



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

मेघालया स्टेट हाउसिंग फिनांस को-आपरेटिव सोसायटी लि. बिल्डिंग

Meghalaya State Housing Finance Co-Operative Society Ltd. Building

नांग्रिम हिल्स, शिल्लोंग - ७९३००३

Nongrim Hills, Shillong – 793003.



ISO 9001:2008

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No. NERPC/SE (O)/OCC/2014/7643-676

Dated: March 21, 2014

To,

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Distribution), Me. ECL, Lumjingshai, Short Round Road, Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
8. Chief Engineer (WE Zone),Department of Power ,Govt. of Arunachal Pradesh, Itanagar- 791 111
9. Chief Engineer (EE Zone),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
10. Chief Engineer (TP&MZ),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
11. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
12. Chief Engineer (P), Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
13. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
14. General Manager, TSECL, Agartala – 799 001
15. Regional ED (East –II), NTPC, 3rd Floor, OLIC Bldg., Pl No- N.17/2, Nayapalli, Bhubaneswar-12
16. ED (O&M), NERTS, PGCIL, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
17. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
18. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
19. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
20. GM (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
21. GM, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
22. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
23. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066

Sub: Minutes of the 95th OCC & 19th PCC Meetings - Reg.

Sir,

The Minutes of the 95th OCC & 19th PCC Meetings of NERPC held on 12.03.2014 at "Hotel Nandan", Guwahati is enclosed for favour of kind information and necessary action please.

Any comments or observations may kindly be communicated at the earliest.

With warm regards,

Encl: As above

भवदीय / Yours faithfully,

बि. लिंगखोइ / B. Lyngkhohi

अधीक्षण अभियंता / Superintending Engineer

प्रचालन / Operation

Copy to:

1. CGM, AEGCL, Bijuli Bhavan, Guwahati - 781001
2. CGM, APGCL, Bijuli Bhavan, Guwahati - 781001
3. CGM, DISCOM, Bijuli Bhavan, Guwahati - 781001
4. Head of SLDC, Me.ECL, Lumjingshai, Short Round Road, Umjarain, Shillong – 793 022
5. Head of SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
6. Head of SLDC, Department of Power, Dimapur, Nagaland
7. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
8. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl – 796 001
9. Head of SLDC, TSECL, Agartala – 799 001
10. Chief Engineer(Elect), Loktak HEP, Vidyut Vihar, Kom Keirap, Manipur- 795124
11. DGM (C&M), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110019.

वी. लिंगखोड

अधीक्षण अभियंता / **Superintending Engineer**

**MINUTES OF THE 95th OPERATION COORDINATION
& 19th PROTECTION COORDINATION SUB-COMMITTEE
MEETINGS OF NERPC**

Date : 12/03/2014 (Wednesday)

Time : 10:00 hrs

Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 95thOCC & 19th PCC Meeting is attached at **Annexure – I**

Shri S.K. Ray Mohapatra, Member Secretary (I/C), NERPC welcomed all the delegates of constituents to the 95th OCC & 19th PCC meetings. He also welcomed and introduced Shri Jayant Kumar Sharma, who had recently joined as Chief General Manager of SLDC, Assam and expressed that his long association with Power Sector will help the forum in resolving number of issues of the North Eastern Region. Further, he stated that the availability of Generation from Unit # 1 of OTPC at Pallatana, has provided huge relief to NER constituents under present scenario and at the same time the outage of Unit adds misery to the beneficiaries of NER due to huge financial implication which was highlighted during one and half day work shop on "Regulations related to Grid Operation and Electricity Market" organized by NERLDC. Based on the presentations by NERLDC during above work shop, he highlighted that utilities should manage their drawal pattern to reduce unnecessary penalty due to implementation of Deviation settlement mechanism, particularly under drawal, which can be managed in a better way. He also highlighted about the operationalization of PSDF as notified by Ministry of Power and requested all concern to take advantage of the available fund for system improvement in both transmission and distribution system. Member secretary stated that information related to Power cut/restrictions on Industries, power supply to agricultural & rural sectors & rural villages are required to be sent to CEA & MoP on monthly basis. He requested respective states to furnish the same on monthly basis in prescribed format which has been circulated to them. He further requested all the constituents to actively participate in the discussion in the meeting for fruitful outcome.

Thereafter, Member Secretary I/C requested Shri Srimohan Jha, EE (O), NERPC to take up the agenda items for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 94th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

EE (O) informed that the minutes of 94th meeting of Operation Sub-committee held on 18th February, 2014 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2014/7377-7410 dated 26th February, 2014.

CONFIRMATION OF MINUTES OF 18th MEETING OF PROTECTION SUB-COMMITTEE OF NERPC.

Similarly, the minutes of 18th meeting of Protection Sub-committee held on 18th February, 2014 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2014/7377-7410 dated 26th February, 2014.

NERLDC, vide their letter No. NERLDC/GM/34/2345 dated 06-03-2014 has requested for incorporation of following line in Item No. D-6 of 94th OCC minutes:

“NERLDC requested that till the finalization of Technical Minimum level of different generators, the present practice will be followed honouring the levels declared by the generators for preparation of Schedules and subsequent revisions. The subcommittee agreed.”

The Sub-committee confirmed the minutes of 94th OCCM & 18th PCCM of NERPC with incorporation of above observations or comments by NERLDC.

EE (O), NERPC then requested NERLDC to give the presentation on the grid performance of NER during the month of February, 2014.

The presentation as given by NERLDC is given as below:

ITEMS FOR DISCUSSION

B.1. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING FEBRUARY, 2014

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

NER PERFORMANCE DURING FEBRUARY, 2014

States	Energy Met (MU)		% inc(+)/dec(-)	Energy Reqr. (MU)		% inc(+)/dec(-)
	Feb-14	Jan-14		Feb-14	Jan-14	
Ar. Pradesh	41.72	46.93	-11.1	43.98	49.51	-11.2
Assam	506.66	571.58	-11.4	547.02	612.27	-10.7
Manipur	43.57	47.89	-9.0	46.37	51.71	-10.3
Meghalaya	130.52	157.47	-17.1	146.63	179.57	-18.3
Mizoram	36.03	39.49	-8.8	37.37	41.65	-10.3
Nagaland	43.27	48.73	-11.2	45.08	50.87	-11.4
Tripura	79.60	91.62	-13.1	81.23	93.00	-12.7
Region	881.40	1003.7	-12.2	947.68	1078.59	-12.1

States	Demand Met (MW)		% inc(+)/dec(-)	Demand in (MW)		% inc(+)/dec(-)
	Feb-14	Jan-14		Feb-14	Jan-14	
Ar. Pradesh	116	116	0.0	119	118	1.2
Assam	1085	1079	0.6	1163	1089	6.7
Manipur	128	129	-0.8	129	129	0.0
Meghalaya	296	330	-10.3	297	343	-13.7
Mizoram	77	82	-5.9	79	84	-5.9
Nagaland	104	106	-1.9	104	107	-2.0
Tripura	206	201	2.5	207	201	3.0
Region	1929	1925	0.2	2025	2009	-3.4

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	Feb-14	Jan-14
Total Generation in NER (Gross)	690.96	816.76
Total Central Sector Generation (Gross)	457.48	541.9
Total State Sector Generation (Gross)	233.48	274.86
Inter-Regional Energy Exchange		
(a) NER-ER	17.05	17.26
(b) ER-NER	218.06	221.12
© Net Import	201.01	203.86

AVERAGE FREQUENCY (Hz)

Month---->	Feb-14	Jan-14
	% of Time	% of Time
Below 49.7 Hz	-	0.51
Between 49.7 to 50.2 Hz	69.98	90.06
Above 50.2 Hz	5.34	9.43
Average	50.05	50.03
Maximum	50.71	50.67
Minimum	49.37	49.4

From the above table, it is seen that energy requirement met of the region has decreased considerably.

