

North Eastern Regional Power Committee

Agenda For

85th Operation Coordination Sub-Committee Meeting

Time of meeting : 10:30 Hrs.

Date of meeting : 9th May, 2013 (Thursday)

Venue : Hotel Grand Starline, Guwahati.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 84th MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 84th meeting of Operation Sub-committee held on 9th April, 2013 at Guwahati were circulated vide letter No. NERPC/OP/OCC/2013/2880-907 dated 22nd March, 2013.

No observations or comments were received from the constituents. The Sub-committee may confirm minutes of 84th OCCM of NERPC.

ITEMS FOR DISCUSSION

B. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING APRIL, 2013

As per the data made available by NERLDC, the grid performance parameters for April, 2013 are given below:

- i) **Average frequency** during April, 2013 was 50.02 Hz as compared to 50.06 Hz in March, 2013
- ii) **Minimum frequency** in April, 2013 was 49.29 Hz (16.04.13 at 08:05 hrs) as compared to 49.35 Hz recorded in the previous month.
- iii) **Maximum frequency** was 50.67 Hz (09.04.13 at 23:03 hrs) as compared to 50.73 Hz recorded in March, 2013.
- iv) **System frequency** remained within permissible range of 49.7 Hz to 50.2 Hz for 91.79 % of the time, below 49.7 Hz for 2.67 % and above 50.2 Hz for 5.54 % of the time as compared to 89.48 %, 1.21 % and 9.31 % respectively in the previous month.

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- v) **Regional peak** demand in April, 2013 was 1899 MW as compared to 1947 MW in March, 2013, a decrease of 2.49 % over the previous month.
- vi) **Regional peak availability** was 1718 MW as compared to 1752 MW in previous month, a decrease of 1.94 % over the previous month.
- vii) **Energy requirement** was 902.2 MUs in April, 2013 compared to 941.93 MUs in March, 2013, a decrease of 4.22 % over the previous month.
- viii) **Regional energy availability** was 822.69 MUs compared to 859.13 MUs in the previous month, a decrease of 4.24% over the previous month.
- ix) **No Rise in demand met** was recorded over the previous month.
- x) **Drop in demand met** was recorded in Nagaland (16.19%), Meghalaya (14.69%), Manipur (9.23%), Ar. Pradesh (8.52%), Mizoram (4.48%), Tripura (3.74%) & Assam (1.08%) over the previous month viz. March, 2013.
- xi) **Over Voltage** at 400 kV Sub-Station was observed at Misa S/S (424kV).
- xii) **No over Voltages** were observed at 220kV & 132 kV S/S.
- xiii) **Under Voltages** were observed at 400 kV S/S at Balipara S/S (378 kV);
- xiv) **No under voltage** was observed at 220 kV S/S.
- xv) **Under voltage** at 132kV S/S was observed at Aizawl S/S (119 kV).
- xvi) **Regional Generation & Inter-regional Exchanges** during the month of April, 2013 compared to March, 2013 are given below:

SN	Parameter	April, 2013	March, 2013
REGIONAL GENERATION & INTER - REGIONAL EXCHANGES (in MU)			
1	Total Generation in NER (Gross)	529.420	554.439
2	Total Central Sector Generation (Gross)	293.427	307.601
	Total State Sector Generation (Gross)	235.993	246.838
3	Inter-Regional Energy Exchanges		
	(a) NER - ER	1.17	6.34
	(b) ER - NER	314.69	324.68
	(c) Net Import	313.52	318.34

C. FOLLOW UP ACTION

C.1 Synchronization of Pallatana module -I

During 79th OCC meeting, AGM, NERLDC informed that OTPC had synchronized their machine and generated around 30 MW during Durga Puja which was of great help to NER grid during puja.

During 79th OCC meeting, GM, OTPC had informed that to ensure capability of plant and various equipment, auxiliaries & ancillaries associated with Block-1 / Unit-1 of Pallatana Generating station, trial operation is required with increase of loads in steps as per schedule and after unit stabilization run, machine needs to be run at full / base load and the continuous run of unit for minimum period of 72 hours is required for declaration of COD. SE(Com) informed that for declaration of COD, the running of machine continuously for 72 Hrs is not a mandatory requirement. But as per PPA of OTPC with the constituent states of NER, each block/unit is to operate seventy two (72) consecutive hours at or above 95% of the contracted capacity. OTPC had informed that after running of Block-1 continuously for 72hrs. at full / base load, the machine could be run at reduced load for fifteen (15) days. The running of Unit at full / base load is required to demonstrate gross generation, heat rate, auxiliary consumption, and NOX level including capability & reliability of various equipment, auxiliaries, ancillaries and associated control and protection system.

AGM, NERLDC stated that all tests required for commissioning of Pallatana U#1 will be facilitated by NERLDC as agreed in previous OCC meetings but the commercial issues with the stake holders i.e. NEEPCO/NHPC/Tripura have to be settled by OTPC.

POWERGRID informed that 400 kV Silchar- Pallatana-II tripped number of times on 07/11/12 on overvoltage due to some problem at OTPC end, the same needs to be checked.

OTPC informed that the investigation is going on and it will be rectified soon.

NERLDC also informed that as per the previous decision in OCC meeting all constituents had agreed for 72 hours of continuous run of Pallatana U#1 at full load (i.e. 300 MW). For evacuation of full generation of Pallatana U#1, Tripura, Assam, NEEPCO and NHPC have to back down their generation. Therefore, if OTPC requires continuous load more than 72 hours (3 days), all constituents should agree for such transaction and the commercial issues also needs to be resolved beforehand.

NERPC had given a presentation on the commercial implication of backing down of generation by NHPC, NEEPCO, Tripura, and Mizoram due to injection of generation by Unit-1 of Pallatana taking into account the previous load flow study on case to case basis.

