored on priority during restoration process. Constituents of NER are requested to furnish list of feeders connected to essential load at the earliest to incorporate in next version of Black start & Restoration Procedures of NER.

Constituents may please furnish the above information.

C.12 Gas Grid for Gas Based Power Stations & Mining Load Network:

Gas Grids for Gas Based Power Stations representing location of gas production, gas network & location of gas based power station are required for creation of data bank. AEGCL/TSECL/NEEPCO/OTPC are requested to send these to NERLDC as early as possible. Mining Load & its connectivity with grid sub-station is required for system operation and identification essential load. AEGCL/Me. PTCL are requested to send these information to NERLDC.

Concerned Constituents may please furnish the above information.

C.13 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	Nov14	Dec14	Jan15	Feb15	Mar15
Ar. Pradesh	65	65	65	55	
Assam	660	680	690	615	
Manipur	65	65	70	55	
Meghalaya	175	175	195	175	
Mizoram	43	40	41	35	
Nagaland	55	55	60	55	
Tripura	110	120	125	100	
NER	1173	1201	1246	1090	

Availability:

Name of State	Nov14	Dec14	Jan15	Feb15	Mar15
Ar. Pradesh	47	43	40	31	
Assam	461	454	439	385	
Manipur	64	59	56	47	
Meghalaya	158	148	133	111	
Mizoram	39	36	36	31	
Nagaland	38	34	32	27	
Tripura	134	138	137	112	
NER	941	914	873	744	

C.14 Monthly MW requirement & availability of each state of NER:

The following figures were taken from LGBR 2014-15 of NERPC. These figures are to be reviewed.

A. Peak Demand in MW

Name of State	Nov14	Dec14	Jan15	Feb15	Mar15
Ar. Pradesh	125	125	130	130	
Assam	1435	1450	1380	1235	
Manipur	135	135	150	135	
Meghalaya	350	345	390	385	
Mizoram	90	80	79	78	
Nagaland	120	125	130	120	
Tripura	270	250	245	235	
NER	2525	2460	2455	2318	

B. Peak Availability in MW

Name of State	Nov14	Dec14	Jan15	Feb15	Mar15
Ar. Pradesh	120	118	110	101	
Assam	874	867	835	816	
Manipur	115	118	109	105	
Meghalaya	290	276	246	192	
Mizoram	80	79	75	71	
Nagaland	75	75	70	66	
Tripura	285	281	275	272	
NER	1839	1814	1719	1623	

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

Name of State	Nov14	Dec14	Jan15	Feb15	Mar15
Ar. Pradesh	69	69	72	72	
Assam	890	899	856	766	
Manipur	81	81	90	81	
Meghalaya	210	207	234	231	
Mizoram	59	52	51	51	
Nagaland	72	75	78	72	
Tripura	176	163	159	153	
NER	1555	1470	1465	1426	

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

Name of State	Nov14	Dec14	Jan15	Feb15	Mar15
Ar. Pradesh	115	114	107	100	
Assam	831	835	817	796	
Manipur	104	105	102	98	
Meghalaya	276	264	240	216	
Mizoram	76	76	73	69	
Nagaland	70	71	68	64	
Tripura	279	274	271	268	
NER	1751	1740	1465	1611	

D. NEW ITEMS

D.1 Generation Planning (ongoing and planned outages)

NEEPCO/NHPC/OTPC 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 generation planning for lean hydro period - On the onset of winter season reservoir levels in all the hydro stations have started depleting. Specially level of Loktak reservoir is very low and requires immediate reduction of generation. NERPC issued one letter to NHPC in this respect but no action is noticed. Proper planning is required to utilize the available water for entire lean hydro period, say upto May, 2015.

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

D.2 Water level and spillage data of Hydro Stations

Historical data of reservoir level & spillage data of hydro stations are not available with NERLDC. This information is sometimes asked by various authorities. To facilitate in making a database for the same, all concerned are requested to furnish the available information to NERLDC as early as possible.

During 101st OCC meeting, DGM, NERLDC informed that the format was sent to all the constituents for necessary submission of data. However, till date no constituents have submitted the data to NERLDC.

The Sub-committee once again requested all the constituents to furnish the data to NERLDC at the earliest.

D.3 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.