The Summary of Category A, B, C Messages issued by NERLDC for the constituents of NER for the Month of February 2014 is given as below:

State	A (<49.8 Hz)		B (<49.7 Hz)		C (<49.7 Hz) Persistent Overdrawal		Total	
	Jan'14	Feb'14	Jan'14	Feb'14	Jan'14	Feb'14	Jan'14	Feb'14
Ar. Pradesh	03	01	00	00	00	00	03	01
Assam	00	01	00	00	00	00	00	01
Manipur	03	01	00	00	00	00	03	01
Meghalaya	01	01	00	00	00	00	01	01
Mizoram	03	01	00	00	00	00	03	01
Nagaland	02	01	00	00	00	00	02	01
Tripura	01	00	00	00	00	00	01	00

FOLLOW UP ACTION

C.1 Synchronization of Pallatana Module -I

The CoD of Unit # 1 of OTPC was declared on 04.01.2014. Further, it was informed that 2nd Gas Booster Compressor (GBC) has been received from M/s BHEL and the 3rd GBC is still in BHEL's factory at Hyderabad. The trail run of 2nd GBC would be carried out on 22nd January 2014 and the CoD for Unit # 2 is expected in the month June 2014.

During 94th OCC meeting, the constituents were not in favour of shut down of OTPC plant. After detail discussion, the subcommittee had agreed for shut down of plant between third week of March 2014 and first week of April 2014 (before Bihu festival) for replacement of filters. GM, OTPC also had informed that as per contract, the Performance Guarantee (PG) test has also to be carried out for Unit #1 before the Unit #1 is handed over to OTPC by BHEL and hence cleaning / replacement of filters are to be completed before the PG tests. He further said that trial operation of Unit #2 will be carried out during the shutdown period of Unit#1.

Deliberation of the Committee

The constituents expressed concerned about the frequent tripping of Unit #1 at Palatana and emphasized that the generation from OTPC is very crucial for meeting the power demand of the region under present scenario. The representative of OTPC informed that due to presence of foreign particles in the pipe line, the machine tripped and in the mean time the problem has been resolved after cleaning operation. The representative of Tripura insisted for deferring the shut down programme of OTPC which was approved in 94th OCC meeting. However, the subcommittee advised OTPC to go ahead with earlier decision. GM, NERLDC stated that all planned activities / testing / trial run before synchronization of the Unit #2 are not being communicated properly to NERLDC and OTPC is required to provide following information well in advance, which has bearing on grid operation:

- Quantum of power to be taken from Grid
- The date and time of synchronization of Unit #2
- Program for injection of infirm power etc.

The DGM of OTPC assured for providing relevant information before synchronization of Unit #2 and all planned activities / testing / trial run would be communicated properly in advance to NERLDC for smooth operation of the grid. TSECL stated that frequent changes in schedule by OTPC have made it difficult for proper planning by the beneficiaries. Subcommittee requested OTPC to look into the matter and should avoid such practice.

During the discussion it was also brought to the notice of constituents of the region that the present level of generation from Unit #1 cannot be maintained, when Unit # 2 will go for full load test due to non-availability of full quantum of gas. Moreover, quantum of power generated from Unit # 2 will be treated as infirm power. The financial implication to the beneficiaries, under present scenario, when Unit #1 / Unit #2 / both Units generate power, was also highlighted to the constituents / beneficiaries of the region. The greater is the quantum of infirm power more is likely to be financial burden on the beneficiaries of NER, if the required quantum of gas is not available for running both Units. TSECL and other beneficiary states also suggested that OTPC should maintain adequate generation from Unit #1 which is more reliable than infirm power from Unit#2.

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

SN	Items	Present status
1	Trial operation of Unit -II of OTPC at Palatana	March 2014 and CoD is expected in June, 2014
2	400KV D/C Silchar - Melriat line	September, 2014
3	400KV D/C Silchar - Imphal line	June, 2014
4	220KV D/C Mariani (New) – Mokokchung	June, 2014
5	400KV D/C Byrnihat-Bongaigaon line	March, 2014 (Byrnihat-Azara section completed except stringing of 4 spans and erection of tower in one location and other disputed area)
6	400kV Balipara – Bongaigaon D/C line # 3 & 4 with FSC	March, 2014 subject to availability of forest clearance for 5.2 kms. Of the line. [FSC commissioned on 11.01.2014]

The Sub-committee noted as above.

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 94th OCC meeting, the Sub-committee reviewed the status of implementation of the scheme and the current status is 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 desynchronisation of Gas Turbines. During 93rd OCC meeting, subcommittee had suggested OTPC to discuss the matter with POWERGRID.

The Sub-committee had expressed concern for delay in implementation of SPS -2 & 3 and requested OTPC to pursue with BHEL for early implementation of the scheme.

The SPS-5, related to tripping of 220kV Misa-Byrnihat D/C line, which was proposed by NERLDC in 93rd OCC meeting, needs to be implemented immediately in view of high tripping rate of these lines. NERTS was requested to examine the proposal.

Deliberation of the Committee

The representative of OTPC informed that order has been placed on BHEL for supply of material and the required material is expected to reach the site within 10 to 15 days and the implementation of SPS -2 & 3 will be completed by April 2014. GM, NERLDC informed that SPS needs to be reviewed after commissioning of Unit #2. Sub-committee requested OTPC to pursue with BHEL for early implementation of the scheme.

DGM, NERTS informed that the required scheme for SPS-5 will be submitted to NERPC & NERLDC by end of March 2014.

The Sub-committee noted as above.

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 95th OCC meeting, the Committee reviewed the status of UFR based load shedding as given below:

Ar. Pradesh: EE, SLDC stated that installation of UFRs for Stage-I i.e for load shedding of 5MW has been completed. The identification of feeders and installation of UFRs for load relief of another 15 MW (5 MW in each of 3 remaining stages) would be completed soon.

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

Manipur: The representative of Manipur stated that identification of the feeders and installation of UFRs for the required quantum of UFR based load shedding at different stages will be completed soon.

Meghalaya: During 94th OCC meeting, EE, SLDC had stated that due to law and order problem in Garo Hills, one (1) UFR each from NEHU & Nongstoin has been shifted and will be installed at 2x33 KV Mawphlang S/S. The Sub-committee had

requested Meghalaya to complete the work associated with utilization of the existing standalone UFRs for Stage – I & II of revised UFR based load shedding by February, 2014 and to complete the installation of UFRs for Stage – III & IV by April 2014. EE, SLDC informed that the installation of UFRs up to stage-II has been completed.

Mizoram: Status could not be updated as no representative from Mizoram was present.

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.

Tripura: The Sub-committee had requested Tripura to complete the work associated with utilization of the existing standalone UFRs for Stage – I & II of revised UFR based load shedding by February, 2014 and to complete the installation of UFRs for Stage – III & IV by April 2014.

The subcommittee once again requested all constituent states of the region to complete the installation of UFRs required for all four stages by April 2014.

The Sub-committee noted as above.