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Assam stated that backing down of generation may be allowed, but frequent ramping up/down of generation is not desirable as it may lead to cascading effect resulting in a grid disturbance. Further they stated that the generation status at Pallatana should be integrated with the SCADA system of all SLDCs.

Tripura also stated that the commercial implication should be settled beforehand.

NEEPCO also informed that for running of Unit-1 for more than 72 hours, prior approval from their management would be required. NEEPCO requested for steady injection of power for the whole day to manage their gas supply. OTPC informed that it is difficult to maintain steady injection of power to the grid during trial operation.

OTPC informed that since all constituents are not agreeing for full load generation for 15 days, reduced generation of 250-280MW may be allowed after continuous run of Unit-1 for 72 hrs. at full / base load.

During discussion POWERGRID was requested to inform the committee about the present status of 400kV Silchar – Byrnihat line and the 400kV substation at Byrnihat. Committee requested for commissioning of line and substation by the end of November 2012. But POWERGRID informed that it is difficult to commission the GIS substation before December 2012.

In the 79th OCC meeting, after detailed deliberation the committee reiterated its earlier decision to allow continuous run of the Unit-1 for 72 hours at full load. Further OTPC should furnish its schedule at least 48Hrs beforehand to enable all the stake holders to carry out proper planning. However, the commercial matter regarding running of Unit-1 beyond 72 hours at full / reduced load needs to be discussed in commercial committee and NERPC meeting to settle the commercial implications.

During 80th OCC meeting, Committee requested POWERGRID to inform the house about the status of 400kV Silchar – Byrnihat line and the 400kV substation at Byrnihat. POWERGRID informed the committee that the stringing work of 400kV Silchar – Byrnihat line is under progress and is likely to be completed by January, 2013. Regarding 400kV GIS substation at Byrnihat it was informed that Reactor oil filtration is in progress and one transformer has also reached the site. The pre-commissioning tests will be completed as early as possible. The commissioning of 400kV GIS cannot be completed before January, 2013 although most of the erection commissioning activities on 220kV side will be completed by December, 2012.

GM (Plant), OTPC informed that synchronization of Unit -1 would be done again on 14.12.12 for further tests and COD and submitted the schedule to NERLDC. The committee deliberated the generation schedule of OTPC Pallatana w.e.f. 14.12.12 and after detail discussion it was decided that:

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- i) On 14.12.12 OTPC should synchronize Unit-1 before Peak Hours (i.e. 17:00 Hrs) and the generation should be in the range of 50 to 80 MW so that it will help NER grid during Peak hours and moreover, start-up power should be drawn from the Grid during off-peak hours, which will help the TSECL system. Afterwards the load may be increased gradually.
- ii) On 15.12.12 OTPC should plan to generate about 300 MW (for 2 hours) during Peak hours so that such quantum of generation can be easily accommodated.
- iii) From 15.12.12 to 24.12.12 OTPC should generate around 230 to 250 MW continuously. However, the generation needs to be rescheduled, if required, depending on real time grid conditions and as per the advice of NERLDC.
- iv) If OTPC's generation would be found to be stable, then generation of 230 to 250 MW can be continued further till 02.01.2013 to support the grid during Christmas and New Year eve.
- v) From 03.01.2013 onwards, OTPC may plan for generation of 363 MW (full load/base load) continuously for 72 hours in consultation with NERLDC.

During 81st OCC meeting, the Sub-committee enquired about the status of commissioning of Unit#2 of GBPP at Palatana from OTPC and also the status of the ATS from POWERGRID.

OTPC informed that the commissioning schedule of Pallatana U#2 is May/June, 2013. Further, OTPC requested to facilitate for following schedule of generation.

- i) Generation of 300 MW for 4-5 hours on 11.01.2013 for DLN testing
- ii) Continuous Generation of 250 MW for seven (7) days for trial operation.
- iii) Generation of 360 MW for three (3) days to meet the requirement of COD.

POWERGRID informed that the commissioning schedule of ATS is as follow:

- a) 400 kV Silchar –Byrnihat Transmission line – By end of January, 2013
- b) 400 kV GIS Byrnihat S/S- By end of January, 2013
- c) 400 kV Byrnihat – Bongaigaon Transmission line –By May/June, 2013.

TSECL and Assam representatives requested NERLDC not to issue ATC violation message as States were overdrawing continuously to match the load requirement with generation from OTPC. They also requested for some action to avoid UI drawl at higher rate as it effects commercially.

After detailed deliberation the committee decided that:

- i) On 11.01.2013 OTPC will inject 300 MW for five (5) hours during peak hours to perform the DLN testing.
- ii) Subsequently generation of OTPC will be restricted to 250 MW during peak hours and 150 MW during off-peak hours till 400 kV Byrnihat S/S and 400 kV Silchar –Byrnihat line is commissioned.
- iii) However, in case of any contingency, OTPC will have to back down generation as per advice of NERLDC.

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During the 82nd OCC meeting, GM (Plant), OTPC informed that DLN tuning in PPM mode has been completed for generating Unit#1 at Palatana. But the DLN tuning in PM mode is yet to be done. For DLN tuning in PM mode, load of about 300MW would be required and after DLN tuning, load of about 250 MW is required continuously for further trial run of the machine.

POWERGRID was requested to intimate the status of commissioning transmission system associated with evacuation of power from generating units of OTPC at Pallatana and NTPC at Bongaigaon. POWERGRID informed that the status of transmission system is as below:

- i) 400 kV Silchar –Byrnihat Transmission line – By February 15, 2013
- ii) 400 kV GIS Byrnihat S/S- Charged on January 5, 2013.
- iii) 400 kV Byrnihat – Bongaigaon Transmission line – By June, 2013.