The sub-Committee may kindly discuss and approve the transmission line outages proposed by Constituents for November - December, 2014 as enclosed at Annexure- D.3

During 102nd OCC continuous shutdown of 132 kV Ranganadi – Lekhi line was allowed from 18.10.2014 to 22.10.2014 for shifting of LOC 52. But the S/D could not be returned upto 25.10.2014 (11:39 Hrs) which resulted in huge power shortfall in almost entire Central Assam, particularly in the North Bank Region.

Situation further aggravated due to celebration of Diwali festival on 23.10.2014 as public showed widespread agitation in many areas. It should be noted that during 102nd OCC, Assam insisted to defer the above shutdown after Diwali festival so that any power shortage during Diwali could be avoided, but it was only after POWERGRID assured that the shutdown would return within a stipulated time, Assam concurred the above shutdown.

Assam would like to stress upon the matter as it has created widespread resentment among public to which Assam was not answerable. So, in future continuous shutdown of such nature should not be taken before any important event, and even if taken, agency should be sure enough to bring back the element within the stipulated time frame granted by OCC forum.

POWERGRID may like to deliberate.

D.4 Commissioning of 315 MVA ICT at NTPC Bongaigaon & also 220 kV BTPS (Assam):

NTPC D/C line for off loading 220kV Salakati-BTPS D/C line – It has been observed that the 220 kV Salakati – BTPS D/C line is getting overloaded during peak hours posing threat to system security. For off-loading the link it is requested

to NTPC for taking actions for early commissioning of 315 MVA ICT at NTPC Bongaigaon & also 220 kV BTPS(Assam) – NTPC D/C line for off loading 220kV Salakati-BTPS D/C line. As no representatives from NTPC were present in the 99th OCC meeting, the subcommittee advised NERLDC/NERPC to take up the matter with NTPC for early commissioning of 315 MVA ICT at NTPC Bongaigaon.

During 100th OCC meeting, AGM, NTPC stated that test charging of Bongaigaon ICT is done. 2 bays will be test charged from Balipara end in the 2nd week of September 2014.

NTPC may kindly intimate the status.

D.5 Requisition based scheduling:

In the 102nd OCC meeting, representative from APDCL informed that the real time scheduling of power is revised absurdly high due to sudden inflow in RHEP. This sudden revision of schedule is sometimes more than 20% of the earlier schedule, causing inconvenience in demand management besides commercial loss through DSM. He requested the forum to devise some scheduling mechanism by reducing schedules from storage based hydro station while preventing commercial loss of beneficiaries.

Members agreed to the proposal of APDCL. After deliberation, it was decided that NERLDC may come out with a proposal for implementing requisition based scheduling for storage based hydro stations also. However, the following points should be noted: -

- 1) All scheduling will be done as per IEGC.
- 2) There should not be any spillage of water as stipulated in IEGC.
- 3) Technical minimum criteria may be different from thermal stations.
- 4) Such reduction in requisition may be done only when there are sudden changes of schedule due to inflow of RoR stations.

The Sub-committee requested NERLDC to highlight the proposal in next OCC meeting for deliberation.

D.6 Furnishing Energy Charge Rate (ECR) of NER, ISGS:

For providing information to MOP, CEA etc Energy Charge Rates (ECR) of Palatana, AGBPP, AGTPP, Ranganadi, Kopili, Khandong, Kopili St II, Doyang and Loktak are required. NEEPCO, NHPC & OTPC are requested to please furnish Energy Charge Rates (ECR) of previous month in ₹/kWh by 15th of next month.

Concerned constituents are requested to furnish the above data.

D.7 Progress Report of Ongoing Projects:

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

Currently, only NTPC, NEEPCO and Me. PGCL are furnishing monthly progress report of elements on regular basis.

Constituents are requested to furnish the above data.

D.8 Evacuation Plan of Lower Kopili HEP (110 MW):

Under the evacuation plan of Lower Kopili Hydroelectric Project (110 MW), one new 220kV sub-station is proposed at Lanka (Sankardeb Nagar) with connectivity through one 220kV double circuit line from LKHEP. To bring the proposed 220kV sub-station with 220kV network, one circuit LILO of Kopili – Misa 220kV D/C line at Lanka is proposed. **As the said Kopili – Misa D/C is an interstate line, approval for proposed LILO line is placed at the disposal of NERPC forum. The length of the LILO line is about 5 KM.**

The Sub-Committee may like to discuss.

D.9 Commercial operation of newly constructed ASEB 33kV line:

- a) PGCIL installed SEM bearing SI. No. NP-8387-A, model ER300P on 13.09.13. The meter required configure for remote data collection from control room computer like other installed meters for calculation of station output & *.dat file.
- b) Required modification of SEMDBASE software where the meter will be added with Khandong PS Ex-bus calculation. The line CT is 200/1A and PT is 33KV/110V.

