



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

**North Eastern Regional Power Committee**

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय  
NERPC Complex, Dong Parmaw, Lapalang, Shillong - 793006, Meghalaya



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No. NERPC/SE (O)/OCC/2014/ **3291-326**

Dated: December 15, 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. Managing Director, MSPDCL, Electricity Complex, Keishampat, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
9. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
10. Chief Engineer (WE Zone),Department of Power ,Govt. of Arunachal Pradesh, Itanagar- 791111
11. Chief Engineer (EE Zone),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (TP&MZ),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
14. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
15. General Manager, TSECL, Agartala – 799 001
16. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
17. ED, NERTS, PGCIL, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
18. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
19. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
21. GM (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
22. GM, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
23. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
24. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066

**Sub: Minutes of the 104<sup>th</sup> OCC Meeting - Reg.**

**Sir,**

The Minutes of the 104<sup>th</sup> OCC Meeting of NERPC held on 05 & 06.12.2014 at "Hotel Acacia", Dimapur 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. Lyngkhoi

निदेशक / **Director/ SE**

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. Addl. GM (EED), NTPC Ltd., Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
12. DGM (C&M), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110019.

वी. लिंगराव

निदेशक / Director/ SE

**MINUTES OF THE 104<sup>th</sup> OPERATION COORDINATION**

**SUB-COMMITTEE MEETING OF NERPC**

**Date** : 05/12/2014 (Friday)  
**Time** : 02:00 hrs  
**Venue** : "Hotel Acacia", Dimapur.

The List of Participants in the 104<sup>th</sup> OCC Meeting is attached at **Annexure - I**

Shri A.K. Bandopadhyay, Member Secretary I/C welcomed all the participants to the 104<sup>th</sup> OCC and requested Shri B. Lyngkholi, Director/SE(O), NERPC to continue and take up the agenda items.

**A. CONFIRMATION OF MINUTES**

**CONFIRMATION OF MINUTES OF 103<sup>rd</sup> MEETING OF OPERATION SUB-COMMITTEE OF NERPC.**

The minutes of 103<sup>rd</sup> meeting of Operation Sub-committee held on 13th November, 2014 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2014/2954-2989 dated 19<sup>th</sup> November, 2014.

*The Sub-committee confirmed the minutes of 103<sup>rd</sup> OCCM of NERPC as no comments/observations were received from the constituents.*

**ITEMS FOR DISCUSSION**

**B.1. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING NOVEMBER, 2014**

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

**NER PERFORMANCE DURING NOVEMBER, 2014**

States	Energy Met (MU)		% inc(+)/dec(-)	Energy Reqr. (MU)		% inc(+)/dec(-)
	Nov-14	Oct-14		Nov-14	Oct-14	
Ar. Pradesh	54	<b>53.37</b>	1.2	65.0	<b>70.0</b>	-7.1
Assam	634	<b>727.01</b>	-12.8	660.0	<b>790.0</b>	-16.5
Manipur	67	<b>65.47</b>	2.9	70.0	<b>66.0</b>	6.1
Meghalaya	140	<b>128.03</b>	9.1	175.0	<b>170.0</b>	2.9
Mizoram	37	<b>37.57</b>	-1.3	43.0	<b>43.0</b>	0.0
Nagaland	62	<b>59.69</b>	3.9	65.0	<b>65.0</b>	0.0
Tripura	79	<b>96.08</b>	-18.2	110.0	<b>120.0</b>	-8.3
Region	<b>1072.98</b>	<b>1167.21</b>	-8.1	<b>1188.00</b>	<b>1324.00</b>	-10.3

States	Demand Met (MW)		% inc(+)/dec(-)	Demand in (MW)		% inc(+)/dec(-)
	Nov-14	Oct-14		Nov-14	Oct-14	
Ar. Pradesh	116	<b>126</b>	-7.9	125	<b>136</b>	-8.1
Assam	1250	<b>1257</b>	-0.5	1435	<b>1380</b>	4.0
Manipur	138	<b>134</b>	3.0	140	<b>140</b>	0.0
Meghalaya	338	<b>273</b>	23.8	350	<b>335</b>	4.5
Mizoram	80	<b>80</b>	0.0	90	<b>87</b>	3.4
Nagaland	115	<b>118</b>	-2.6	120	<b>140</b>	-14.3
Tripura	222	<b>266</b>	-16.5	270	<b>310</b>	-12.9
Region	<b>2125</b>	<b>2141</b>	-0.7	<b>2525</b>	<b>2528</b>	-0.1

**REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU**

Month---->	Nov-14	Oct-14
Total Generation in NER (Gross)	862.57	1083.71
Total Central Sector Generation (Gross)	597.24	703.04
Total State Sector Generation (Gross)	265.33	380.67
<b>Inter-Regional Energy Exchange</b>		
(a) NER-ER	13.31	18.19
(b) ER-NER	220.76	128.19
© Net Import	207.45	110.00

**AVERAGE FREQUENCY (Hz)**

Month---->	Nov-14	Oct-14
	% of Time	% of Time
Below 49.9 Hz	15.29	25.06
Between 49.9 to 50.05 Hz	53.97	52.9
Above 50.05 Hz	30.74	22.04
Average	50	49.97
Maximum	50.42	50.49
Minimum	49.58	49.53

From the above table, it is seen that energy requirement & requirement met (MU) of the region has decreased from the previous month. The peak met (MW) has also decreased from the previous month.