NERLDC presented the recent trippings and shut down programme of OTPC generating unit during trail operation. The committee requested OTPC to stabilize their machine as the records of NERLDC shows the machine is not stable and it is tripping during trial operation and shut down is being taken now and then. Since the NER grid may not be able to survive in case of tripping of generating unit of such capacity (363MW) as it may lead to cascade trippings. The machine should be stabilized before going for trial run with full generation.

After detailed deliberation the committee has decided as follows:

- i) The generating Unit#1 of OTPC should be stabilized as tripping of the machine at full load may cause grid disturbance.
- ii) Because of election in the state of Tripura on February 14, 2013, trail operation of machine with full generation may be deferred till 400 kV Silchar-Byrnihat line is ready in order to avoid interruption of power supply.
- iii) The commissioning of 400 kV Silchar-Byrnihat line is expected by January 15, 2013 and trial run of OTPC machine with full generation can be carried out after 15th February, 2013.

During the 83rd OCC meeting, the status given by POWERGRID and OTPC is given below:

- i) 400 kV Silchar –Byrnihat Trans line – Charged on March 26, 2013
- ii) 400 kV GIS Byrnihat S/S- Charged on January 5, 2013.
- iii) 400 kV Byrnihat – Bongaigaon Transmission line – By June, 2013.

GM (Plant), OTPC informed that due technical problem with Unit # 1, the generation from the plant has been stopped. The interior shields of Steam Re-heating Boiler of Unit#1 are defective causing melting down of the metals and the

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same needs replacement. Attempt will be made to divert the shields designed for Unit-II to be used for Unit-I so that Unit-I can resume generation by 5th of May 2013.

The committee also informed that since six month period from the commencement of injection of power to the grid will be over in April 2013, injection of firm power into the grid will not be possible by OTPC after April as per CERC norm. OTPC was requested to take up the matter with CERC so that power can be injected into the grid when the machine is ready for generation in May 2013.

During the 84th OCC meeting, the status given by POWERGRID and OTPC is given below:

- i) 400 kV Byrnihat – Bongaigaon Transmission line – By June, 2013.

Advisor (O&M), OTPC informed that BHEL engineers are at the site and the technical problem of Unit # 1 may take another 20-25 days to be solved. So they were expecting the machine to come in May, 2013 and after that all balance tests which were pending will be imparted and after 15 days trial run the machine COD will be declared in June, 2013.

The committee enquired about which tests are to be done and what are the requirements of those tests. The OTPC representatives informed that the following tests are required to be done.

- i) DLN tuning for PM mode: Load requirement- Full load (360 MW); Duration- 8 Hours.
- ii) Trial Run: Load requirement- Full Load (300-360 MW); Duration- 15 days.
- iii) During Trial run the following tests were also will be carried:
 - a. Reliability test
 - b. PPA test

The committee requested OTPC to get the extension from CERC at the earliest for trial operation period/to inject the infirm power to the NER grid. Also after getting the extension OTPC should communicate their generation schedule in advance to NERLDC/NERPC to co-ordinate with NER constituents and OTPC should adhere with the NERLDC instructions.

Committee may like to discuss about the following issues:

- (a) Present status of trial operation of Unit -1 of OTPC at Palatana
- (b) Status of associated transmission system Byrnihat – Bongaigaon 400kV line].
- (c) Any other issue relating to GBPP of OTPC

C.2 Independent third party audit of protection system and self-certification in respect of operationalisation of Under Frequency Relay (UFR) and df/dt relay

The Chairperson, CEA vide his D.O letter No. 7/AI/GD/GM/2012/397-407, addressed to Hon'ble Chairperson, NERPC had requested for completion of independent third party audit of protection system and to ensure operationalisation of Under Frequency Relay (UFR) and df/dt relay based automatic load shedding within one month. In response to above letter NERPC vide letter No. NERPC/OP/OCC/2012/5687-702 had circulated extract of CEA & CERC regulation and some formats, with typical example (which can be downloaded from NERPC website), to help in collecting various information. No. of groups need to be formed to carry out the protection audit. The action plan needs to be discussed so that the work can be completed as early as possible.

However, the self-certification (by STUs / CTU) in respect of operationalisation of Under Frequency Relay (UFR) and df/dt relay based automatic load shedding may please be submitted in the prescribed format to NERPC and CEA at the earliest.

During 79th OCC meeting, SE (Comml), NERPC informed that as recommended by Enquiry Committee, the third party independent audit for the Protection systems in NER is to be completed as early as possible and presently Ministry of Power and CEA are also monitoring the progress in various regions it very closely. Therefore, for the benefit of the NER, the upgradation of protection system is very much required for smooth and reliable operation of grid and action should be initiated at the earliest. Further, he informed that third party independent audit of Protection systems for Northern region has already been completed by PGCIL in association with CPRI and other regions have also started their action plan. He informed that in NER there are about 135 Nos. of substations/ generating stations of 132kV and above voltage class and also proposed to carryout protection audit for all these substations / generating stations as 132kV system forms the backbone of NER unlike other regions. Since arrangement of funds is the major constraint in NE region, small groups /teams have to be formed taking representation from NER constituents. The committee decided to form teams comprising of four (4) members from different state utilities/owner, PGCIL/NEEPCO/NHPC and NERPC/NERLDC. NERPC will co-ordinate the audit and prepare the further course of action in consultation with NERLDC and POWERGRID. The nominated member of NERPC/NERLDC will be the coordinator of each group.

NERPC, in consultation with POWERGRID and NERLDC, had prepared the detailed plan for carrying out the audit of protection system of all 132 kV and above voltage class substations/generating stations in NER. NERPC vide letter dated 26th November, 2012 and 30th November, 2012 had requested PGCIL and other constituents to provide logistic support inform of road transport and stay at various places in NER. All the constituents were requested to nominate their representatives for the audit and the proposed dates were to be finalized during OCC/PCC meeting.