The Sub-Committee may like to discuss.

D.10 Estimated Transmission Availability Certificate (TAC) for the month of October, 2014.

The Estimated Transmission System Availability for the month of October, 2014, furnished by PGCIL, is **99.9820%**. The detail outage data for calculation of Transmission System Availability furnished by PGCIL, is at **Annexure D.10**. NER constituents are requested to kindly communicate their views and observations, if any, by 28th November, 2014 so that Final TAC for the month of October, 2014 may be finalized by NERPC Secretariat.

Availability certification of ISTS elements – POWERGRID & NETC submitted outage reports of their lines for certification for the first time for this control period i.e. 2014-19. Being the first certificate to be issued for the control period 2014-19 the same may be thoroughly deliberated by the constituents vis a vis the new tariff regulation so that any inadvertent mistake can be detected & corrected before issuance of certificate by NERPC.

Procedure for calculation of Transmission system availability factor for a month as per CERC Regulation 2014-19.

The OCC forum have agreed to the important points on the regulation regarding transmission availability calculations as follows:

- For Ac system, two trippings per year shall be allowed.
- After two trippings in a year, additional 12 hours outage shall be considered in addition to the actual outage
- In case of outage of a transmission element affecting evacuation of power from the generating station, outage hour shall be multiplied by a factor of 2.
- The weightage factor for each category of transmission elements shall be calculated as per regulation.

The procedure for finalizing certification by NERLDC was deliberated in detail and the following points were agreed: -

Planned Outages: -

1. In all cases of outages, RLDC will certify the actual outage period. The outage period will be cross-checked with the approved outage period in OCC forum. All planned outages should be availed by the executing agency as approved in the OCC forum.
2. Any deferment from approved outage hours and approved outage days may be intimated by the agency to NERPC with a copy to NERLDC, justifying the reason of deferment. The deferred hours/ days without proper justification will be deducted from the availability period.

Emergency Outages: -

1. Outages beyond the control of the agency when neither RPC nor RLDC could be informed earlier and immediate remedial actions are required.
2. Outages planned in OCC forum but are of emergency in nature like tower in danger; CBs need immediate replacement, etc. However, the agency has to intimate RPC with a copy to RLDC.
3. Outages that cannot be delayed till next OCC forum for proper approval.
4. However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Transient Outages: -

1. Outages that are of transient in nature due to lightning, mal-operation of relays, etc.
2. Transient Earth Fault, Auto-reclosure, phase-to-phase fault, etc.
3. Outages due to infringements.
4. However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Outages due to others: -

1. Outages due to fault in the downstream protection.
2. Outages as per direction of RLDC for desired system condition.
3. Outages due force majeure/ Acts of God.
4. However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Force Majeure: -

1. Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; **or**
2. Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; **or**
3. Industry wide strikes and labour disturbances having a nationwide impact in India;
4. However, the agency has to intimate RLDC with the reason of outage for all the above cases which may be approved in OCC forum.

Conditions given in SoR: -

1. Only 2 trippings per annum allowed for each AC system, additional 12 hours may be added for each tripping in case of trippings more than 2 in a year.
2. Further, in case of outage of a transmission element affecting evacuation of power from a generating station, outage hours shall be multiplied by a factor of **2**.

In the 102nd OCC meeting, DGM (MO), NERLDC also gave a presentation proposing the procedure for transmission availability certification. Members agreed to the proposal of NERLDC except the following points: -

Agenda for 103rd OCC Meeting

1. Constituents may be allowed to study the outage data submitted by NERTS on weekly basis after uploading the same in NERTS website. Then more time will be available for comments to be submitted by next OCC.
- 2) Outage certification of period from April 2014 to June 2014 need to be revised as the same will have effect on number of trippings in a year. Further, constituents are not given the evidence provided by transmission licensees for claiming force majeure due to lightning.

DGM, NERTS also gave a presentation explaining the different waveforms recorded during infringements, lightning, etc.

The Sub-Committee may like to discuss.

Any other item:

Date and Venue of next OCC

It is proposed to hold the 104th OCC meeting of NERPC on second week of December, 2014. The exact venue will be intimated in due course.