C.4 Lines under long outages

During the 95th 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]: Material has already been procured and the target for completion of 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. Assam had requested Nagaland to write to their concern

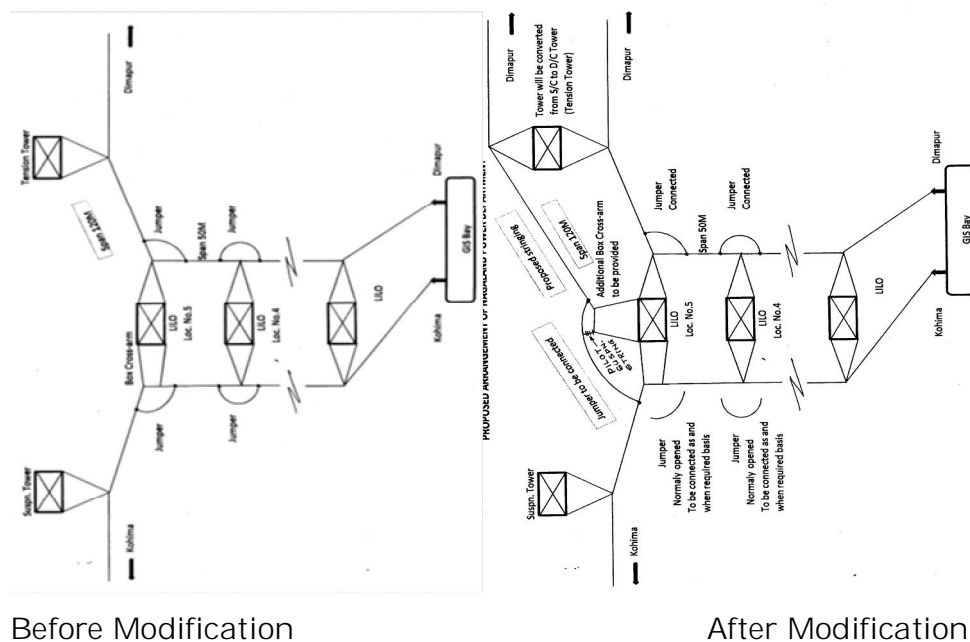
Authority regarding charging of the line so that the line can be revived at the earliest. The Sub-committee had requested Nagaland to give a copy of communication to NERPC Secretariat so that the same can be pursued by them with Assam. Nagaland agreed. AGM of Assam had requested Nagaland to check the adequacy of CT ratio at Mokokchong 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.

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. Subcommittee requested Assam and Nagaland to sort out the issue as early as possible.

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

During 93rd OCC, EE, DoP, Manipur had informed that site for relocation of new tower (due to ground clearance problem caused due to road cutting by BRTF) has been identified. The representative of Manipur informed that the work is in progress and line would be charged by March, 2014.

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 the 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.

Subcommittee requested Nagaland to look into the matter and revert back in next OCC meeting.

The Sub-committee noted as above.

C.5 Release of day ahead drawal schedule based on actual requisition by Constituents instead of open and full capacity requisition:

During 91st OCC meeting, DGM, TSECL stated that while NERLDC considered the technical minimum limits of the stations as declared by the generators, they should also consider technical minimum limit / generation capacity of the generating plants of Tripura while requesting for reduction of state generation.

DGM, NERLDC stated that they are honouring the technical minimum capacity declared by ISGS for preparation of schedule. Regarding reduction of state

generation in case of contingency, he suggested to adjust generation of different units maintaining individual generation either on lower side or higher side outside the dead bands of units.

During the meeting held on 07.02.2014 at NERLDC, Shillong, the issue was raised again by Tripura. They requested the forum to analyze the common issue faced by generators as well as the beneficiaries so that a clear mechanism can be followed while implementing the requisition. The forum suggested NERPC/NERLDC to look into the matter so that the same can be discussed and finalized.

During 94th OCC meeting, SE (O) had highlighted about the deliberations of OCC meeting of WRPC regarding minimum technical level of generation by thermal generating stations in WR and the matter would be deliberated further in next OCC meeting for finalization of technical minimum level for different generating stations of NER in line with other region so that beneficiaries can give their requisition accordingly.

Deliberation of the Committee

During the deliberation, GM, NERLDC highlighted about the decision of SRPC on technical minimum level of generation for thermal generating station. During the work shop on "Regulations related to Grid Operation and Electricity Market" organized by NERLD various decision of Hon'ble Commission and other deliberation regarding the technical minimum level of generation was also brought to the notice of the constituents of the region. The representative of NEEPCO highlighted following issues and the difficulties being faced by them during the operation of the plant.

- a) The gas based stations in the Region are considered as base load stations and required to run at constant load to maintain the quality power supply. If the load varies from time to time, generators may face problem with availability of fuel as per requirement. If Generator's demand for gas is reduced, Gas supplier(s), generally, either divert gas to other agency or throttle the gas to avoid flaring. Once gas supply is restricted by throttling at supply source, the NEEPCO / generator (s) face difficulties like in case of AGTPP. The Agartala Gas Turbine Plant of NEEPCO (84MW) face logistical difficulties in opening the valves for normalization of gas supply, mainly during dusk to dawn hours

owing to security concerns. Hence, it becomes difficult to increase the generation in peak hours commensurate with the requirement or follow the schedule.

- b) The gas turbines are designed to deliver maximum efficiency at base load. Hence operating them at part loads would mean operating with lower efficiency, resulting in higher station heat rates. Since recovery of landed cost of fuel gas is dependent upon operation within the Normative Gross Station Heat Rates fixed by the Hon'ble Commission, operating at higher station heat rates will result in commercial losses by way of under recovery of fuel cost.

- c) Generators have entered into long term agreement with the gas suppliers. As per the take or pay quantity obligation of the agreement, generators have to pay to gas supplier for actual quantity of gas subject to minimum payment for 90% of contracted quantity (i.e. Minimum Guaranteed Quantity). The present "Techno-Commercial Minimum" is based on the drawal of gas quantity upto 90% (i.e. MGQ) of the contracted quantity. In the event of less requisition (resulting to less schedule) by the beneficiaries, generator(s) have to pay huge amount of money to the gas suppliers without generating power. This extra expenditure on gas will add to the landed cost of gas and consequentially inflate the Energy Charge Rate (ECR).

The representative of OTPC informed that the technical minimum generation of Unit (s) is 65% of the rated capacity of the Unit

In the regulations of CERC, there is no mention about techno-economic / techno-commercial minimum generation for the generating stations of Gas / Thermal based power plants. Considering the deliberation in various forums & other RPCs and after detail discussion, the following decision has been taken by the subcommittee regarding technical Minimum level for Gas Based generating stations in NER till any further directive is issued in this regard.

- (a) The Technical Minimum for Combined Cycle Gas Based Power Plant of OTPC at Palatana would be 65% of Declared Capacity (DC).

(b) The Technical Minimum for Combined Cycle Assam Gas Based Power Plant (AGBPP) of NEEPCO at Kathalguri would be 70% of Declared Capacity (DC).

(c) Based on above decision of the subcommittee, the preparation of Schedules and subsequent revisions would be done by NERLDC.

The subcommittee noted as above.

C.6 Deviation Settlement issued by CERC:

As decided in the 93rd OCC meeting, NERPC/NERLDC had arranged the meeting regarding deviation settlement issued by CERC on 07.02.2014 at Shillong. During the meeting, NERLDC had highlighted the pros & cons of the above regulation and the committee thanked and appreciated NERLDC for giving the presentation on deviation settlement mechanism.

During 94th OCC meeting, the representative of TSECL informed that in their opinion "Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matter) Regulations, 2014" in its present form is not suitable for small region like NER and accordingly review petition has been filed by TSECL and requested for support of NER constituents for favourable disposal of the petition. The following issues were raised by the beneficiaries and Generating companies of the region during the deliberation:

1. NER is the smallest of all five regions in the country in terms of installed capacity and energy requirement and is different from other regions in number of ways. The maximum demand and energy demand met of the region is about 1300MW (off-peak) – 2200MW (peak) and 32MU - 37MU per day respectively. The maximum demand and energy demand met of small states like Ar. Pradesh, Manipur, Mizoram and Nagaland is of the order of 70MW-120MW and 1.2MU-1.5MU per day respectively. The geographic location, terrain category and climate & weather condition of states of the region is different from other regions. Unlike other regions, the generating stations of this region are predominantly Gas based or Hydro based, Gas based stations are operating as base load plants and at present there is no coal / lignite based thermal power plant in the region. Working months are very limited. Most of the transmission lines passes through hilly & difficult terrain, dense forest and crosses major rivers like Brahmaputra etc.