**FOLLOW UP ACTION**

**C.1 Synchronization of Palatana Module -II**

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

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

SN	Items	Status as given in 103 <sup>rd</sup> OCC Meeting	Status as on 104 <sup>th</sup> OCC
1	Trial operation and CoD of Unit -II of Palatana	OTPC Unit-II- All testing for trial run shall be completed by 30 <sup>th</sup> Nov 2014.Expected COD by December end	OTPC Unit-II is running- IDLN tuning for 10 days from December 2 <sup>nd</sup> week then trail run for 15 days from end of December, 2014.
2	Trial operation and CoD of Unit -I of NTPC at Bongaigoan	NTPC Unit-I (250 MW) – Boiler light up shall be completed by 30th Nov 2014.Expected COD by March, 2015	Trial operation and CoD of Unit -I of NTPC at Bongaigoan completed on 29 <sup>th</sup> Nov, 2014. Expected COD by March, 2015
3	400KV D/C Silchar - Melriat line	June, 2015	June, 2015
4	400KV D/C Silchar - Imphal line	December, 2014	December, 2014
5	220KV D/C Mariani (New) – Mokokchung	December, 2014	December, 2014
6	400KV D/C Byrnihat- Bongaigaon line	December, 2014	December, 2014

## C.2 SPS scheme for Palatana

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:** 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.

**Case III & IV (POWERGRID Part):** The SPS – 3 & SPS – 4 will have to be made operational in case of tripping / outage of both 400kV Silchar – Byrnihat and 400kV Silchar – Azara Line for which POWERGRID has to carry out the modification of existing scheme.

OTPC had requested POWERGRID to look into following issues:

- (a) SPS at OTPC end should not be modified with commissioning of 2nd Circuit of 400kV Silchar - Bongaigaon 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 93<sup>rd</sup> 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 93<sup>rd</sup> OCC meeting, subcommittee had suggested OTPC to discuss the matter with POWERGRID.

During 103<sup>rd</sup> OCC meeting, OTPC representative informed the members that BHEL has already implemented the scheme for reduction of generation of Palatana to 200 MW immediately on operation of SPS – 3.

DGM, NERTS informed that the necessary modification of SPS – 3 & SPS – 4 will be done by November 2014.

OTPC was requested to submit the detail scheme of SPS – II & III to NERLDC. OTPC agreed and informed that they have completed SPS at their end and will inform through letter. Logic will be sent to NERLDC by OTPC.

**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 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 SPS-1 or SPS – 2 or SPS -4 operates, 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 from P.K. Bari and Dharmanagar & Dullavcherra will be fed from Silchar S/S radially.

Once SPS-1 or SPS – 2 or SPS -4 operates, then 132kV Schar - Dullavcherra feeder will be tripped at Silchar End through SPS and relief of 14 MW load can be achieved.

POWERGRID, NERTS will have to incorporate the tripping of 132kV Schar - Dullavcherra feeder in SPS-1 & SPS-2.

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

#### **Deliberation of the Committee**

DGM, NERTS informed the members that the incorporation of tripping of 132kV Schar - Dullavcherra feeder in SPS-1 & SPS-2 will be completed by November 2014.

The Sub-committee requested POWERGRID to complete the wiring for all the cases above in co-ordination with OTPC and also requested OTPC to extend all help to POWERGRID if necessary.

*The Sub-committee felt that after commissioning of 400kV Azara-Bongaigoan, the SPS scheme will be reviewed again by the system studies group and finalize the same.*

#### **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 latest status intimated during the 104<sup>th</sup> OCC meeting is given below: -

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, the feeders name and 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 II & IV and M/s Alstom is awarded for implementation. It is expected to implement Stages II & IV by January, 2015.

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: During 103<sup>rd</sup> OCC meeting, 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. It was informed that Ar. Pradesh had furnished the feeder's name of Stage II, III & IV. The status could not be updated since no representative from Ar. Pradesh was present.

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. Stage - III & IV is likely to be completed by February, 2015. Mizoram is sending the UFR reports regularly for the implemented stages.

SE(O) informed that as per guidelines by CEA its mandatory to inspect at least one third of UFRs in the region during the year. In view of the above, inspection will be carried out in the month of January, 2015. The itinerary will be intimated in due course.

***The sub-committee noted as above.***

#### **C.4 Lines under long outages**

During the 101<sup>st</sup> 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 of 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 after receipt of the compensations. The line is expected to be restored by October 2014.

**Deliberation of the Committee**

Manipur representative informed that the work will be completed by end of December, 2014.

***The Sub-committee noted as above.***

**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.

OTPC and NEEPCO informed that the works pertaining to them have been completed and the same has been sent to NERLDC.

**Deliberation of the Committee**

DGM, NERTS stated that NERLDC should first study the loadability and quantum of the power flow requires on each line so that concerned utilities can upgrade the required CT for the particular line instead of generalizing the issue. Moreover, NERLDC should clearly specify if the proposed ratings of the CTS are assessed on the basis of metering core or protection core. NERLDC confirmed that the ratios are based on loadability of lines and hence based on metering core.

***The Sub-committee requested NERLDC to prepare the fresh list of feeders where loadability of the line is necessary for enhancement along with corresponding CT ratio.***

**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.

**Deliberation of the Committee**

NERLDC informed that Ar. Pradesh, Assam & Meghalaya have not furnished geographical co-ordinates of the nodes as furnished by them.

***The above constituents have agreed to furnish the information as per format of NERLDC soon.***

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

P&E Mizoram, Me. PTCL, TSECL, Nagaland 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.

**Deliberation of the Committee**

NERLDC informed that NEEPCO, NHPC, Ar. Pradesh, Assam, Manipur, Meghalaya, Nagaland & Tripura have not furnished geographical co-ordinates of the nodes mentioned at Annexure II.

***The sub-committee noted as above.***

**C.8 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.

**Deliberation of the Committee**

SE (O) informed that draft LGBR for 2015-2016 has been prepared by NERPC. He requested all the constituents to go through the draft LGBR attached at **Annexure – C.8** and give their comments/observations at the earliest so that the same can be finalized by 31.12.2014. He further requested that all the generators and transmission utilities to give their plan shutdown for FY 2015-16.

***The sub-committee noted as above.***

**C.9 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.

**Deliberation of the Committee**

NERLDC highlighted the present status available with them as attached at **Annexure – C.9**, members agreed to send the updated status to NERLDC at the earliest.