PROPOSED SHUTDOWN OF POWERGRID ELEMENTS FOR THE MONTH OF NOV & DEC-2014

SN	Name of Element	Nov/14														Dec/14												Time	Purpose								
		14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9			10	11	12					
A. TRANSMISSION LINES																																					
1	132KV Badarpur-Badarpur (AEGCL) line				■																															17.11.14 (7:00 to 15:00 Hrs)	Replacement of Porcelain 90 KN Disc Insulator by long road polymer insulator of balance 9 (nine) string.
2	132KV Aizawl-Jiribam line (S/C)				■																															18.11.14 (7:00 to 15:00 Hrs)	For Jumper Tightening at Loc No. 416 , cutting of infringement of trees and bamboos from uphill and replacement of Punctured insulator at Loc. No. 137.
3	132KV Aizawl-Kolasib line (S/C)																																			10.12.14 (7:00 to 15:00 Hrs)	For replacement of damaged conductor in B-phase between Loc. No. 158-159 and repairing of damaged outer strands of Y-phase conductor Loc No.133-134.
4	132KV Aizawl-Zemabawk line (S/C)																																			12.12.14 (7:00 to 15:00 Hrs)	For cutting of infringement of trees and bamboos from uphill side between Loc. No. 9-10 & 12-13.
5	132 kV Dimapur- Dimapur-1 Line								■																											19.11.14 (8:00 to 15:00 Hrs)	For AMP works of CT and other elements
6	132 KV Dimapur-Bokajan Line									■																										20.11.14 (8:00 to 15:00 Hrs)	For AMP works of CT and other elements
7	220KV KOPILI-MISA-1 Line																																			26.11.14 (10:00 to 12:00 Hrs)	Auto Reclose Testing of one by one line as per deliberation of OCC
8	220KV KOPILI-MISA-2 Line																																			26.11.14(12:00 to 14:00 Hrs)	
9	220KV KOPILI-MISA-3 Line																																			26.11.14(14:00 to 16:00 Hrs)	
10	220 kV Balipara - Samaguri Line																																		01.12.14 (7:00 to 15:00 Hrs) & 02.12.14 (7:00 to 15:00 Hrs)	Replacement of defective Insulator detected during PID & Isolator Alignment in presence of service engineer	
11	400 kV Balipara - Bongaigaon -1 Line																																			27.11.14 (7:00 to 15:00 Hrs)	Line Isolator Alignment in presence of service Engineer
12	400 kV Balipara - Bongaigaon -2 Line																																			28.11.14 (7:00 to 15:00 Hrs)	Line Isolator Alignment in presence of service Engineer
13	400 kV Balipara - Ranganadi -2 Line																																			21.11.14 (7:00 to 15:00 Hrs) to 25.11.14 (7:00 to 15:00 Hrs)	For facilitating erection of new tower at Loc. 37N in connection with Railway diversion work.
14	400 KV- Misa-BALIPARA-1 Line																																			15.11.14 (7:00 to 15:00 Hrs) & 16.11.14 (7:00 to 15:00 Hrs)	For facilitating re-stringing work of Earthwiire in Diamond config in 220KV Samagiuri-Sarusajai at loc.95-96 for enhanced electrical clearance
15	400 KV- Misa-BALIPARA-2 Line																																			15.11.14 (7:00 to 15:00 Hrs) & 16.11.14 (7:00 to 15:00 Hrs)	
16	220KV Samaguri-Sarusajai-1																																			15.11.14 (7:00 to 15:00 Hrs) & 16.11.14 (7:00 to 15:00 Hrs)	
17	220KV Samaguri-Sarusajai-2																																			15.11.14 (7:00 to 15:00 Hrs) & 16.11.14 (7:00 to 15:00 Hrs)	
B. SUBSTATION																																					
1 400KV BALIPARA SUBSTATION																																					
i	400KV, 315 ICT Main Bay																																			28.11.14 (9:00 hrs) to 29.11.15 (15:00 Hrs)	Isolator alignment in presence of service engineer and AMP works of Main Bay
ii	400kV, 63 MVAR Bongaigagaon -3 L/R																																			17.11.14 (9:00 to 15:00 Hrs)	For collecting oil samples from Reactor bushings
iii	400KV, 80 MVAR Bus Reactor -2																																			18.11.14 (9:00 to 15:00 Hrs) & 03.12.14 (9:00 to 15:00 hrs)	For collecting oil samples from Reactor bushings & AMP works
iv	400KV, Bongaigaon-1 Main Bay																																			15.11.14 (7:00 hrs) to 16.11.14 (15:00 Hrs)	Isolator alignment in presence of service engineer and AMP works of Main Bay. Feeder to be in service through Tie Bay.