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During 80th OCC meeting, Member Secretary I/C, NERPC informed that ED, POWERGRID has agreed to provide required support for carrying out the audit of protection system. He also informed that the protection audit for Tripura is likely to be completed before Christmas and from second week of January, 2013, other teams will proceed for the audit and entire audit is likely to be completed by February, 2013. Further, he requested all the constituents to nominate their representatives for the audit.

Assam submitted their nominations for audit team. Other constituents agreed to nominate their persons for audit team. After detail deliberation all the constituents agreed to the proposed dates and to extend their supports to complete the audit in time bound manner.

MS I/C informed that Protection Audit of most of the substations/generating stations in the state of Tripura had been completed. He requested all the constituents to extend their supports to complete the audit by February 2013 as per Schedule.

During the 82nd OCC meeting, the Committee reviewed the status of the Protection Audit and requested each Audit team to prepare a report on findings / observations pertaining to various substations / generating stations audited by them.

MS I/C, NERPC informed that as per the planning out of nine (9) routes identified the audit of protection system pertaining to route no. 1, 4, 6, 7 and 8 have been completed and presently audit in respect of route no. 2 and 5 is going on which will be completed by 11th February, 2013. These routes cover most of the 400/220/132kV Sub-Stations and Generating stations in Ar. Pradesh, Assam, Manipur, Mizoram, Nagaland and Tripura. The audit of rest of two (2) routes (route no. 3 and 9) will commence from 11th February, 2013. Further, he stated that as on date protection audit in respect of about 100 substations / generating stations has been completed and rest of the work is likely to be completed by February, 2013.

After completion of protection audit, the deficiencies in the NER system will be highlighted and discussed in OCC/PCC meetings. The course of action and time frame of implementation of recommendations of protection audit will be planned accordingly. The report on Protection audit along with recommendations will be submitted by March, 2013.

During the 83rd OCC meeting, MS I/C, NERPC briefed the members about the deficiencies observed in some of the audited sub-stations and highlighted the inadequacy of diagnostic tools in most of the stations. As reported by auditing team, details of relay setting are also not available with operating personnel of some of the substations which should have been available with them as the core of protection lies in the relay settings. The formats of reports were also highlighted to the members for perusal.

GM, NERLDC suggested that shortage of man-power may also be highlighted in the reports as round the clock manning of sub-stations is very important for effective and efficient management of the systems.

The protection audit of the region has been completed and deficiency of audited substations / generating stations has been brought out. The deficiencies need to be rectified at the earliest to ensure safe secure operation of the grid. CEA vide letter dated 25-03-2013 has advised NERPC to discuss the matter with STUs and generating companies of the region for preparation of DPR, cost estimate and action plan for implementation etc. for rectification of deficiencies. The format prepared by PGCIL (received from GM, CEA) for preparation of cost estimate was forwarded in advance to all constituents through mail dated 01-4-2013.

During the 84th OCC meeting, MS I/C, NERPC informed that the draft report of protection audit was circulated to all the constituents and same is finalized after incorporation of suggestion. Further, he informed that CEA has circulated a format for estimation of cost part of the DPR which will be circulated to constituents.

The committee reviewed the format and suggested that the formats are very complicated and the constituents may find it difficult in completing the details. So, the committee requested POWERGRID to simplify the formats such that all constituents may make estimate of their DPRs. Further, committee requested all the constituents to make their DPR ready and co-ordinate with POWERGRID for calculation of cost part.

DGM, POWERGRID stated that he may require one week for finalizing the formats and after that it will be circulated to all the constituents. All constituents may fill up their detail requirement and accordingly the cost estimation will be done.

All constituents agreed to co-ordinate with POWERGRID to complete the DPR at the earliest.

Committee may like to discuss on following issues:

- (a) The deficiencies in the NER system
- (b) Finalization of audit report and recommendations
- (c) Preparation of DPR, cost estimate and action plan for implementation for rectification of deficiencies
- (d) Any other relevant matter

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 79th OCC, Manipur had informed that the UFRs have been installed on 33 kV Yurembam-Leimakhong radial feeder as advised by the committee. In the process installation of all UFRs in the NER has been completed as per earlier decision of the committee. Further all constituents (STUs and CTUs) were requested to furnish the relevant information in the format prescribed by CEA. It was also discussed that the requirement of UFR and df/dt relays need to be reviewed based on the recommendation of the enquiry Committee constituted by the Ministry of Power headed by Chairperson CEA.

During 80th OCC meeting, MS (I/C) informed that after the grid disturbance, the Ministry of Power and CEA are closely monitoring the progress in implementation of recommendations of Enquiry Committee. CEA is also asking the operation details of UFRs every now and then. Therefore, all constituents are requested to submit the requisite data at the earliest. Constituents, who have not submitted the required information, have agreed to submit the same at the earliest. Further, he informed that the frequency band has been tightened further by CERC to 49.7 to 50.2, therefore the frequency settings and load relief is further required to be reviewed.

During the 81st OCC meeting, NERLDC informed that the Committee for Security of grid constituted by Ministry of Power has revised the quantum of under frequency based load shedding at various frequency bands. Therefore, the under frequency based load shedding in respect of NER needs to be reviewed.

The Committee requested NERPC to finalize the UFR based load shedding in consultation with NERLDC. However, for finalization of UFR based load shedding, further detailed discussion would be required.

As per clause no. 5.2(n) of IEGC, utilities are to submit UFR operation report on monthly basis to RPC. All constituent states are requested to inform the committee about the operation of UFR since its commissioning, particularly during grid disturbances, which is being monitored strictly by CEA/MoP after the grid disturbances on 30th & 31st July, 2012. The UFR operation detail may please be furnished to RLDC and NERPC as per format circulated.

During the 82nd OCC meeting, all the constituents have agreed to submit the data in the prescribed format.

The Committee also suggested that if UFR operation can be linked to annunciation on control panel, then operation of UFR can be easily recorded.