2. 132kV network constitute the back bone of transmission system unlike other regions. Most of the 132kV lines are S/C lines, redundancy level is very low and N-1 criteria cannot be applied in many corridors as some of the important links are S/C. The redundancy level and transformation capacity is also inadequate at many substations. The transmission constraints in other region, particularly in ER, restrict the TTC/ATC limit resulting in curtailment of STOA.
3. This is the only region in the country where four states (Ar. Pradesh, Manipur, Mizoram, and Nagaland) are without proper SLDC. It is difficult to monitor grid parameters, over drawal / under drawal without fully functional SLDC.
4. All Gas based power plants of NER have contract agreement with Gas supplying agencies like ONGC / GAIL. The reduction in utilization of quantum of gas supply below a certain level (say 80% or 90%) of the contracted quantum raises contractual issues with the gas supplying agencies and attracts penalty.
5. Due to shortage in supply of required quantum of gas, the full capacity of machine is not being utilized.
6. Over the years the quality of gas supplied by the agencies like ONGC / GAIL has deteriorated. The reduction in calorific value of gas has resulted in increase in requirement of quantum of gas for same output. This has necessitated enhancement of capacity of engine & compressor and in absence of which frequent tripping of Generating Units have been experienced resulting in loss of generation and over drawal by utilities during that period.
7. During monsoon period / during unexpected heavy rain fall, increase in generation by generators due to sudden inflow in Run of the River (ROR) based hydro stations results in forced under drawal by utilities / beneficiaries. It is pertinent to mention that under such situation the states like Assam, Meghalaya and Tripura are forced to back down their own generation to avoid under drawal. But small states like Ar. Pradesh, Manipur, Mizoram, and Nagaland have hardly any generation of their own to back down to avoid under drawal.
8. Sudden load crash, due to disruption of distribution network of the utilities, is a common phenomenon in NER during monsoon period / during unexpected heavy rain fall. Utilities / beneficiaries of NER are forced to go in under drawal mode and surplus power cannot be sold on Power exchange because of day ahead concept and transmission constraint in evacuation of surplus power outside the

region. Moreover, the utilities will have to pay unnecessarily the Capacity Charge for the DC of generators till the revival of the distribution system, which normally takes 2-12 hours depending on severity of damage. In the process the utilities are penalized heavily. Although in four (4) time blocks, the schedule of generation is modified by RLDC, but it is limited to technical minimum declared / specified by generating company.

9. The Unit size of Gas based power plant of NEEPCO is small of the order of 21 MW (GT) / 63.5MW (GT: 33.5MW + ST: 30MW). But the Unit size of Combined Cycle Gas based power plant of OTPC is of order of 363.3MW (GT: 232.39MW + ST: 130.91MW), the biggest gas based generating Unit in the region, which cannot operate in open cycle mode and constitute about 28% of off-peak demand of the region (i.e about 1300MW). The availability and non-availability of such unit affect drastically the drawal pattern of beneficiaries / utilities and leads to deviation from schedule, which would attract penalty to generators / beneficiaries. Similar is the situation in case of Ranganadi HEP with installed capacity of (3x135MW).
10. In the regulations of CERC, there is no mention about techno-economic / techno-commercial minimum generation for the generating stations of Gas / Thermal based power plants. But in general the DC of Generators of gas based power plants is found to be above certain level (techno-economic / techno-commercial minimum) so that PAFM as per CERC norm is achieved and quantum of gas supply do not go below a certain level in order to avoid penalty of gas supply agency (s), even if demand is not there.

Subcommittee suggested that keeping in view the above facts, the TSECL may request Hon'ble commission to look into interest of both generators and Utilities / consumers of NER as far as Regulations of CERC on Deviation settlement Mechanism and related matter is concerned.

Deliberation of the Committee

During the meeting the representative of TSECL informed that based on their Petition No. 6/RP/2014 on "Review of Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matter) Regulations, 2014", the Hon'ble commission has directed to implead NERPC, NERLDC and NLDC as parties to

the petition. The Hon'ble Commission has also directed the parties to file their replies by 14-03-2014, with an advance copy to the review petitioner who may file its rejoinder, if any, on or before 21-03-2014. The review petition shall be listed for hearing on 27-03-2014.

The subcommittee noted as above.

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 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	Mar14	Apr14	May14	Jun14	Jul14
Ar. Pradesh	43.81	59	50	57	61
Assam	538.87	505	605	645	725
Manipur	45.06	36	48	49	59
Meghalaya	168.29	165	165	145	160
Mizoram	38.08	36	36	36	39
Nagaland	46.74	50	56	54	60
Tripura	103.83	100	110	105	120
NER	984.67	951	1070	1091	1224

Availability:

Name of State	Mar14	Apr14	May14	Jun14	Jul14
Ar. Pradesh	33.17	45	51	62	79
Assam	389.73	435	484	554	666
Manipur	48.00	53	59	66	85
Meghalaya	112.41	147	174	211	279
Mizoram	40.98	35	42	47	56
Nagaland	35.54	39	36	47	58
Tripura	97.09	150	160	164	180
NER	756.92	904	1006	1151	1403

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

Constituents may kindly furnish the data to NERLDC.

D. NEW ITEMS

D.1 Generation Planning (ongoing and planned outages)

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

Khandong -	0.064 MU
Kopilli -	(NEEPCO will co-ordinate with NERLDC)
Ranganadi -	Subject to inflow
Doyang -	0.168 MU
Loktak -	1.034 MU

Hydro generation planning for lean hydro period - With the onset of winter season, reservoir levels in all the hydro stations have started depleting. Hence proper planning is required to utilize the available water for entire lean hydro period, say upto April, 2014.

The Committee noted as above.

D.2 Outage Planning Transmission elements

After detail discussion the sub-committee approved the shutdown as proposed by POWERGRID, ENICL & Assam (AEGCL) for March, 2014 to May 2014 as given in Annexure - D.2.

D.3 State-wise anticipated peak demand/requirement, shortage for February - June, 2014.

The sub-Committee reviewed & finalized the anticipated peak demand/energy requirement/Availability for the months of March - July, 2014.

A. Peak Demand

SN.	State	Peak Demand (MW) Mar' 14	Peak Demand (MW) Apr' 14	Peak Demand (MW) May' 14	Peak Demand (MW) Jun' 14	Peak Demand (MW) Jul' 14
1	Ar. Pradesh	95	104	109	120	121
2	Assam	800	1200	1350	1400	1400
3	Manipur	105	110	120	110	125
4	Meghalaya	230	280	300	320	300
5	Mizoram	55	65	75	80	85
6	Nagaland	80	90	100	110	105
7	Tripura	155	185	200	250	225
	Region	1520	2034	2254	2390	2358

B. Peak Availability

SN.	State	Peak Availability (MW) Mar' 14	Peak Availability (MW) Apr' 14	Peak Availability (MW) May' 14	Peak Availability (MW) Jun' 14	Peak Availability (MW) Jul' 14
1	Ar. Pradesh	90	100	110	130	130
2	Assam	750	900	950	1200	1200
3	Manipur	100	120	130	130	130
4	Meghalaya	200	240	280	300	320
5	Mizoram	60	75	80	85	90
6	Nagaland	80	85	95	95	95
7	Tripura	180	180	220	260	270
	Region	1600	1700	1865	2200	2235

The Committee noted as above.