PROPOSED SHUTDOWN OF AEGCL/NAGALAND/Me.PTCL ELEMENTS FOR THE MONTH OF NOV& DEC-2014

SN	Name of Element	Nov/14												Dec/14												Time	Purpose													
		14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7			8	9	10	11	12								
AEGCL																																								
A. TRANSMISSION LINES																																								
1	132 KV Panchgram - Silchar (PG)																																						18.11.14 (10:00 to 15:00 Hrs)	Required for checking looping of the line at substation end
2	132 KvDullavcherra-Silchar (PG)																																						19.11.14 to 21.11.14 (09:00 to 16:00 Hrs)	Required for jumper checking and jungle clearance.
3	132 Kv Srikona-Pailapool																																					24.11.14 to 26.11.14 (009:00 to 16:00 Hrs)	Required forjungle cutting and jumper checking.	
4	132 Kv Depota-Balipara (PG)																																					22.11.14 (08:00 to 16:00 Hrs)	Required for maintenance of LOC 17 to 28	
5	132 Kv Gohpur-Balipara (PG)																																					22.11.14 (08:00 to 16:00 Hrs)	Required for maintenance of LOC 92 to 103	
6	400 Kv Azara-Silchar (PG)																																					17.11.14 (08:00 to 16:00 Hrs)	Required for interlock checking of Bays and correction of energy meter connection.	
B. SUBSTATION																																								
1	220 Kv Bus (both Main I & Main II) at Azara S/S																																					18.11.14 (09:00 to 16:00 Hrs)	Required for checking DC Circuit in busbar panel and correcting alignment of 4 Bus isolators.	
2	220 Kv Sarusajai-Azara-I																																					19.11.14 (09:00 to 16:00 Hrs) & 22.11.14 (09:00 to 14:00 Hrs)	Required for correction of line isolators at Azara S/S and also jungle clearance.	
3	220 Kv Sarusajai-Azara-II																																					20.11.14 (09:00 to 14:00 Hrs)	Required for tension clamp checking of the line	
4	220 Kv Agja-Azara																																					18.11.14 (08:00 to 16:00 Hrs)	Required for checking of jumpers and jungle clearance	
5	220 Kv Boko-Azara																																					19.11.14 (09:00 to 16:00 Hrs)	Required for correcting alignment of line isolators at Azara S/S and conductor repairing	
6	220 Kv Agja-Bojko																																					20.11.14 (08:00 to 16:00Hrs)	Required for checking of jumpers and jungle clearance	
AEGCL (400kV KUKURMARA (MIRZA) GRID SUBSTATION																																								
1	400kV Silchar line																																					17.11.14 (9:00 to 16:00 Hrs)	Interlock checking of 89LE1 of 207 & 204 Bays and correction of energy meter connection.	
B. SUBSTATION																																								
1	220 kV Both bus (Main-I&Main-II) at Kukurmara S/s																																					18.11.14 (9:00 to 16:00 Hrs)	For checking DC circuit in busbar panel and correcting alignment of	
2	220kV Sarusajai-I (210 Bay) and Boko (208 Bay) line at kukurmara S/s																																						19.11.14 (9:00 to 16:00 Hrs)	Correcting the alignment of the Line Isolators in both the bays
NAGALAND																																								
A. TRANSMISSION LINES																																								
1	132kV Dimapur (PG) - Kohima																																				21.11.14 (08:00 to 17:00 Hrs) & 22.11.14 (08.00 to 17:00 Hrs)			
Me.PTCL																																								
A. TRANSMISSION LINES																																								
1	220 Kv Misa-Byrnihat Lines-I &II																																				14.11.14 (09:00 to 15:00 Hrs)	To enable attending at some important maintenance works viz. Jungle, Jumpers maintenance, etc		

 Daytime SD

 : Continuous Shutdown

Proposed Day Time Shut Down Programme for the Month of November 2014, Ranganadi HEP, NEEPCO Ltd.