In the 83rd OCC meeting, it was agreed that whenever sub-stations are upgraded or renovated, possibility of installing automated control panels should be explored so that reports on operation of UFR and other technical details may be recorded and collected efficiently at regional level.

S.E (O) requested all the Constituents to submit the report of UFR operation every month as per the format circulated by NERPC and if no operation has taken place, then a NIL report may be submitted so that the same can be circulated with the minutes of the meeting.

The committee requested all the constituents to submit the UFR operation detail to NERLDC and NERPC.

All constituents agreed to submit the data.

Committee may like to discuss.

C.4 Lines under long outages

During 80th OCC meeting, the status of lines which are under long outages as given below were reiterated.

- (a) 220kV BTPS – Agia (one ckt) since November, 1997
- (b) 132kV Mariani – Mokokchung since April, 2008.
- (c) 39km of 132kV Rengpang – Jirbam since October, 2002
- (d) 132 kV Dimapur-Dimapur-II

Assam representatives had informed about 220 kV BTPS-Agia- II that it is under stringing stage and it was delayed as the tender was terminated because contractor cannot complete the said job in time. The new tendering is in progress and it will be completed at the earliest. Regarding Mariani-Mokokchung line the Assam side is ready; the Nagaland side is required to be checked.

Regarding 132 kV Rengpang-Jiribam line the Manipur representatives had informed that the work is in progress and the same will be completed by January, 2013.

The committee requested NERPC to take up the matter with the concerned State for early restoration of these lines for better grid operation.

NERPC Secretariat had written letter vide letter dated 14.12.2012 to the concerned States for taking up early action to restore the above mentioned lines.

During the 81st OCC meeting, Assam had informed that 220 kV BTPS-Agia will be restored by September, 2013.

Manipur had informed that commissioning of 132 kV Rengpang-Jiribam line will be completed by January, 2013.

The Committee requested NERPC to take up the matter with Nagaland.

In response to NERPC's letter dated 14-12-2012, CE, Nagaland, vide his letter dated 21st January 2013, have informed that the portion of 132kV Mokokchung – Mariani line (under the jurisdiction of Nagaland) has been kept charged at 33kV and can be charged at 132kV at any point of time provided portion of line in Assam is ready. With regard to 132kV Dimapur (PG) – Dimapur (N), in a joint meeting on 16-01-13, it has been decided that POWERGRID, Dimapur will discuss the matter regarding operation procedure with DoP, Nagaland.

During the 83rd OCC meeting, the status as reviewed in the meeting are as under:

- (a) 220kV BTPS – Agia (one ckt) – Tender has already been opened and order is likely to be placed by April, 2013
- (b) 132kV Mariani – Mokokchung – CGM (SLDC), AEGCL informed that the line was charged but tripped immediately after charging due to faults in some portion of the lines under Nagaland. He requested NERPC to pursue with Nagaland officials for joint inspection.

- (c) 39km of 132kV Rengpang – Jiribam – Manipur informed that stringing is almost complete and the same is likely to be completed by March 2013.
- (d) 132 kV Dimapur - Dimapur - II – POWERGRID informed that Nagaland has agreed to the proposals made by them and the issue will be resolved soon.

During the 84th OCC meeting, MS I/C, NERPC stated that these lines may be completed at the earliest to strengthen the NER grid. The committee reviewed the status for restoration of these lines:

- (a) 220kV BTPS – Agia (one ckt) – Tender has already been opened and order is likely to be placed by April, 2013 and the work completion target is September, 2013.
- (b) 132kV Mariani – Mokokchung – during 83rd OCC meeting, AEGCL informed that the line was charged but tripped immediately after charging due to faults in some portion of the lines under Nagaland. Nagaland representative informed that some insulator replacement is under progress. As soon as the replacement work completed they will try to charge the line.
- (c) 39km of 132kV Rengpang – Jiribam – Manipur informed that stringing is almost complete but due to some local law and order problem the work is getting delayed; the same will be completed by April, 2013.
- (d) 132 kV Dimapur - Dimapur - II – POWERGRID informed that Nagaland has agreed to the proposals made by them and the issue will be resolved soon. Nagaland representative informed that some local arrangement is being done to charge the Kohima line directly from Dimapur S/S and it may take one month. As soon as the arrangement is completed POWERGRID will be intimated to complete the above work.

The current status may be informed by Nagaland/ Manipur/ Assam/ POWERGRID.

C.5 SPS Scheme for Pallatana:

It was observed from load flow studies carried out by NERLDC that tripping of Pallatana unit during peak hours would cause loading of Kopili ICT (160 MVA). To save the situation shedding of around 100 MW of load would be required in the 132 KV pocket through SPS.

During 76th OCC meeting, DGM, NERLDC informed that a special protection scheme is required to be planned for shedding the above load. The committee advised NERPC Secretariat to design the SPS in consultation with NERLDC, Assam, Meghalaya, Tripura, NEEPCO, NHPC and OTPC.

POWERGRID representatives informed that not only SPS but protection schemes are also required to be reviewed before commissioning of Pallatana GBPP. Also from the load flow study it was observed that in certain lines there will be reverse flow of power due to tripping of Pallatana.

During 77th OCC meeting, DGM, NERLDC stated that in case of tripping of Pallatana unit, around 120 MW load shedding through SPS would be required in Mizoram, Tripura and South Assam (each 40 MW) and some load shedding would be required in Meghalaya. POWERGRID informed that the implementation of SPS for tripping of far off lines/loads will be difficult as there will be co-ordination problem because of non-availability of communication links and NERLDC should find some other nearby lines or SPS can be linked with Kopili ICT. NERLDC informed that they have identified the list of radial lines in NER system for disconnecting during emergency conditions to save the grid. They pointed out that the SPS can be implemented on those lines which are available in 132 kV Pocket. All the constituents agreed for implementation of SPS on these lines and also for emergency disconnection of listed lines in case of necessity.