D.4 Power supply to Rural Villages:

Name of the State:

Month & Year:

Total Electrified villages			RGGVY villages		Hours of Supply			Energy supplied in Rural Areas during the month (MU)			MUs	
Total No. of inhabited villages as per 2011 census	No. of inhabited villages Electrified	No. of electrified villages where power supply is provided for minimum 6 Hrs every day during the month	No. of villages electrified under RGGVY	No. of electrified villages under RGGVY where power supply is provided for minimum 6 Hrs. every day during the month	In villages electrified under RGGVY	In Other Villages	Min.	Max.	Avg.	Min.		Max.

Deliberation of the Committee

EE (O) stated that so far only three states (Assam, Tripura & Nagaland) have furnished the above data for the month of January 2014 and no constituents have furnished the above data for the month of February 2014 and once again requested the constituents to furnish the above data every month as the same is to be submitted to CEA & MoP on monthly basis. The Sub-committee requested all the concerned constituent states to forward the information to their respective Distribution Divisions and at the same time NERPC will also pursue the matter with their DISCOMs.

The Committee noted as above.

D.5 LGBR for 2014 - 2015:

EE (O) informed that the LGBR for 2014 -15 for NE Region is yet to be finalized. He requested all the constituents to submit the data for preparation of LGBR at the earliest as per the proforma already circulated to them. The formats include the outage planning for Generating units as well as important transmission elements in state and central sector.

He further informed that NERPC has prepared the draft LGBR regarding the demand and availability in MWs & MUs for 2014-2015.

Constituents were requested to check the draft LGBR and submit the above data in the format furnished by NERPC at the earliest.

The Committee noted as above.

D.6 Estimated Transmission Availability Certificate (TAC) for the month of February, 2014.

The Estimated Transmission System Availability for the month of February, 2014, furnished by PGCIL, is **99.9820%**. The detail outage data for calculation of Transmission System Availability furnished by PGCIL is at **Annexure D.6**. NER constituents are requested to kindly communicate their views and observations, if any, by 27th March, 2014 so that Final TAC for the month of February, 2014 can be finalized by NERPC Secretariat.

The Committee noted as above.

D.7 Grid connectivity to Tawang areas of Ar. Pradesh:

During 92nd OCC, the Sub-committee discussed the matter in detailed about the importance of extending reliable power supply to Tawang considering the strategic importance of Tawang as far country's defense establishment is concerned. In absence of the representative of Ar. Pradesh, the action plan of Ar. Pradesh for extending reliable power supply to Tawang could not be known. The forum is of the opinion that as the line has to pass through difficult terrain, dense forest and high altitude snow bound areas, the design/construction of such line would be very difficult for state utility and 132 kV D/C link from existing Khupi / Kimi Sub-station to Tawang via Bomdila / Dirang and associated substations may be treated

as regional project. However, the view of Ar. Pradesh in this regard would be required.

During 94th OCC, EE, SLDC informed that NIT has already been floated for construction of 132 KV S/C line from Khupi-Bomdila-Dirang-Tawang. The committee suggested that Ar. Pradesh should go for construction of D/c line as the ROW problem, forest clearance issues are becoming difficult day by day.

Deliberation of the Committee

The committee suggested that Ar. Pradesh should review the proposal at this stage and should plan for construction of D/c line with single circuit strung on D/C towers can be proposed, as the ROW & forest clearance etc. are likely to create problem in future.

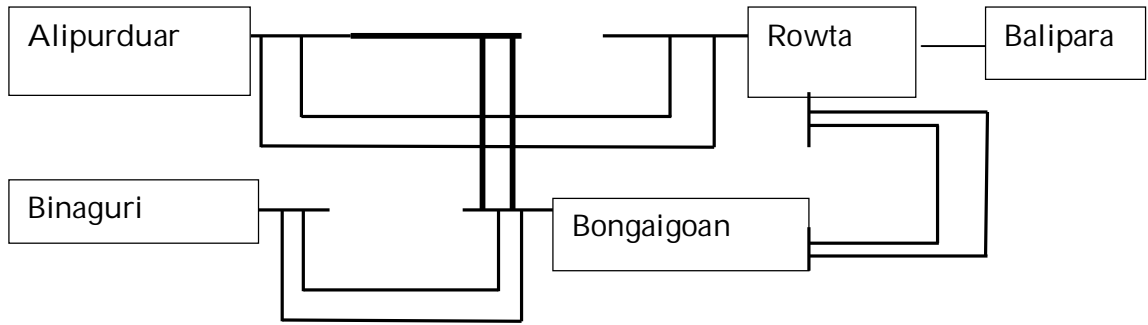
The Committee noted as above.

D.8 Grid strengthening for safe and secure operation of NER grid:

During 93rd OCC meeting following proposal was discussed for safe and secure operation of NER Grid.

More in feed points need to be planned and implemented for improving reliability and security of NER Grid. At present NER Grid is connected to rest of NEW Grid through Bongaigaon and Salakati Sub-Station. As per Master Plan of HEPs in Arunachal Pradesh of CEA, there will be +/- 800 kV HVDC Sub-Station at Rowta and LILO of 400 kV Balipara – Bongaigaon I & II and LILO of 400 kV Balipara – Bongaigaon III & IV will at Rowta. AC part of +/- 800 kV Rowta HVDC S/S along with these LILO arrangements may be programmed for early completion. The 400 kV Rowta – Bongaigaon III & IV may be modified as 400 kV Rowta – Alipurduar D/c and 400 kV Alipurduar - Bonaigaon D/c for creating one more in feed point for NER.

Thus proposed scheme drawing is as follows:



With above modification, NER will have one more connectivity with ER, in case there is any problem (say bus fault) at Bongaigoan Sub-station.

Deliberation of the Committee

The Sub-committee approved the proposal and decided to take up the matter for further discussion and approval in next TCC / RPC forum.

The Sub-committee noted as above.

D.9 Major grid disturbances in the previous month (February, 2014)

As intimated by NERLDC, there was no major grid disturbance during the month of February, 2014 pertaining to NER.

Members may kindly note.

E. NEW ITEMS

E.1 Standardization of Protection Scheme for Generating stations in NER:

During 13th PCC meeting, the Sub-committee had suggested that Generator protection Philosophy including protection for Generator Transformer (GT), Unit Auxiliary Transformer (UAT), Station Auxiliary Transformer (SAT), Excitation Transformers should also be prepared and had requested all the Central sector and State sector Generating companies in NER (NEEPCO, NHPC, NTPC & OTPC; Assam, Meghalaya, Tripura) to furnish their practices. A draft document was prepared and circulated to all.

During 17th PCC meeting, the subcommittee had reviewed the Protection Philosophy for Generator [Hydro / Thermal (Coal / Gas based) Generator], Generator Transformer (GT), Unit Auxiliary Transformer (UAT), Station Auxiliary Transformer (SAT) / Station Supply Transformer (SST), Excitation Transformer. The Sub-committee had requested NHPC and OTPC to prepare protection philosophy for Generator, GT, UAT & SAT separately for Hydro Power Plants and Gas Based Power Plants respectively taking the help of draft document.

Deliberation of the Committee

OTPC informed that they will look into the matter and informed accordingly.

NHPC submitted their observations during the meeting.

The matter could not be discussed due to paucity of time and will be discussed in next PCC meeting for finalization.

The Committee noted as above.

E.2 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.

It was discussed during 90th, 91st, 92nd, 93rd and 94th OCCMs that the data to be provided at the earliest.

TSECL has provided these details along with Substation and Transformer details. Me. PTCL and Nagaland have also provided requisite details.