Sl No.	Name of Element	Nov-14																												Purpose
		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			
1	120MVA, 132/√3/400/√3 KV, 1-phase Auto-Transformer Bank-I																												Tan Delta Tests for Auto-Transformer Bushings & windings, R,Y& B phase Current Transformer for 400kV side of Auto-Transformer Bank-I.	
2	400KV Ranganadi-Balipara Line-I																												Tan Delta Tests of 50MVAR, 420KV, 3Ph Shunt Reactor-I & 85kVAR,145KV,1Ph ,850 Ohms, N.G.R & for R,Y& B phase Current Transformer for 400kV side of Reactor-I& Line CTs.	
3	400KV Ranganadi-Balipara Line-II																												Tan Delta Tests of 50MVAR, 420KV, 3Ph Shunt Reactor-I, 85kVAR,145KV,1Ph ,850 Ohms, N.G.R & for R,Y& B phase Current Transformer for 400kV side of Reactor-II& Line CTs.	

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6/11/14

PROPOSED SHUTDOWN OF NEEPCO ELEMENTS FOR THE MONTH OF NOV& DEC-2014

SN	Name of Element	Nov/14															Dec/14																Time	Purpose																								
		14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14			15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
KHANDONG POWER STATION, KHEP, NEEPCO																																																										
A. TRANSMISSION LINES																																																										
1	132 Kv Khandong-Khliehriat-I																																														←→	08.12.14 to 14.12.14	Retrofitting of 3 Nos. 132 KV feeder line breakers									
2	132 Kv Khandong-Kopili -I																																																	←→	15.12.14 to 21.12.14	Retrofitting of 3 Nos. 132 KV feeder line breakers						
3	132 Kv Khandong-Haflong																																																		←→	22.12.14 to 28.12.14	Retrofitting of 3 Nos. 132 KV feeder line breakers					
B. SUBSTATION																																																										
1	Bus Coupler & Khandong Bus-B																																																				17.11.14 to 18.11.14 (09:00 to 16:00 Hrs)	(09:00 to 16:00 Hrs)	Retrofitting of 132 KV Bus Isolator			
2	Khl feeder-I & Khandong Bus -B																																																						19.11.14 to 20.11.14 (09:00 to 16:00 Hrs)	(09:00 to 16:00 Hrs)	Retrofitting of 132 KV Bus Isolator	
3	Khl feeder-I & Khandong Bus -A																																																							21.11.14 to 22.11.14 (09:00 to 16:00 Hrs)	(09:00 to 16:00 Hrs)	Retrofitting of 132 KV Bus Isolator



Daytime SD



: Continuous Shutdown

a) During dismantling & erection of CB poles, Khandong Bus-A will be under 4-5 hrs. daytime shutdown (1 day for dismantling & 1 day for erection) for movement of 12T hydra crane. The shutdown will be taken on required day which will be intimated accordingly.

POWER GRID CORPORATION OF INDIA LIMITED
OPERATION SERVICE DEPARTMENT, NERTS, SHILLONG
Exception Report of Bus Reactors

MONTH : OCTOBER-14

Sl. No.	Name of the Element		Ckt No		Duration of Outage and Attributable To						Category	Reason of Outage			
	Outage		Restoration		POWERGRID		Other Constituents		Sys.Const/Natural calamities/ Militant activities				Outage under categories of Deemed Available		
	Date	Time	Date	Time	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.			Hrs.	Mns.	
BR_BONGAIGAON(80MVAR)			#4												
1	15/10/2014	18:44	19/10/2014	01:01	00	00	00	00	00	00	2909	54	SVRD	H/T for vol. regu. on RLDC instruction	
2	20/10/2014	18:02	23/10/2014	01:00	00	00	00	00	00	00	54	58	SVRD	H/T for vol. regu. on RLDC instruction	
Sub-Total					00 : 00		00 : 00		00 : 00		2964 : 52				
BR_BONGAIGAON(80MVAR)			#3												
3	21/10/2014	19:05	22/10/2014	00:20	00	00	00	00	00	00	05	15	SVRD	H/T for vol. regu. on RLDC instruction	
Sub-Total					00 : 00		00 : 00		00 : 00		05 : 15				
Grand Total					00 : 00		00 : 00		00 : 00		2970 : 07				