***The sub-committee noted as above.***

**C.10 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.

**Deliberation of the Committee**

All SLDCs were requested to prepare restoration procedure in respect of concerned states and intimate essential loads with quantum to be restored on priority to NERLDC at the earliest.

***The sub-committee noted as above.***

**C.11 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 this information to NERLDC.

Assam submitted the above information and other constituents agreed to look into the matter and send the required information if available.

**Deliberation of the Committee**

***The sub-committee opined that since the above information is outside the jurisdiction of the constituents, the agenda item should be dropped.***

**C.12 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. Constituents may kindly verify if the above data are correct for April, 2015 only.

**Requirement:**

Name of State	Dec14	Jan15	Feb15	Mar15	Apr15
Ar. Pradesh	65	65	55	48	
Assam	680	690	615	570	
Manipur	65	70	55	51	
Meghalaya	175	195	175	175	
Mizoram	40	41	35	40	
Nagaland	55	60	55	50	
Tripura	120	125	120	120	
<b>NER</b>	<b>1201</b>	<b>1246</b>	<b>1090</b>	<b>1054</b>	

**Availability:**

Name of State	Dec14	Jan15	Feb15	Mar15	Apr15
Ar. Pradesh	43	40	31	40	
Assam	454	439	385	413	
Manipur	59	56	47	47	
Meghalaya	148	133	111	110	
Mizoram	36	36	31	32	
Nagaland	34	32	27	31	
Tripura	138	137	112	150	
<b>NER</b>	<b>914</b>	<b>873</b>	<b>744</b>	<b>823</b>	

- These data required for preparation of various reports.

**Constituents may kindly note.**

**C.13 Monthly MW requirement & availability of each state of NER:**

**A. Peak Demand in MW**

Name of State	Dec14	Jan15	Feb15	Mar15	Apr15
Ar. Pradesh	125	130	130	120	
Assam	1450	1380	1235	1320	
Manipur	135	150	135	140	
Meghalaya	345	390	385	360	
Mizoram	80	79	78	84	
Nagaland	125	130	120	119	
Tripura	250	245	235	260	
<b>NER</b>	<b>2460</b>	<b>2455</b>	<b>2318</b>	<b>2403</b>	

**B. Peak Availability in MW**

Name of State	Dec14	Jan15	Feb15	Mar15	Apr15
Ar. Pradesh	118	110	101	100	
Assam	867	835	816	826	
Manipur	118	109	105	106	
Meghalaya	276	246	192	200	
Mizoram	79	75	71	70	
Nagaland	75	70	66	64	
Tripura	281	275	272	270	
<b>NER</b>	<b>1814</b>	<b>1719</b>	<b>1623</b>	<b>1636</b>	

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

**A. Off Peak Demand in MW (0800 Hr)**

Name of State	Dec14	Jan15	Feb15	Mar15	Apr15
Ar. Pradesh	69	72	72	70	
Assam	899	856	766	800	
Manipur	81	90	81	80	
Meghalaya	207	234	231	232	
Mizoram	52	51	51	50	
Nagaland	75	78	72	74	
Tripura	163	159	153	155	
<b>NER</b>	<b>1470</b>	<b>1465</b>	<b>1426</b>		

**B. Off Peak Availability in MW (0800 Hr)**

Name of State	Dec14	Jan15	Feb15	Mar15	Apr15
Ar. Pradesh	114	107	100	101	
Assam	835	817	796	799	
Manipur	105	102	98	97	
Meghalaya	264	240	216	220	
Mizoram	76	73	69	70	
Nagaland	71	68	64	65	
Tripura	274	271	268	270	
<b>NER</b>	<b>1740</b>	<b>1465</b>	<b>1611</b>	<b>1622</b>	

*The Sub-committee noted as above.*

**D. NEW ITEMS**

**D.1 Generation Planning (ongoing and planned outages)**

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

Generating Station	Reservoir level as on 15/10/14	MU Content	Present DC MU	No. of days as per current generation
Khandong & Kopili-II	718.00	21.9	0.835	26
Kopili	609.59	185.8	2.304	81
Doyang	321.60	27.2	0.542	50
Loktak	767.69	75.0	1.365	55

**Hydro generation planning for lean hydro period** - Proper planning is required to utilize the available water for entire lean hydro period, say up to May, 2015.

It was agreed that DC of Loktak, Khandong & Kopili – II, will be reduced for better utilization during lean hydro period.

*The sub-committee discussed and approved the proposed shutdown of Ranganadi Unit #2 from 02.01.2015 to 21.01.2015 and NEEPCO should ensure that Unit #1 should be brought back in service before this shutdown.*

**D.2 Water level and spillage data of hydro stations**

Historical data of reservoir level and spillage data of Hydro stations are not available with NERLDC. This information is sometimes asked by various authorities to facilitate in making database for the same. All concerned are requested to furnish the available information to NERLDC as early as possible.

During 101<sup>st</sup> 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.

**Deliberation in the meeting**

NERLDC informed that Assam & NHPC has furnished the above information but not as per the format given by NERLDC.

***The Sub-committee once again requested all the constituents to furnish the data as per format given below to NERLDC at the earliest.***

**Water level format:**

Year		FRL		MDDL	
Station	Month	Date	Water level	Generation in MU	Water utilized in cumecs

**Water spillage format:**

Year	Station					
Date	Inflow in cumecs	Status of spillage (Spilling/ Not spilling)	Duration		Total	Month
			From (Hrs.)	To (Hrs.)	Hrs.	

**D.3 Outage Planning Transmission elements**

It was agreed in the 99<sup>th</sup> 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 10<sup>th</sup> of the month, the shutdown availing agency would reconfirm to NERLDC on 7<sup>th</sup> of the month by 10:00 Hr. This practice is necessary to ensure optimal capacity utilization and the time required for associated system study/coordination by/amongst RLDC/NLDC.