However other utilities have not provided these data till date.

NERTS, POWERGRID had provided data pertaining to CT ratios of POWERGRID lines at both ends, but loadability calculations were done using 0.85 power factor. Loadability of lines is to be considered at 0.95 p.f. as per CEA's Manual on Transmission Planning criteria 2013. NERTS was intimated about the issue vide letter no. NERLDC/SOII/530 dated 23.01.14., and subsequent reminders were also sent to NERTS (OS). The revised loadability of line along with CT ratios at both ends of a line, PSM, TSM settings, CT specification may be sent by POWERGRID to NERLDC at the earliest.

Deliberation of the Committee

All the remaining constituents agreed to furnish the above data to NERLDC at the earliest.

The Committee noted as above.

E.3 Assessment of Reliability Margin:

After commissioning of Palatana Machines, it is required to increase reliability margin of NER-ER Corridor.

It has been observed from the system study that reliability margin of NER-ER Corridor is to be increased to 240 MW from 50 MW for safe, secure & reliable operation of NER Grid under import scenario.

It will finally reduce Available Transfer Capacity of NER-ER Corridor under import scenario.

Deliberation of the Committee

During the meeting NERLDC made a presentation regarding change in Reliability Margin (RM) after commissioning of Unit #2 of OTPC. GM, NERLDC informed that after commissioning of Unit #2 of OTPC at Palatana, the RM in NER-ER corridor

will change and the system study shows that RM will increase to 240MW from 50MW for safe, secure and reliable operation of the grid.

The Committee noted as above.

E.4 Major Events in North-Eastern Regional Grid during the period February/ March, 2014

A. Disturbance in Manipur System

At 1035 Hr on 11.02.14, 132 kV Imphal(PG) – Imphal D/C lines, 132 kV Loktak – Ningthoukong S/C line and 132 kV Loktak – Imphal S/C line tripped leading to load loss in major part of Manipur.

Load Loss: 33 MW

B. Disturbance at AGBPP

At 0115 Hr on 12.02.14, 220 kV AGBPP – Mariani, 220 kV AGBPP – Tinsukia D/C, 220/132 kV, 2x50 MVA ICTs at Tinsukia and 220/132 kV, 50 MVA ICT at NTPS tripped leading to generation loss of AGBPP.

Generation Loss: 200 MW

C. Disturbance in Nagaland System

At 1420 Hr on 13.02.14, 132 kV Dimapur(PG) – Kohima S/C tripped. Due to tripping of this element, power supply to part of Nagaland got disrupted.

Load Loss: 20 MW

At 1248 Hr on 16.02.14, 132 kV Dimapur(PG) – Kohima S/C tripped. Due to tripping of this element, power supply to part of Nagaland got disrupted.

Load Loss: 12 MW

At 0200 Hr on 17.02.14, 132 kV Dimapur(PG) – Kohima S/C tripped. Due to tripping of this element, power supply to part of Nagaland got disrupted.

Load Loss: 10 MW

D. Disturbance in Manipur System

At 1035 Hr on 11.02.14, 132 kV Imphal(PG) – Imphal D/C lines, 132 kV Loktak – Ningthoukong S/C line and 132 kV Loktak – Imphal S/C line tripped leading to load loss in major part of Manipur.

Load Loss: 33 MW

E. Disturbance at AGBPP

At 0115 Hr on 12.02.14, 220 kV AGBPP – Mariani, 220 kV AGBPP – Tinsukia D/C, 220/132 kV, 2x50 MVA ICTs at Tinsukia and 220/132 kV, 50 MVA ICT at NTPS tripped leading to generation loss of AGBPP.

Generation Loss: 200 MW

F. Disturbance in Nagaland System

At 1420 Hr on 13.02.14, 132 kV Dimapur(PG) – Kohima S/C tripped. Due to tripping of this element, power supply to part of Nagaland got disrupted.

Load Loss: 20 MW

At 1248 Hr on 16.02.14, 132 kV Dimapur(PG) – Kohima S/C tripped. Due to tripping of this element, power supply to part of Nagaland got disrupted.

Load Loss: 12 MW

At 0200 Hr on 17.02.14, 132 kV Dimapur(PG) – Kohima S/C tripped. Due to tripping of this element, power supply to part of Nagaland got disrupted.

Load Loss: 10 MW

G. 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. 03rd February, 2014 to 02nd March, 2014 are attached at **Annexure – H**. (Weekly events report are being sent to the power utilities of NER by e-mail). Constituents are requested to furnish necessary information in compliance with IEGC and CEA's Grid Standard regulations.

Currently only OTPC, Palatana is furnishing event information in response to weekly letters.

Deliberation of the Committee

The Sub-committee discussed the above trippings in detail and requested the concerned constituents to look into the matter and rectify the problems at the earliest to avoid repeated trippings.

The Committee noted as above.

Date & Venue of next OCC meeting

It is proposed to hold the 96thOCC meeting of NERPC in first week of April, 2014. The exact date & venue will be intimated in due course.

The meeting ended with thanks to the Chair.

Annexure-I**List of Participants in the 95th OCC & 19th PCC Meetings held on 12/03/2014**

SN	Name & Designation	Organization	Contact No./Mail ID
1.	Sh. Tarik Mize, EE, SLDC	Ar. Pradesh	09436059758 mizetarik09@gmail.com
2.	Ms. Oyi Nasi, AE, SLDC	Ar. Pradesh	08974938678 oyinasi@gmail.com
3.	Sh. J. K. Sharma, CGM, SLDC	Assam	09435559447
4.	Sh. P. K. Sarma, GM (Com-T)	Assam	09435344083
5.	Sh. A. K. Saikia, DGM (I/C), LDC	Assam	09864116176
6.	Sh. J.K. Baishya, AGM, LD-COM	Assam	09435041494
7.	Sh. K. Goswami, AGM, APDCL	Assam	09864020019
8.	Manju Rabha, M, APGCL	Assam	09435407774
9.	Aklantika saikia, DM, APGCL	Assam	09435735609
10.	Pranab shah, DM, AEGCL	Assam	-
11.	Satyendra Kumar, AM, AEGCL	Assam	09859164470
12.	Sh. T. Gidon, EE, SLDC	Meghalaya	gidon@rediffmail.com
13.	Sh. A. G. Tham, AE, MRT	Meghalaya	actif_1982@yahoo.co.in
14.	Sh. P. S. Nonglong, AE, MRT	Meghalaya	pynshai44@gmail.com
15.	Sh. O. Kartik Singh, DGM, MSPDCL	Manipur	09436445086
16.	Sh. A. Gan Chaudhuri, DGM (C&T)	Tripura	09436139311
17.	Sh. Debrata Pal, SM (Comml.)	Tripura	09436500244 d_pal1966@rediffmail.com
18.	Sh. P. C. Barman, DGM	NEEPCO	09435144141 barmanpcb@gmail.com
19.	Sh. D. Goswami, SM (E/M)	NEEPCO	09435577655 dgoswami.ghy@gmail.com
20.	Sh. R. C. Singh, Mgr (E)	NHPC	09436894889 loktakphem@gmail.com
21.	Sh. P.Kanungo, DGM (OS)	NERTS	09436302823
22.	Sh. Arup Ch. Sarmah, DGM (Comml)	OTPC	09871839502
23.	Sh. Narendra Kumar Gupta, Mgr(O)	OTPC	09774233426 n.k.gupta@otpcindia.in
24.	Sh. J. Raghu Ram, Head-Construction	ENICL	09958880897
25.	Sh. T. S. Singh, GM	NERLDC	09436302717
26.	Sh. R. Sutradhar, DGM (MO)	NERLDC	09436302714
27.	Sh. A. Mallick, CM (SO-II)	NERLDC	09436302720
28.	Sh. Anupam Kumar, Engineer	NERLDC	09436335379