POWER GRID CORPORATION OF INDIA LIMITED
OPERATION SERVICE DEPARTMENT, NERTS, SHILLONG
Exception Report

MONTH: OCTOBER-14

Sl. No.	Name of the Element		Ckt No		Duration of Outage and Attributable To								Category	Reason of Outage
	Outage		Restoration		POWERGRID		Other Constituents		Sys.Const/Natural calamities/ Militant activities		Outage under categories of Deemed Available			
	Date	Time	Date	Time	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.		
RCN_AGARTALA					# 1									
1	09/10/2014	12:43	09/10/2014	14:28	00	00	00	00	01	45	00	00	LNCC	S/D Availed by PG
Sub-Total					00	00	00	00	01	45	00	00		
BADARPUR-BADARPUR														
2	28/10/2014	07:56	28/10/2014	16:56	00	00	00	00	09	00	00	00	LNCC	insulator replacment
Sub-Total					00	00	00	00	09	00	00	00		
BADARPUR_JIRIBAM														
3	25/10/2014	07:47	25/10/2014	16:52	00	00	00	00	00	00	09	05	LCSD	s/d for stringing work of 400kV silchar-impahal line
4	26/10/2014	07:09	26/10/2014	15:52	00	00	00	00	00	00	08	43	LCSD	s/d for stringing of 400kV silchar-impahal line
5	27/10/2014	07:15	27/10/2014	16:50	00	00	00	00	00	00	09	35	LCSD	s/d for stringing of 400kV silchar-impahal line
Sub-Total					00	00	00	00	00	00	27	23		
BADARPUR_KHLIERIAT														
6	15/10/2014	10:20	15/10/2014	10:28	00	00	00	00	00	08	00	00	LNCC	Flash over marks found on 5 Nos. insulator in Y-Ph at Loc No 22
7	16/10/2014	01:01	16/10/2014	01:13	00	00	00	12	00	00	00	00	OMSU	Tripped due to fault in 132KV NEHU-Khliehriat (state)line
Sub-Total					00	00	00	12	00	08	00	00		
DIMAPUR_IMPHAL														
8	18/10/2014	14:10	18/10/2014	14:20	00	00	00	00	00	10	00	00	GGDC	Powerswing
Sub-Total					00	00	00	00	00	10	00	00		
DOYANG_DIMAPUR					# 2									
9	19/10/2014	08:00	20/10/2014	12:52	00	00	00	00	28	52	00	00	LMAC	Suspected Tree/Bamboo cutting by Villagers
Sub-Total					00	00	00	00	28	52	00	00		
IMPHAL_IMPHAL					#1									
10	02/10/2014	11:44	02/10/2014	11:56	00	00	00	12	00	00	00	00	OMSU	Transient E/F
11	13/10/2014	13:45	13/10/2014	14:13	00	00	00	28	00	00	00	00	OMSU	E/F (tripped due to fault in 132 kv Yaineanonokni(State) line)

Sl. No.	Name of the Element		Ckt No		Duration of Outage and Attributable To								Category	Reason of Outage
	Outage		Restoration		POWERGRID		Other Constituents		Sys.Const/Natural calamities/ Miltant activities		Outage under categories of Deemed Available			
	Date	Time	Date	Time	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.		
12	13/10/2014	14:51	13/10/2014	15:07	00	00	00	16	00	00	00	00	OMSU	E/F (tripped due to fault in 132 kv Yaineanpokni(State) line)
Sub-Total					00	00	00	56	00	00	00	00		
JIRIBAM_HAFLONG														
13	22/10/2014	13:00	22/10/2014	15:06	02	06	00	00	00	00	00	00	OMST	S/D Aailed by PG
Sub-Total					02	06	00	00	00	00	00	00		
JIRIBAM_LOKTAK # 2														
14	18/10/2014	14:10	18/10/2014	14:44	00	00	00	00	00	34	00	00	LNCC	heavy lightning
15	30/10/2014	12:06	30/10/2014	12:18	00	12	00	00	00	00	00	00	LEFT	transient E/F
16	30/10/2014	12:18	30/10/2014	13:31	00	00	01	13	00	00	00	00	OMSU	Problem at LOKTAK (NHPC) end
Sub-Total					00	12	01	13	00	34	00	00		
KHANDONG_KHLIERIAT I														
17	14/10/2014	09:28	14/10/2014	15:33	00	00	06	05	00	00	00	00	OMSU	S/D Aailed by NEEPCO
18	16/10/2014	01:01	16/10/2014	01:15	00	00	00	14	00	00	00	00	OMSU	Tripped due to fault in 132KV NEHU-Khliehriat (state)line
19	16/10/2014	09:28	16/10/2014	16:58	00	00	07	30	00	00	00	00	OMSU	S/d Aailed by NEEPCO
Sub-Total					00	00	13	49	00	00	00	00		
KHANDONG_KHLIERIAT # 2														
20	08/10/2014	14:40	08/10/2014	14:54	00	00	00	00	00	14	00	00	LNCC	Heavy Lightning
21	16/10/2014	01:01	16/10/2014	01:15	00	00	00	14	00	00	00	00	OMSU	Tripped due to fault in 132KV NEHU-Khliehriat (state)line
Sub-Total					00	00	00	14	00	14	00	00		
KHANDONG_KOPII # 1														
22	10/10/2014	11:57	10/10/2014	17:38	00	00	05	41	00	00	00	00	OMSU	S/D Aailed by NEEPCO
Sub-Total					00	00	05	41	00	00	00	00		
KHLIERIAT_KHLIERIAT														
23	16/10/2014	01:01	16/10/2014	01:19	00	00	00	18	00	00	00	00	OMSU	Tripped due to fault in 132KV NEHU-Khliehriat (state)line
Sub-Total					00	00	00	18	00	00	00	00		
NIRJULI-RANGANADI														
24	18/10/2014	08:42	25/10/2014	11:43	00	00	171	01	00	00	00	00	OMSU	earth cutting by construction agency
25	29/10/2014	11:46	29/10/2014	11:55	00	00	00	09	00	00	00	00	OMSU	