**Deliberation in the meeting**

***The sub-Committee approved the transmission line outages proposed by Constituents for December, 2014 - January, 2015 and already uploaded in website of NERPC.***

**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 99<sup>th</sup> OCC meeting, the subcommittee advised NERLDC/NERPC to take up the matter with NTPC for early commissioning of 315 MVA ICT at NTPC Bongaigoan.

During 100<sup>th</sup> OCC meeting, AGM, NTPC stated that test charging of NTPC Bongaigaon ICT is done. 2 bays will be test charged from Bongaigaon(PG) end in the 2<sup>nd</sup> week of September 2014.

**Deliberation in the meeting**

Representative from NTPC informed the members that tie transformers I & II have been charged but not the ICT. ICT is expected to be charged within 3 months.

Further, 4 bays have been commissioned viz.

- 1) 400 kV BTPS – Bongaigaon – I
- 2) 400 kV BTPS – Bongaigaon – II
- 3) 400/33 kV Tie I
- 4) 400/33 kV Tie II

Start-up power is drawn from Tie transformer – I only and the project is expected to be commissioned by March 2015.

***Committee noted as above.***

**D.5 Requisition based scheduling:**

In the 102<sup>nd</sup> 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.

During 102<sup>nd</sup> OCC meeting, the Sub-committee requested NERLDC to highlight the proposal in next OCC meeting for deliberation.

During 103<sup>rd</sup> OCC meeting, forum deliberated that during sudden inflow in RHEP, constituents will first under requisition from Gas based station after that possibility shall be explored for reduction of generation in Storage bases Hydro station.

It was opined that since RHEP is NEEPCO Station, so due to sudden inflow in RHEP only NEEPCO hydro station generation will be reduced.

After deliberation, it was agreed that in case of revision of schedule more than 20 % from RHEP, generation from other stations of NEEPCO may be reduced proportionately to safeguard the violations of IEGC by beneficiaries due to such revisions in schedules.

However, since minimum generation from each unit of NEEPCO generating stations are different and details are not yet provided by NEEPCO. In order to absorb the revised schedule of RHEP, many units of NEEPCO plants may need to be reduced or even some units may be required to be stopped. Therefore, it was agreed that for proper planning purposes NEEPCO may come with a proposal in next OCC for efficient scheduling from their units in case of revision from RHEP.

**Deliberation in the meeting**

The forum suggested NEEPCO to formulate a station wise plan for suo-moto control of their generation for safe guarding the interest of the constituents as well as NEEPCO. Further, the forum felt that since lean season is approaching, NEEPCO may look into the matter and give a suitable solution before the next hydro season.

***The Sub-committee noted as above.***

**D.6 Un-Requisition Surplus (URS) of power:**

As discussed in 23rd NERPC Commercial Committee Meeting and as a practice being followed in other regions of the country, the committee deliberated that the power non-requisitioned/non-scheduled/surrendered by any beneficiary of a generation project may be requisitioned/availed by any other beneficiary of the generation project. In such a case the beneficiary who is buying such non-requisitioned/non-scheduled/surrendered power will only have to pay Energy Charges for this power as the Capacity Charges will be borne by the original beneficiary who non-requisitioned this power. Such a practice will indeed be beneficial for both the generators as well as the beneficiaries. However, the modalities for requisition may please be discussed with NERLDC.

To take up this practice there needs to be good communication between the generator and the beneficiaries on real time basis, so that such non-requisitioned/non-scheduled/surrendered power may be availed by other beneficiaries. We would hence request all the beneficiaries to nominate nodal officer(s) from their respective Discom / Department, whom OTPC/NTPC/NEEPCO can contact to intimate about availability of such non-requisitioned power of Palatana/NTPC/NEEPCO Plants, as and when required.

**Deliberation in the meeting**

***The Sub-committee decided that beneficiary states should take up the matter directly with the concerned ISGS in case they want to avail URS power from any ISGS and once the ISGS gives written consent, NERLDC / ERLDC will schedule the URS after getting requisition from the SLDC along with the consent of the ISGS.***

**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 10<sup>th</sup> of every month for the previous month.

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

***Deliberation in the meeting***

Members agreed to send the required information as per format attached at ***Annexure - D.7***

***Sub-committee noted as above.***

**D.8 Formats for new unit expected to be commissioned within 2 months:**

Information related to new units which are expected to be added/ commissioned within next 2 months needs to be furnished to NERLDC by concerned utilities as per format at Annexure C1. The technical data are necessary for preparation of Base Case for system study in NER which may be furnished as per **Annexure-D.8 (i) & (ii)**.

***Deliberation in the meeting***

***The Sub-committee requested all those utilities, who are likely to commission their new units/elements within next two months, to apply in the prescribed format D.8 (i) & (ii).***

**D.9 Commissioning schedule of combined cycle units of AGTPP:**

The commissioning schedule of 2X25.6 MW combined cycle units of AGTPP is required to finalize operational planning in advance so that there should not be any evacuation problem. Further NEEPCO is requested to complete all formalities required for trial run and subsequent test for COD as per regulation such as SEM installation (through CTU), Telemetry, Protection, Documentation etc.

**Deliberation in the meeting**

Representative from NEEPCO informed that combined cycle of AGTPP will be commissioned by March, 2015 and all the formalities viz., trial run, metering, telemetry etc., will be completed before commissioning the units.

***Sub-committee noted as above.***

**D.10 Requisition of ERS:**

During 103rd OCC meeting, Assam has intimated that they are planning to procure 8 (eight) numbers of ERS for their transmission networks. The procurement will be funded from PSDF as discussed during the meeting with Member (Power System), CEA on 10.11.2014.

The forum requested all the constituents to furnish to NERPC the requirement at the earliest so that the consolidated requirements of NER can be sent to CEA.

In the meantime, ERS requisition has been received from Assam, Ar. Pradesh, Manipur, Mizoram, Nagaland & Meghalaya.