29.	Sh. S. K. Ray Mohapatra, MS I/C	NERPC	09818527857
30.	Sh. B. Lyngkhoi, S.E (O)	NERPC	09436163419
31.	Sh. S. M. Jha, E.E (O)	NERPC	09831078162
32.	Sh. S. M. Aimol, E.E	NERPC	08974002106

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

MONTH: FEBRUARY-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/ Miltant activities				Outage under categories of Deemed Available	
	Date	Time	Date	Time	Hrs.	Mns.	Hrs.	Mns.	Hrs.	Mns.			Hrs.	Mns.
RCN_AGARTALA					# 2									
1	07/02/2014	11:10	07/02/2014	11:20	00	00	00	10	00	00	00	00	OMSU	tripped due to DC problem at Agratala end
2	24/02/2014	11:10	01/03/2014	00:00	00	00	00	00	00	00	108	50	OSPD	SD taken by NEEPCO for CB replacement work at RC Nagar
Sub-Total					00 : 00		00 : 10		00: 00		108 : 50			
BADARPUR_KOLASIB														
3	28/02/2014	10:43	28/02/2014	12:44	00	00	00	00	00	00	02	01	SCSD	SD taken for replacement of DPR with new MICOM relav
Sub-Total					00 : 00		00 : 00		00: 00		02 : 01			
AIZWAL_KUMARGHAT														
4	20/02/2014	14:47	20/02/2014	14:52	00	00	00	00	00	05	00	00	LNCC	transient tripping due to landslide in betn loc 84-85 from unhill side
5	25/02/2014	07:58	25/02/2014	15:37	00	00	00	00	07	39	00	00	LNCC	SD taken for clearing of vegetation inclining from unhill side at loc 163-67
Sub-Total					00 : 00		00 : 00		07: 44		00 : 00			
AIZWAL_ZEMEBAK					# 2									
6	12/02/2014	13:35	12/02/2014	13:46	00	00	00	11	00	00	00	00	OMSU	Tripped due to fault in 33KV Mizoram svstem
7	16/02/2014	21:16	16/02/2014	21:26	00	00	00	10	00	00	00	00	OMSU	Fault in state downstream system
Sub-Total					00 : 00		00 : 21		00: 00		00 : 00			
BADARPUR-BADARPUR														
8	26/02/2014	14:34	26/02/2014	15:58	00	00	00	00	00	00	01	24	SCSD	SD taken for replacement of DPR with new MICOM relav
Sub-Total					00 : 00		00 : 00		00: 00		01 : 24			
BADARPUR_KUMARGHAT														
9	03/02/2014	14:07	03/02/2014	16:02	00	00	00	00	01	55	00	00	LMAC	ESD taken for clearing of tree cut by villagers in betn loc 338-339
10	26/02/2014	10:04	26/02/2014	12:14	00	00	00	00	00	00	02	10	SCSD	SD taken for replacement of DPR with new MICOM relav
Sub-Total					00 : 00		00 : 00		01: 55		02 : 10			
DIMAPUR_IMPHAL														
11	09/02/2014	12:21	09/02/2014	13:54	01	33	00	00	00	00	00	00	OMST	ESD taken for rectification of jumper at loc 232

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.		
12	18/02/2014	14:36	18/02/2014	17:30	02	54	00	00	00	00	00	00	OMST	SD takenn for replacement of Hardware(D shakle) in Yoh Insulator string
Sub-Total					04	27	00	00	00	00	00	00		
IMPHAL_IMPHAL			#1											
13	05/02/2014	10:05	05/02/2014	10:31	00	00	00	26	00	00	00	00	OMSU	Tripped due to fault in 33KV system of Manipur
14	08/02/2014	12:59	08/02/2014	13:37	00	00	00	38	00	00	00	00	OMSU	Tripped vdue to fault in state 33KV system
15	11/02/2014	10:35	11/02/2014	10:58	00	00	00	23	00	00	00	00	OMSU	Tripped due to downstream problem at State end
Sub-Total					00	00	01	27	00	00	00	00		
JIRIBAM_AIZWAL														
16	05/02/2014	14:22	05/02/2014	14:30	00	00	00	00	00	08	00	00	LMAC	transient phase to phase fault initiated by Thoom burning(195-196)
Sub-Total					00	00	00	00	00	08	00	00		
JIRIBAM_LOKTAK			# 2											
17	27/02/2014	14:57	27/02/2014	15:35	00	00	00	38	00	00	00	00	OMSU	SD taken by NHPC for installation of DPR
Sub-Total					00	00	00	38	00	00	00	00		
KHANDONG_KHLIERIAT			I											
18	18/02/2014	12:21	18/02/2014	14:20	00	00	00	00	00	00	01	59	SCSD	SD taken for replacement of DPR with new MICOM relay
Sub-Total					00	00	00	00	00	00	01	59		
KHANDONG_KHLIERIAT			# 2											
19	19/02/2014	12:40	19/02/2014	15:01	00	00	00	00	00	00	02	21	SCSD	SD taken for replacement of DPR with new MICOM relay
Sub-Total					00	00	00	00	00	00	02	21		
KHLIERIAT_KHLIERIAT														
20	17/02/2014	06:36	17/02/2014	07:30	00	00	00	54	00	00	00	00	OMSU	Tripped due to fault in HEHI-UMIAM line
Sub-Total					00	00	00	54	00	00	00	00		
LOKTAK_IMPHAL			# 2											
21	11/02/2014	10:35	11/02/2014	10:43	00	00	00	08	00	00	00	00	OMSU	Tripped due to problem at Imphal state end
22	28/02/2014	11:28	28/02/2014	17:15	00	00	05	47	00	00	00	00	OMSU	SD taken by NHPC for installation of DPR
Sub-Total					00	00	05	55	00	00	00	00		
NIRJULI-RANGANADI														
23	05/02/2014	07:38	05/02/2014	15:42	00	00	08	04	00	00	00	00	OMSU	SD taken by DoP, AP
24	06/02/2014	07:15	06/02/2014	15:28	00	00	08	13	00	00	00	00	OMSU	SD taken by DoP, AP

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.		
25	09/02/2014	08:03	01/03/2014	00:00	00	00	471	57	00	00	00	00	OMSU	Shutdown taken by NF Rly for the portion LJO to Niruli
Sub-Total					00	00	488	14	00	00	00	00		
SILCHAR-BADARPUR-I			#1											
26	23/02/2014	12:10	23/02/2014	14:21	00	00	00	00	00	00	02	11	SCSD	SD taken for replacement of DPR with new MICOM relay
Sub-Total					00	00	00	00	00	00	02	11		
SILCHAR-HAILAKANDI			#1											
27	03/02/2014	23:43	04/02/2014	10:44	00	00	11	01	00	00	00	00	OMSU	Fault beyond line jurisdiction
Sub-Total					00	00	11	01	00	00	00	00		
BALIPARA_TEZPUR														
28	20/02/2014	07:43	01/03/2014	00:00	00	00	00	00	00	00	208	17	OSPD	SD taken by AEGCL
Sub-Total					00	00	00	00	00	00	208	17		
KATHALGURI_MARIANI(OLD)														
29	12/02/2014	01:12	12/02/2014	01:30	00	18	00	00	00	00	00	00	LEFT	Transient E/F
Sub-Total					00	18	00	00	00	00	00	00		
MISA-KOPILI			# 1											
30	01/02/2014	11:39	01/02/2014	11:57	00	00	00	00	00	18	00	00	LMAC	Tripped due to Jhoom burning near Kopili
31	01/02/2014	12:07	01/02/2014	13:02	00	00	00	00	00	55	00	00	LMAC	do
Sub-Total					00	00	00	00	01	13	00	00		
MISA-MARIANI(NEW)														
32	11/02/2014	09:22	20/02/2014	18:17	00	00	00	00	224	55	00	00	LNCC	SD taken in connection with shifting of loc 585 586 587 on Pile
Sub-Total					00	00	00	00	224	55	00	00		
KATHALGURI-MARIANI(NEW)														
33	11/02/2014	09:22	20/02/2014	18:25	00	00	00	00	00	00	225	03	LVRD	H/T for vol. regu. On RLDC instruction
Sub-Total					00	00	00	00	00	00	225	03		
BALIPARA-RANGANADI			# 2											
34	28/02/2014	00:05	28/02/2014	06:31	00	00	00	00	00	00	06	26	LVRD	h/T for vol. regu. On RLDC instruction vide code 5781
35	28/02/2014	12:55	28/02/2014	17:15	00	00	00	00	04	20	00	00	LMAC	SD taken for replacement of insulators at loc 30 broken by miscreants
Sub-Total					00	00	00	00	04	20	06	26		
Grand Total					04	45	508	40	240	15	560	42		