During 78th OCC meeting, the committee requested NERLDC to prepare the SPS scheme of Pallatana in consultation with NERPC and POWERGRID.

During 79th OCC meeting, NERLDC informed that the lines have been identified in NER system for disconnection during emergency conditions to save the grid. Further, they informed that the SPS can be planned accordingly. The committee requested NERLDC to give the list of lines associated with tripping of unit# 1 of Pallatana and POWERGRID was requested to plan the implementation of SPS.

During 80th OCC meeting, the committee felt that NERPC, NERLDC and POWERGRID may discuss the matter and plan accordingly for implementation of SPS scheme.

NERLDC gave a presentation on grid security for tripping of i) 400 kV Silchar-Killing (Byrnihat) line and ii) Palatana Units.

During 82nd OCC meeting NERLDC requested for creation of Power system study group as per recommendation of enquiry committee for Grid disturbance. The sub-committee had agreed for the same. The matter was also brought to the notice of members of TCC and the TCC has also agreed for creation of Power system study group in the region taking representation from various constituent states, POWERGRID, NERLDC, NTPC, NEEPCO, NHPC, OTPC and IIT Guwahati. The studies relating to islanding scheme, SPS and any other studies required from time to time can be carried out by the group. The group will not only help for studies on regional basic but will of great help to each state for their planning studies. All members were requested for nominations to the group.

During the 83rd OCC meeting, the System Protection Scheme (SPS) associated with tripping of generating unit of OTPC at Pallatana or tripping of 400 kV Silchar-Byrnihat line, prepared by NERLDC, was deliberated during the presentation given by GM, NERLDC. GM, NERLDC emphasized that implementation of the SPS is essential to maintain grid security under above contingency conditions. The tripping of above generating unit or 400kV line may

cause grid disturbance which may even lead to grid collapse. The scheme involves immediate tripping of few identified lines at 132kV level within two hops from the Silchar bus. It was agreed that the scheme will require carrier inter-tripping provision for effective load shedding.

DGM, NERTS informed that the existing PLCC channels are fully utilized and there is no spare channel for such carrier inter-tripping and new channels need to be established additionally.

It was agreed that NERTS would examine the scheme in details and would initiate necessary action for successful implementation of the proposed protection scheme at the earliest possible time and the status of implementation plan would be reviewed in next OCC meeting. In 82nd OCC meeting and special TCC meeting, it was decided to create Power system study group in the region taking representation from various constituents including IIT (Guwahati) and nomination was also requested.

Regarding nomination for system study group, the status as informed in the 84th OCC meeting is given as below:

Ar. Pradesh - Nomination will be intimated shortly.

Assam – Nomination will be intimated at the earliest.

Manipur – Shri N. Jasobanta Singh, AE & Shri Th. Bimol Singh, AE

Mizoram- Nomination will be intimated soon

Meghalaya – Sh. D.J. Lyngdoh, AEE, SLDC & Sh. T. Gidon, AEE, SLDC

Nagaland- Nomination will be intimated soon.

Tripura – Sh. Mrinal Paul, Manager & Sh. Anwesh Choudhury, Manager.

NEEPCO - Nomination will be intimated soon.

NERLDC – Sh. A. Mullick, CM & Sh. Anupam Kumar, Engineer

NERTS – Sh. P. Kanungo, DGM & Sh. Supriya Paul, Dy Manager

OTPC – Sh. Tapas Karmakar, Asstt. Manager

NERPC – Sh. Lalrinsanga, EE & Sh. D.K. Bauri, EE

IIT, Guwahaty - nomination will be taken up by NERPC Secretariat.

Other constituents may kindly nominate the suitable officers for above study group. NERLDC is also requested to highlight the studies relating to proposed SPS scheme. NERTS may intimate the action plan for implementation of the SPS scheme.

Committee may like to discuss.

C.6 Implementation of Islanding Scheme in NER:

For survival of different parts/pockets (with identified generation along with some load) of NER grid in the event of grid disturbance, it has been proposed that islanding schemes may be planned & implemented.

During 76th OCC meeting, DGM, NERLDC stated that some islanding schemes need to be planned so that the islands survive during any grid disturbance so that start-up power can be extended to other generating stations.

During 77th OCC meeting, two proposals for islanding scheme were discussed. In both proposals, first step is isolation of NER from NEW Grid at a particular frequency by tripping of 400kV D/C line and 220kV D/C line connecting ER and NER. In one case it has been proposed for formation of two Sustainable Small System (SSS) and then Unit islanding and ultimately Safe shutdown of Generating units when frequency falls to different levels. The frequency level at which actions are to be initiated is to be finalized after discussion.

The Committee requested all the constituents to study the islanding schemes and communicate their comments/suggestions at the earliest so that the islanding scheme for NER can be finalized.

Further, DGM, NERLDC informed that the list of radial lines in NER system, which can be tripped during emergency to save the grid, have been identified. During emergency there may not be time to co-ordinate with SLDC (like written message etc.) before taking such action. However, formal communication shall be made by NERLDC afterwards.

During 78th OCC meeting, the committee felt that further study is required before finalizing the islanding scheme for NER. The committee requested all the NER constituents to study their systems and give suggestions/comments, if any before finalization of the same. All constituents agreed.

During 80th OCC meeting, MS I/C stated that the frequency level at which actions are to be initiated, location of UFR & df/dt relays and communication link required etc. needs to be studied for implementation of islanding scheme. The committee suggested that NERPC, NERLDC and POWERGRID may discuss and plan accordingly for implementation.

During 82nd OCC meeting, MS (I/C) informed that as per the minutes of the second meeting of Task Force for Power System Analysis Under Contingencies under the Chairmanship of ex-Member (PS), CEA, the number of small islands may not be the optimum solution. Further, he informed that as NER grid is a small grid, so the Task force may consider NER as a single island. Therefore, few numbers of island scheme for NER grid should be considered to avoid operational difficulty.