**Deliberation in the meeting**

***The Sub-committee requested NERPC to work out the methodology regarding ERS requisition sent by the constituents so that the consolidated scheme can be put up to CEA for funding from Central Government as intimated by Member Secretary, NERPC.***

**D.11 SPAR for Loktak HEP:**

NHPC informed that Single Phase Auto-reclosure scheme is going to be installed at Loktak -Jiribam – II and Loktak – Imphal –II feeders in the month of January, 2015. Shutdown of Sub-station at Loktak is required during this time and the exact date will be intimated after getting the date from M/S AREVA (T&D) Ltd.

**Deliberation in the meeting**

Representative from NHPC informed that once M/S AREVA confirms the date of visit, necessary shutdown will be sought for from NERPC and the work is likely to be carried out in January, 2015.

***Sub-committee noted as above.***

#### **D.12 Restoration Procedure of NER Grid:**

Like every year, this year also NERLDC has to revise the restoration procedure of NER grid by end of December, 2014. The draft has been uploaded in NERLDC website. All the utilities of NER are requested to please go through the procedure and forward their comments/views by 20th December, 2014 so that the same can be finalized by last week of December, 2014.

Further, a seminar on restoration procedure is proposed one day before or after the OCC meeting of January, 2015. All the SLDCs are requested to give a small presentations (10-20 minutes) in the seminar regarding their own system for the benefit of all stakeholders

#### **Deliberation in the meeting**

DGM, NERLDC informed that the draft "Restoration Procedure of NER grid" has been uploaded by NERLDC in their website i.e. [www.nerldc.org](http://www.nerldc.org) and requested the constituents to go through the same. In case of any change is required the same may be intimated to NERLDC by 20<sup>th</sup> December, 2014.

NERLDC informed that they are organizing a One day Seminar on 'Restoration Procedure of NER Grid' one day before or after the OCC meeting of January,2015 and requested all the SLDCs to give small presentation of 10-20 minutes duration regarding power system of respective state in the seminar for the knowledge of others.

***The Sub-committee requested all the constituents to go through the procedure and give their comments/observations latest by 20<sup>th</sup> December, 2014. NERLDC will finalize the Restoration Procedure by 31.12.2014.***

***All SLDCs agreed to give small presentation as requested by NERLDC.***

#### **D.13 Metering Error in Inter-Regional Lines:**

During the 23rd CC Meeting, the issue of metering error has been discussed in detailed which are reproduced below:

NERLDC are yet to receive correct SEM readings from Bongaigaon for Bongaigaon-New Siliguri D/C lines. Same is status with Balipara-Bongaigaon D/C also where correct readings from both ends are yet to be received. A time drift status has been received from Bongaigaon duly signed by POWERGRID personnel and we can see time drift of 12 hours 23 minutes and 16 minutes respectively in two circuits of new inter-regional Bongaigaon-New Siliguri lines. Reading from meters with such drift is useless and will have no meaning.

Bongaigaon end meter reading of NPTC-Bongaigaon line showing negative polarity.

The forum felt that no seriousness from any quarter has been taken care to address the issue.

No pre-commissioning check at all before installation of meters which have been insisted many times.

Only option would be to take New Siliguri end reading in current week and in such case loss of the section will be loaded to NER and will have commercial implications.

Non-receipt of readings has created serious constraint in computation of data. Last week, even New Siliguri reading was not available and it has become a nightmare nowadays.

These are all violations of decision taken in CCM.

NERPC may look into it and take appropriate action.

NERLDC may be advised how to proceed with data processing, computation in such cases.

All concerned may be suitably appraised regarding lapses, commercial implications. If necessary, special meeting may be convened to address metering issues.

**Deliberation in the meeting**

DGM, NERTS informed that both the SEMs at Bongaigaon end of 400 KV Bongaigaon-New Siliguri D/C lines have been replaced

DGM, NERLDC informed that correct reading pertaining to 400 KV Balipara - Bongaigaon D/C has not been received till date. Time drifts have also been noticed. He stated that this is a matter of great concern. Moreover, installation of meters at NTPC end of 400 kV Bongaigaon(PG)- NTPC D/C line is still pending.

In addition, Kopili end SEM of Kopili-Misa III feeder is not giving correct reading since quite some time in spite of NEEPCO is taking-up the matter repeatedly.

AGM, NTPC also stated that DCD at Bongaigaon has not been provided by NERTS.

DGM, NERTS stated that location for installation of SEMs/DCDs is under the jurisdiction of NERLDC and hence constituents should take up the matter with them accordingly.

SE(O) informed that during the 23rd CC Meeting 35 + 50 more SEMs/DCDs have been agreed to be procured by NERTS, once the meters are received by them installation will be done accordingly. Moreover, it was decided that NERTS has to check the meters before installation so that readings can be taken effectively.

***The Sub-committee noted as above.***

#### **D.14 Automatic Demand Management Scheme (ADMS):**

NER states are supposed to implement Automatic Demand Management Schemes in their respective control areas for automatic disconnection of loads in case of exigencies, in line with IEGC stipulations in clause-5.4.2(d). The matter was raised and deliberated in 101st OCC meeting. So far no intimation received from the States regarding the action taken in this respect. A presentation on the subject was supposed to be arranged by NERPC.

#### **Deliberation in the meeting**

***After detailed deliberation, the Sub-committee advised constituents to file the petition to Hon'ble CERC stating the difficulties faced by them in implementation of ADMS***

**D.15 Requirement of Reactor at Balipara & Bongaigaon:**

After commissioning of 400 kV Bongaigaon-New Siliguri III & IV and 400 kV Balipara- Bongaigaon III & IV, persistent high voltage is being observed at Ranganadi for which some 400 kV lines have to be opened to control over-voltage. It is thus proposed to install Bus-reactor at Balipara in order to keep all lines in service. System study is being carried out to assess the requirement of Reactive Compensation which will be circulated in 104<sup>th</sup> OCC Meeting.