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

MONTH : FEBRUARY-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 (50MVAR)			# 2											
1	24/02/2014	07:05	24/02/2014	14:05	00	00	00	00	00	00	07	00	SVRD	H/T for vol. regu. on RLDC instruction
2	24/02/2014	14:05	24/02/2014	22:11	00	00	00	00	00	00	08	06	SVRD	kept open for vol. regu. On RLDC instruction
Sub-Total					00	00	00	00	00	00	15	06		
BR_MISA (50MVAR)			# 2											
3	21/02/2014	09:06	21/02/2014	22:02	00	00	00	00	00	00	12	56	SVRD	Kept open as per instruction of NERLDC for containing low voltage
Sub-Total					00	00	00	00	00	00	12	56		
BR_BONGAIGAON(80MVAR)			#3											
4	11/02/2014	17:57	11/02/2014	23:35	00	00	00	00	00	00	05	38	SVRD	H/T for vol. regu. on RLDC instruction
5	13/02/2014	17:32	13/02/2014	22:30	00	00	00	00	00	00	04	58	SVRD	H/T for vol. regu. On RLDC instruction
6	14/02/2014	15:48	14/02/2014	22:46	00	00	00	00	00	00	06	58	SVRD	H/T for vol. regu. on RLDC instruction
7	15/02/2014	17:25	15/02/2014	21:46	00	00	00	00	00	00	04	21	SVRD	H/T for vol. regu. on RLDC instruction
8	17/02/2014	18:16	17/02/2014	23:12	00	00	00	00	00	00	04	56	SVRD	H/T for vol. regu. on RLDC instruction
9	18/02/2014	17:48	18/02/2014	22:33	00	00	00	00	00	00	04	45	SVRD	H/T for vol. regu. on RLDC instruction
10	22/02/2014	18:59	22/02/2014	22:30	00	00	00	00	00	00	03	31	SVRD	H/T for vol. regu. on RLDC instruction
11	23/02/2014	18:38	23/02/2014	22:21	00	00	00	00	00	00	03	43	SVRD	H/T for vol. regu. on RLDC instruction
12	28/02/2014	17:50	28/02/2014	22:43	00	00	00	00	00	00	04	53	SVRD	h/T for vol. regu. On RLDC instruction vide code 5794
Sub-Total					00	00	00	00	00	00	43	43		
BR_SILCHAR(63MVAR)			#1											
13	12/02/2014	14:42	12/02/2014	22:01	00	00	00	00	00	00	07	19	SVRD	H/T for vol. regu. on RLDC instruction
Sub-Total					00	00	00	00	00	00	07	19		
Grand Total					00	00	00	00	00	00	79	04		

Sl. No.	Name of Transmission Element/Generator Tripped	Owner / Utility	Date of Event	Time of Event	Effect (Loss of Generation/ Load in MW)
A. Multiple / Repeated tripping					
1	132 kV Imphal(PG) - Imphal I	Manipur	11.02.14	1035	Load Loss: 33 (Manipur)
	132 kV Imphal(PG) - Imphal II				
	132 kV Loktak - Ningthoukong S/C				
	132 kV Loktak - Imphal S/C	POWERGRID			
2	220 kV Mariani- AGBPP	POWERGRID	12.02.14	0115	Generation Loss: 200 (AGBPP)
	220 kV AGBPP - Tinsukia I	AEGCL			
	221 kV AGBPP - Tinsukia II				
	220/132 kV, 100 MVAR ICT at Tinsukia				
	220/132 kV, 50 MVAR ICT at Namrup				
3	132 kV Dimapur(PG) - Kohima	POWERGRID	13.02.14	1420	Load Loss: 20 (Nagaland)
			16.02.14	1248	Load Loss: 12 (Nagaland)
4	400 kV Palatana- Silchar II	NETC	15.02.14	1631	-
			16.02.14	1518	-
5	220 kV Birpara- Salakati I	POWERGRID	17.02.14	0027	-
				0148	-
6	132 kV Khliehriat (PG)- Khliehriat I	POWERGRID	17.02.14	0636	-
				0647	-
				0659	-

B. Unit tripping

1	Palatana GTG-1	OTPC	10.02.14	0436	Generation Loss: 100
2	Palatana STG-1				Generation Loss: 85
3	AGBPP U-1	NEEPCO	12.02.14	0115	Generation Loss: 200
4	AGBPP U-4				
5	AGBPP U-5				
6	AGBPP U-6				
7	AGBPP U-7				
8	AGBPP U-9				
9	Palatana GTG-I	OTPC	17.02.14	2353	Generation Loss: 98
10	Palatana STG-I			2349	
11	Palatana GTG-I	OTPC	19.02.14	1333	Load loss: 65; Generation Loss: 330
12	Palatana STG-I			1333	
13	Loktak U-1	NHPC	19.02.14	2258	Generation Loss: 28

14	AGBPP- U-2	NEEPCO	20.02.14	0024	Generation Loss: 133
15	AGBPP- U-4			0035	
16	AGBPP- U-3				
17	AGBPP- U-2	NEEPCO	21.02.14	1508	Generation Loss: 111
18	AGBPP- U-4				
19	AGBPP- U-3			1512	
20	AGBPP- U-2	NEEPCO	22.02.14	1445	Generation Loss: 105
21	AGBPP- U-4				
22	AGBPP- U-3			1455	
23	Loktak U-3	NHPC	24.02.14	0737	Generation Loss: 35
24	AGBPP-2	NEEPCO	27.02.14	2117	Generation Loss: 30
25	Palatana GTG-I	OTPC	28.02.14	0222	Load loss: 41; Generation Loss: 198
26	Palatana STG-I			0223	
27	Loktak U-3	NHPC	28.02.14	2258	Generation Loss: 35
28	Loktak U-3	NHPC	01.03.14	2132	Generation Loss: 35
29	Palatana STG-I	OTPC	02.03.14	1204	Generation Loss: 67
C. Tripping of critical element					
1	132 kV Loktak- Ningthoukong S/C	Manipur	13.02.14	0009	Load Loss: 2 (Manipur)
2	220 kV Misa - Kopili I	POWERGRID	13.02.14	1250	-
3	132 kV Dimapur (PG)- Kohima	POWERGRID	17.02.14	0200	Load Loss: 10 (Nagaland)
4	132 kV Kumarghat- Aizawl	POWERGRID	20.02.14	1447	-
5	132 kV Salakati - Gelyphu S/C	PGCIL/Bhutan	24.02.14	2012	-
D. SPS Maloperation					
No such event					