SE(O), NERPC suggested that NER system may be divided into two islands, however, further studies and discussion would be required for finalizing the scheme.

GM, NERLDC also stated that further studies are required for planning and implementation of the scheme.

The committee requested NERLDC and NERPC to study the system and prepare final islanding scheme requiring minimum number of line opening and keeping in view the system operation as well as implementation aspects.

During the 83rd OCC meeting, The Sub-committee has suggested that the study group mentioned in item C.6 above will look into the matter and the same will be reviewed in OCC/PCC meetings.

During the 84th OCC meeting, NERLDC gave the presentation for two islanding schemes as below for the region.

- 1) Island comprising of AGBPP, Upper Assam system & Deomali
- 2) Island comprising of AGTPP, Tripura system & Dullavcherra

The Committee discussed in details for both the islanding schemes. Further, the committee invited comments/suggestion from constituents before finalizing the schemes in the next OCC/PCC meetings.

The Committee may like to discuss.

C.7 Loadability Enhancement of 132KV Transmission Lines

NERLDC has requested POWERGRID, vide their letter No. NERLDC/GM/547 dtd 14.11.2012 for enhancement of loading capacity of the following lines:

- a) 132KV S/c Badarpur-Khliehriat Line
- b) 132KV S/c Loktak-Jiribam-II Line
- c) 132KV S/c Dimapur-Imphal Line
- d) 132KV S/c Imphal-Loktak-II Line

NERLDC has stated that enhancement of loading capacity of the above lines is required for higher load dispatch, particularly in the context of evacuation of power from Pallatana GBPP.

Accordingly, POWERGRID has already taken the following actions for increased loadability:

Upgradation of existing CTs

Upgradation of the terminal CTs of 132KV S/C Loktak-Jiribam_II line, 132KV S/c Dimapur-Imphal line is being taken up by POWERGRID for which the required number of CTs of higher capacity (600/1) had already been ordered by POWERGRID & subsequently dispatched from the manufacturer premises in the month of July-12. However, 10Nos. CTs were damaged during transit. The matter has been taken up with the concerned manufacturer for replenishment of the damaged CTs. The new CTs expected to arrive at site by January'13.

Installation of the same shall be carried out on arrival of the new CTs. As for 132KV Badarpur-Khliehriat line, the terminal CTs installed are of 600/1 capacity.

During 80th OCC meeting, NERLDC requested to include following lines for enhancement of loading capacity:

- i) 132 kV Khandong- Khliehriat –I
- ii) 132 kV Khandong - Haflong

The committee requested POWERGRID to complete the CT replacement of the above lines at the earliest to increase the loadability of these lines.

During the 81st OCC meeting, POWERGRID informed that the Khandong end CTs are having ratio of 300/1 and belongs to NEEPCO.

The committee had requested NERPC Secretariat to write to NEEPCO for replacement of above CTs at the earliest. NERPC Secretariat, vide letter No. NERPC/OP/OCC/2013/2877-78 dated 13-02-2013 had requested NEEPCO to take up the matter.

In the 83rd OCC meeting, NEEPCO informed the house that tenders are yet to be called for procurement of CTs.

The current status may be informed by NEEPCO.

Fixing of Additional Jumpers:

Fixing of additional jumpers at Tension Locations of 132KV Dimapur-Imphal line has been completed while that for 132KV Jiribam-Loktak_II line is planned for execution in the month of January-13.

In addition to the above, additional jumpering is now planned to be taken up for 132KV Loktak-Imphal-II & Badarpur-Khliehriat lines in line with NERLDC's observation.

In the 83rd OCC meeting, POWERGRID intimated the status as below:

The fixing of additional jumpers in 132 KV Loktak – Jiribam – II line has been completed on 01.03.2013. Also fixing of additional jumpers in 132 KV Badarpur – Khliehriat line & 132 KV Loktak – Imphal – II line the order for special connectors has already been placed by them and the same is likely to be delivered at site by 20.03.2013. Accordingly, the work is planned to be started w.e.f. 25.03.2013 in 132 KV Badarpur – Khliehriat line followed by 132 KV Loktak – Imphal – II line.

During the 84th OCC meeting, POWERGRID has intimated that fixing of additional jumpers in 132 KV Badarpur – Khliehriat line & 132 KV Loktak – Imphal – II line the order for modified connectors has already been placed by them and the same is likely to be completed by June, 2013.

POWERGRID may intimate the current status.

C.8 LGBR for 2013 -2014

During the 82nd OCC meeting, the issue of LGBR for 2013 -14 for NE Region has been discussed in detailed and all the constituents have been requested to submit the data for preparation of LGBR at the earliest as per the proforma circulated. The formats have also been made available in the website of NERPC (www.nerpc.nic.in) which covers the outage planning for Generating units as well as important transmission elements in state and central sector.

All utilities had agreed to submit the data by February, 2013.

However, till date no constituents have submitted the above data except TSECL, NEEPCO & Me.ECL (however, Me.ECL has not furnished the maintenance schedule of its generating stations & transmission lines).

During the 83rd OCC meeting, S.E (O), informed that till date no constituents have submitted the above data except TSECL, NEEPCO & Me.ECL (however, Me.ECL has not furnished the maintenance schedule of its generating stations & transmission lines).

Constituents are requested to submit the above data in the format furnished by NERPC at the earliest.

In the 84th OCC meeting, the committee requested all the constituents to submit the above data in the format furnished by NERPC at the earliest.

All utilities agreed to submit the data.

Constituents are requested to kindly submit the above data in the format furnished by NERPC at the earliest.