**Deliberation in the meeting**

DGM, NERLDC informed that high voltage is observed at Bongaigaon, Balipara & RHEP resulting in opening of 400 kV lines on daily basis to contain over voltage and hence they proposed to install one number 125 MVAR Reactor each at Bongaigaon & Balipara so that opening of lines can be avoided.

***The Sub-committee requested NERLDC to carry out the system studies to justify the requirement and if necessary the issue can be taken up in the coming Standing Committee meeting.***

**D.16 Estimated Transmission Availability Certificate (TAC) for the month of November, 2014:**

**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:

- o For Ac system, two trippings per year shall be allowed.
- o After two trippings in a year, additional 12 hours outage shall be considered in addition to the actual outage

- o 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.
- o 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 102<sup>nd</sup> 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: -

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.

During 103<sup>rd</sup> OCC meeting, it was agreed that NERPC will follow the decisions of PCC, OCC and CC forums and any disputed outages will be brought to PCC/OCC forums for further deliberations.

**Deliberation in the meeting**

POWERGRID raised the issue of delay in issuing of TAC by NERPC and requested to modify the time frame so that TAC can be issued on time.

After detailed deliberation the time frame for issuing of TAC for December, 2014 is given below:

1. NERTS/NETC should furnish the TAC data for December, 2014 along with reasons/justifications latest by 07.01.2015. However, NERLDC may provide the additional outage data latest by 03.01.2015.
2. Matter shall be discussed in OCC meeting scheduled to be held in January, 2015
3. NERPC will circulate through mails to all the constituents to study and give their comments/observations by 27/28<sup>th</sup> January, 2015.
4. NERLDC will verify the data of December, 2014 by 30/31, January, 2015 after receiving comments/observations from constituents.
5. NERPC will finally issue the TAC for December, 2014 by first week of February, 2015.
6. NERTS/NETC may give their opinions/observations if any in the OCC meeting to be held on February, 2015.

This time frame will be followed for all TACs in future.

***The sub-committee noted as above.***

**Additional Agenda:**

**1. 20th Transmission Planning:**

SE (O) NERPC informed that a joint Standing Committee meeting on Power System Planning for all regions was convened by Chairperson, CEA on 22nd September, 2014 at NRPC, New Delhi. In the meeting the 20-year Transmission Perspective Plan (2014-34) for all the five regions were discussed.

He requested that the following information/data is currently required from each State/Utility of each region may kindly be furnished at the earliest.

Sl. No	Plan	By end of 12 <sup>th</sup> Plan (upto 2017)			By end of 13 <sup>th</sup> Plan (upto 2022)		
State/Utility:							
1	Peak Demand (MW)						
2	Demand Behaviour (profile for season-wise & Annual)	Summer (Peak & Off-peak)	Monsoon (Peak & Off-peak)	Winter (Peak & Off-peak)	Summer (Peak & Off-peak)	Monsoon (Peak & Off-peak)	Winter (Peak & Off-peak)
3	Generation Project target schedule						
4	Transmission Projects (220 kV & above) target schedule						
5	Transformer Capacity addition (220/132 kV & above) target schedule						

*The Committee noted as above.*

## 2. Low Voltage at Loktak:

Representative from Loktak informed that low voltage still persist in Loktak sub-station and requested the forum to look into the matter.

*The Sub-Committee requested NHPC to install the capacitor bank in order to arrest the low voltage.*

## Date & Venue of next OCC meeting

It is proposed to hold the 105<sup>th</sup> OCC meeting of NERPC on second week of January, 2015. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

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**Annexure-I**

**List of Participants in the 104<sup>th</sup> OCC Meetings held on 5<sup>th</sup> & 6<sup>th</sup>/12/2014**

<b>SN</b>	<b>Name &amp; Designation</b>	<b>Organization</b>	<b>Contact No.</b>
1.	Sh. M.K. Bordoloi, CGM,SLDC	Assam	09435203996
2.	Sh. A.K. Saikia, DGM,LDC, AEGCL	Assam	09401026118
3.	Sh. G.K. Bhuyan, AGM	Assam	09854015601
4.	Sh. J.P. Choudhury, AGM (Com), APDCL	Assam	09954055295
5.	Sh. J.K. Baishya, AGM, LD-Com, AEGCL	Assam	09435041494
6.	Sh. Reza Mahmud, System Analyst, APDCL	Assam	
7.	Sh. N. Jasobanta Singh, Manager, MSPCL	Manipur	09612255562
8.	Sh. S. Sanjeet Singh, Manager, MSPCL	Manipur	09856190818
9.	Sh. H.F. Shangpliang, EE, Me. PTCL	Meghalaya	09863315562
10.	Sh. T. Gidon, EE, SLDC	Meghalaya	09774479956
11.	Sh. B. Narry, AEE, PLCC	Meghalaya	09089000911
12.	Sh. Vanlal Rema, SE,SLDC	Mizoram	09436140353
13.	Sh. Zoramdina, AE, SLDC	Mizoram	08415901755
14.	Sh. K. Miachieo, CE (Power)	Nagaland	09436000977
15.	Sh. G. Chishi, Addl. CE	Nagaland	09436012325
16.	Sh. Bendang Longkumer, SE (E),DMR	Nagaland	09436004642
17.	Sh. V. Kezo, EE (E), O/o CE (P)	Nagaland	09436002732
18.	Sh. Shikato Sema, EE (T), MG	Nagaland	09436003338
19.	Sh. A. Jakhalu, EE(T), DMR	Nagaland	09436002696
20.	Sh. N. Wotsa, EE (Transmission-I)	Nagaland	09436004928
21.	Sh. Kasho Chishi, EE (T), Kohima	Nagaland	09436005430
22.	Sh.T. Lithrichum Sangtam, EE (E), Store	Nagaland	09436430807
23.	Sh. Imsenkaba, EE (E)	Nagaland	09436003805
24.	Sh. B. Tiamerin Ao, EE (M/S)	Nagaland	09436260852
25.	Sh. Rokobeito Iralu, SDO (Trans.)	Nagaland	09436832020
26.	Sh.Namheu Khate, SDO (E)	Nagaland	09436000800
27.	Sh. H.R. Venkatesh, GM, PRDC	Nagaland	09845009162
28.	Sh. U. Debbarma, DGM	Tripura	09436462842
29.	Sh. D. Pal, Sr. Manager	Tripura	09436500244
30.	Sh. N. R. Paul, DGM (SO-I)	NERLDC	09436302723