Sl. No.	Name of the Element		Ckt No		Duration of Outage and Attributable To								Category	Reason of Outage
	Outage		Restoration		POWERGRID		Other Constituents		Sys.Const/Natural calamities/ Militant activities		Outage under categories of Deemed Available			
	Date	Time	Date	Time	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.		
26	30/10/2014	13:21	30/10/2014	14:36	00	00	01	15	00	00	00	00	OMSU	S/D taken by Arunachal Pradesh (State)
Sub-Total					00	00	172	25	00	00	00	00		
RANGANADI-ZIRO														
27	16/10/2014	08:50	16/10/2014	12:03	00	00	06	05	00	00	00	00	OMSU	S/d Availed by NEEPCO
Sub-Total					00	00	06	05	00	00	00	00		
SILCHAR-HAILAKANDI #1														
28	19/10/2014	15:30	19/10/2014	15:44	00	00	00	14	00	00	00	00	OMSU	Fault beyond line length
Sub-Total					00	00	00	14	00	00	00	00		
SILCHAR-HAILAKANDI #2														
29	16/10/2014	03:07	16/10/2014	04:17	00	00	01	10	00	00	00	00	OMSU	Fault beyond Powergrid jurisdiction
30	17/10/2014	18:34	18/10/2014	08:41	00	00	14	07	00	00	00	00	OMSU	
31	30/10/2014	08:22	30/10/2014	16:05	00	00	00	00	00	00	07	43	SCSD	To facilitating safe working clearance in bay erection work at 132 KV Hailakandi S/s
Sub-Total					00	00	15	17	00	00	07	43		
MISA_DIMAPUR # 2														
32	07/10/2014	11:42	07/10/2014	11:50	00	00	00	00	00	08	00	00	LMAC	Due to militant activities
Sub-Total					00	00	00	00	00	08	00	00		
MISA_KOPILI # 2														
33	02/10/2014	12:01	02/10/2014	12:05	00	00	00	00	00	04	00	00	LMAC	Due to militant activities
Sub-Total					00	00	00	00	00	04	00	00		
SALAKATI-BTPS # 1														
34	08/10/2014	07:56	08/10/2014	16:36	00	00	00	00	08	40	00	00	LNCC	S/D Availed by PG
35	09/10/2014	07:11	09/10/2014	16:09	00	00	00	00	08	58	00	00	LNCC	S/D Availed by PG
36	10/10/2014	07:23	10/10/2014	16:11	00	00	00	00	08	48	00	00	LNCC	S/D Availed by PG
Sub-Total					00	00	00	00	26	26	00	00		
BALIPARA_BONGAIGAON # 1														
37	18/10/2014	10:03	18/10/2014	10:18	00	15	00	00	00	00	00	00	LEFT	transient E/F
Sub-Total					00	15	00	00	00	00	00	00		
BALIPARA-RANGANADI # 2														
38	14/10/2014	12:10	14/10/2014	12:39	00	00	00	29	00	00	00	00	OMSU	S/D Availed by NEEPCO

Sl. No.	Name of the Element		Ckt No		Duration of Outage and Attributable To								Category	Reason of Outage
	Outage		Restoration		POWERGRID		Other Constituents		Sys.Const/Natural calamities/ Miltant activities		Outage under categories of Deemed Available			
	Date	Time	Date	Time	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.		
Sub-Total					00 : 00		00 : 29		00: 00		00 : 00			
Grand Total					02 : 33		216 : 53		67 : 21		35 : 06			