<b>SN</b>	<b>Name &amp; Designation</b>	<b>Organization</b>	<b>Contact No.</b>
31.	Sh. Anupam Kumar, Sr. Engineer	NERLDC	09436335379
32.	Sh. Amaresh Mallick, DGM(SO-II)	NERLDC	09436302720
33.	Sh. R.C. Murry, DM (E/M)	NEEPCO	09436063630
34.	Sh.S.Patton, SM (E)	NEEPCO	09436434913
35.	<b>No Representatives</b>	<b>NETC</b>	
36.	Sh.J. Bhattacharya, AGM (O&M)	NTPC	09435720036
37.	Sh. Vivid Mc. D. Lyngdoh, Asst Mgr (O&M)	NTPC	09435128597
38.	Sh. R. Lotha, Dy. Mgr (E)	NHPC	09402880204
39.	Sh. P. Kanungo, DGM(OS)	NERTS	09436302823
40.	Sh. N. Gupta, Manager (O)	OTPC	09774233426
41.	Sh.D.K. Bauri, EE	ERPC	09883617236
42.	Sh.A.K. Bandhopadhyay, M.S I/c, NERPC	NERPC	
43.	Sh. B. Lyngkhoi, Director	NERPC	09436163419
44.	Sh. S.M. Jha, Dy. Director	NERPC	08731845175

ANNEXURE-C.8													DRAFT
ABSTRACT OF STATEWISE/SYSTEMWISE/CONSTITUENTWISE PEAK DEMAND- vs- AVAILABILITY IN NORTH EASTERN REGION FOR THE PERIOD FROM APRIL-2015 TO MARCH-2016													
SL.NO	P A R T I C U L A R S	(ALL FIGURES IN MW & NET)											
		Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
1	ARUNACHAL PRADESH												
i)	NET MAX DEMAND	138	138	133	133	138	143	139	128	128	133	133	143
ii)	NET POWER AVAILABILITY- Own Source	2	2	2	6	6	6	4	4	2	2	2	2
	- Central Sector	113	123	147	142	136	137	132	114	111	106	108	115
iii)	SURPLUS(+)/DEFICIT(-)	-23	-12	17	16	5	0	-2	-10	-14	-25	-22	-25
2	ASSAM												
i)	NET MAX DEMAND	1371	1382	1439	1469	1510	1428	1408	1464	1479	1407	1259	1408
ii)	NET POWER AVAILABILITY- Own Source	211	211	271	271	271	271	271	211	211	211	211	211
	- Central Sector	751	779	893	880	842	848	853	772	744	713	720	767
iii)	SURPLUS(+)/DEFICIT(-)	-410	-392	-275	-318	-397	-309	-284	-481	-524	-484	-328	-430
3	MANIPUR												
i)	NET MAX DEMAND (OWN)	132	148	138	143	149	149	154	149	149	165	148	154
ii)	NET POWER AVAILABILITY- Own Source	5	5	5	5	5	5	5	5	5	5	5	5
	- Central Sector	121	124	149	157	153	152	151	127	128	119	120	126
iii)	SURPLUS(+)/DEFICIT(-)	-6	-19	17	19	10	9	2	-16	-15	-41	-23	-22
4	MEGHALAYA												
i)	NET MAX DEMAND	400	400	400	400	395	400	410	420	425	425	420	410
ii)	NET POWER AVAILABILITY- Own Source	50	110	121	216	244	265	183	109	83	69	70	55
	- Central Sector	216	225	257	254	244	246	248	224	215	206	208	221
iii)	SURPLUS(+)/DEFICIT(-)	-134	-65	-22	70	93	111	21	-87	-127	-150	-142	-134
5	MIZORUM												
i)	NET MAX DEMAND	85	85	90	90	90	90	90	95	85	85	85	95
ii)	NET POWER AVAILABILITY- Own Source	14	17	20	25	25	25	20	15	15	14	13	12
	- Central Sector	72	75	88	88	84	84	84	74	72	68	70	74
iii)	SURPLUS(+)/DEFICIT(-)	1	7	18	23	19	19	14	-5	2	-2	-2	-9
6	NAGALAND												
i)	NET MAX DEMAND	120	120	120	135	130	135	140	130	130	135	125	135
ii)	NET POWER AVAILABILITY- Own Source	9	12	15	20	20	20	15	10	10	9	8	7
	- Central Sector	92	75	88	88	84	84	84	74	72	68	70	74
iii)	SURPLUS(+)/DEFICIT(-)	-19	-33	-17	-27	-26	-31	-41	-46	-48	-58	-47	-54
7	TRIPURA												
i)	NET MAX DEMAND	280	300	300	305	305	300	340	295	275	270	260	300
ii)	NET POWER AVAILABILITY- Own Source	94	109	109	114	114	114	114	114	109	109	109	109
	- Central Sector	265	268	287	289	284	285	284	269	267	260	263	268
iii)	SURPLUS(+)/DEFICIT(-)	78	77	96	98	93	99	58	88	101	99	112	77
8	NORTH EASTERN REGION												
i)	NET MAX DEMAND	2526	2573	2619	2675	2716	2644	2681	2680	2670	2620	2430	2644
ii)	SIMULTANEOUS MAX.DEMAND	2477	2523	2568	2623	2663	2592	2629	2627	2618	2568	2383	2592
	CONSIDERING L02 AS DIVERSITY FACTOR												
iii)	NET POWER AVAILABILITY- Own Source	385	466	543	657	685	706	612	468	435	419	418	401
	- Central Sector	1630	1670	1909	1898	1828	1836	1836	1654	1610	1540	1559	1645
	SURPLUS(+)/DEFICIT(-)	-512	-437	-166	-120	-203	-101	-233	-557	-625	-661	-453	-598

ANNEXURE-C.8													DRAFT	
ABSTRACT OF STATEWISE/SYSTEMWISE/CONSTITUENTWISE ENERGY REQUIREMENT- vs- AVAILABILITY IN NORTH EASTERN REGION FOR THE PERIOD FROM APRIL-2015 TO MARCH-2016														
SL.NO	P A R T I C U L A R S	(ALL FIGURES IN MU & NET)											TOTAL 2014-15	
		Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16		Mar-16
1	ARUNACHAL PRADESH													
i)	NET ENERGY REQUIREMENT	66	70	67	67	72	72	72	67	67	67	57	72	816
ii)	NET ENERGY AVAILABILITY- Own Source	5	5	4	6	6	6	6	4	4	4	3	4	56
	- Central Sector	45	52	64	83	80	73	60	50	46	44	39	44	679
iii)	SURPLUS(+)/DEFICIT(-)	-16	-13	1	22	14	7	-6	-13	-17	-20	-14	-24	-81
2	ASSAM													
i)	NET ENERGY REQUIREMENT	640	745	790	845	845	840	800	675	690	700	625	725	8920
ii)	NET ENERGY AVAILABILITY- Own Source	116	128	148	178	184	180	154	133	132	106	96	103	1658
	- Central Sector	404	426	487	570	554	516	490	438	430	414	375	422	5523
iii)	SURPLUS(+)/DEFICIT(-)	-120	-191	-156	-97	-106	-144	-157	-104	-128	-180	-155	-201	-1738
3	MANIPUR													
i)	NET ENERGY REQUIREMENT	65	65	70	75	75	75	75	75	75	80	65	70	865
ii)	NET ENERGY AVAILABILITY- Own Source	4	4	4	4	4	4	4	4	4	4	4	4	43
	- Central Sector	62	65	75	97	97	92	86	76	72	68	58	64	911
iii)	SURPLUS(+)/DEFICIT(-)	1	4	8	26	26	20	15	4	0	-9	-3	-3	89
4	MEGHALAYA													
i)	NET ENERGY REQUIREMENT	165	170	160	170	170	165	180	190	200	210	180	185	2145
ii)	NET ENERGY AVAILABILITY- Own Source	29	64	70	128	145	153	109	63	50	41	37	32	921
	- Central Sector	117	124	141	166	162	151	144	129	126	121	109	122	1612
iii)	SURPLUS(+)/DEFICIT(-)	-19	18	51	124	137	139	73	2	-25	-48	-33	-30	388
5	MIZORUM													
i)	NET ENERGY REQUIREMENT	40	40	40	42	42	40	45	42	43	37	44	500	
ii)	NET ENERGY AVAILABILITY- Own Source	6	10	10	11	11	10	10	7	6	7	6	7	100
	- Central Sector	37	39	45	55	54	50	46	41	39	37	34	38	514
iii)	SURPLUS(+)/DEFICIT(-)	2	9	15	24	23	20	11	2	4	1	3	1	115
6	NAGALAND													
i)	NET ENERGY REQUIREMENT	60	60	65	65	65	65	65	65	65	65	65	65	770
ii)	NET ENERGY AVAILABILITY- Own Source	1	4	6	12	16	16	12	8	5	4	3	2	89
	- Central Sector	46	39	45	55	54	50	46	41	39	37	34	38	524
iii)	SURPLUS(+)/DEFICIT(-)	-12	-18	-14	2	5	1	-7	-16	-21	-24	-28	-25	-157
7	TRIPURA													
i)	NET ENERGY REQUIREMENT	115	125	125	130	130	130	130	120	130	135	110	135	1512
ii)	NET ENERGY AVAILABILITY- Own Source	28	35	31	34	35	32	36	30	34	35	22	34	385
	- Central Sector	169	176	181	200	198	190	189	177	179	175	159	175	2167
iii)	SURPLUS(+)/DEFICIT(-)	83	86	87	104	103	92	94	87	83	75	71	74	1039
8	NORTH EASTERN REGION													
i)	NET ENERGY REQUIREMENT	1151	1274	1316	1394	1399	1387	1367	1237	1269	1300	1139	1296	15528
ii)	NET ENERGY AVAILABILITY- Own Source	190	248	272	373	400	401	330	248	234	199	171	185	3253
	- Central Sector	879	920	1037	1226	1200	1121	1061	951	931	896	807	903	11931
iii)	SURPLUS(+)/DEFICIT(-)	-82	-106	-7	205	201	135	25	-38	-104	-205	-160	-209	-344
	MUDAY	38	41	44	45	45	46	44	41	41	42	41	42	43





Progress Report of On-Going Transmission Lines Projects

As on 31-Oct-14

SI No	Name of the Lines	Name of Executing Agency	ATS/ System Strengthening/ Inter Regional Line	Total length in ckm	Construction Progress Status				Target Date		Remark
					Towers				Schedule	Revised/ Anticipated	
					TL (Nos)	STC (Nos)	TE (Nos)	STG ( in ckm)			
<b>A. 800 kV HVDC</b>											
<b>B. 400 kV D/C</b>											
<b>C. LILO of 400 kV D/C</b>											
<b>D. 400 kV D/C (Charged at 132 kV)</b>											
<b>E. 220 kV D/C</b>											
<b>F. 220 kV S/C</b>											
<b>G. LILO of 220 kV D/C</b>											
<b>H. 220 kV S/C on D/C</b>											
<b>I. 132 kV D/C</b>											
<b>J. 132 kV S/C</b>											
<b>K. LILO of 132 kV D/C</b>											
<b>J. LILO of 132 kV S/C</b>											
<b>L. 132 kV S/C on D/C</b>											

Note: TL: Total Location; STC: Stubs Cast; TE: Towers Erected & STG: Stringing Completed