C.9 Grid Security Expert System (GSES):

POWERGRID has planned an automated defense plan for all five regions named as Grid Security Expert System (GSES). The Region wise estimated cost based on the feeders identified by POSOCO including IDC shall be as follows:

Agenda for 85th Operation Coordination Committee (OCC) Meeting

S.N	Subject	NR	SR	WR	ER	NER	All India
1.	Estimated DPR cost of GSES (in Rs. Crores)	82.59	42.13	124.85	55.42	49.47	354.46
2.	Number of Feeders	1064	763	1502	503	410	4242
3.	Estimated DPR cost of OPGW based communication system (in Rs. Crores)	141.61	368.37	174.24	83.18	80.42	847.82
4.	Length of OPGW	4967	14706	6111	2868	2688	31340
	Total Estimated cost (in Rs. Crores)	224.20	410.50	299.09	138.60	129.89	1202.30

The GSES was discussed in detail in last Special TCC held at Shillong on 9th February, 2013. After detailed deliberation the following decisions of the TCC was conveyed to CERC.

1. All constituents agreed in principle to the technical requirement of the GSES scheme for NER grid.
2. The basic infrastructure at most of Sub-station like circuit breakers, protection relays, etc. are not adequate for implementation of the scheme.
3. There are no full fledged SLDCs in Ar. Pradesh, Manipur, Mizoram and Nagaland.
4. Funding is major concern as NER states are financially weak.
5. The quantum of UFR based load shedding needs to be relooked for NER States.
6. More deliberation on technical and commercial issues is required before formulation/implementation of the scheme.

All constituents had agreed in principle to the technical requirement of the GSES scheme for NER grid, but more deliberation on technical and commercial implication was required before formulation / implementation of the scheme.

During the 83rd OCC meeting, it was agreed that DPR prepared by POWERGRID for GSES and other related details will be sent to constituent states for scrutiny and the matter will be deliberated further in OCC/CC meeting.

During the 84th OCC meeting, Assam representative stated that they need break up of optical fibre length and other equipment details as shown in the GSES DPR.

MS I/C, NERPC informed that NERPC secretariat has received a mail regarding the breakup of equipment details and OPGW length; the same will be forwarded to all the constituents. All constituents are requested to verify the details of their states as given in the DPR of GSES and are requested to communicate the same in the next OCC meeting.

Committee may like to discuss on the issue.

C.10 Maintenance of Isolators at 79 Tilla S/S:

In the 83rd OCC meeting, Tripura informed that maintenance work of 6 nos. of isolators at 79 Tilla Grid s/s which are connected with 132 KV R C Nagar L-I & L – II have been pending since a very long time. Power Grid had done only partial maintenance work on 3 (three) isolators out 6 (six). The remaining work of isolators along with Earth switches is very urgent from operational point of view.

POWERGRID agreed to look into the issue and work is expected to be completed by 15th April 2013.

POWERGRID/TSECL may intimate the current status.

C.11 Preparation of Crisis Management Plan (CMP) for Cyber Security in Power Sector:

CEA vide letter dated 23.04.2013 has intimated that Secretary (Security), Cabinet Secretariat is taking a meeting shortly to discuss the status of disaster management plan of power sector, which also include the crisis management plan for cyber security in power sector. In addition, several parliament questions and VVIP reference are also being received regarding present status of CMP for cyber security in power sector.

As it was decided in the meeting taken by Member (GO&D), CEA on 9th August, 2011 that the activity of the monitoring of the preparation of CMP for countering the cyber attacks and its implementation including the Mock Drills, Audits etc. by all power utilities on a regular basis may be monitored by RPCs.

SRPC, WRPC & NRPC have furnished the information but the same has not been received from ERPC & NERPC. In view of the above urgency of the matter, it is requested that the status of preparation of CMP for countering the cyber attacks

and its implementation including the mock drills, audits, etc. by all power utilities (including generation, transmission & distribution utilities) in your region may be furnished immediately for onward transmission to Cabinet Secretariat.

NERLDC/Constituents may inform the current status.

C.12 Low voltage at Loktak:

In the 83rd OCC meeting, ED, NHPC informed that the low voltage (121kV to 123kV) at Loktak 132kV bus is creating problem for auxiliary system and motors are likely to be damaged due to low voltage.

GM, NERLDC informed that the voltage is well within the tolerable band of CERC. The matter was discussed earlier in OCC meeting. The committee requested NHPC to submit details regarding the low voltage problem to NERLDC for further study and matter will be deliberated in next OCC.

During the 84th OCC meeting, DGM NERLDC informed that the voltage data of Loktak was yet to be submitted by NHPC.

MS I/C, NERPC informed that the last time the low voltage problem was due to bus reactor at Aizawl S/S so the same may be checked.

POWERGRID informed that the low voltage problem may be due to low voltage at 400 kV Silchar S/S; the same needs to be checked.

The committee requested POWERGRID and NERLDC to look into the matter of low voltage at Loktak.

NHPC/NERLDC may intimate the current status.

D. NEW ITEMS

D.1 Operational Statistics for the month of April, 2013

The different proforma for Operational Statistics required for every month are given in Annexure below:

- (i) – Schedule Vs Actual Generation & Requirement.
- (ii) – Peak Demand: Schedule Vs Actual.
- (iii) – Integrated Operation of the system.
- (iv) – Details of DC, schedules and injections from Central sector stations, drawal schedules and entitlements of constituents.
- (v) – Details of major reservoirs in NER.

Committee may like to discuss the present status.

D.2 State-wise anticipated peak demand/requirement, shortage for May, June, July, August & September, 2013.

The sub-Committee may review the anticipated peak demand/energy requirement and finalize the same for the months of May to Sept, 2013.

S.No.	State	Peak Demand (MW) May' 13	Peak Demand (MW) Jun' 13	Peak Demand (MW) Jul' 13	Peak Demand (MW) Aug' 13	Peak Demand (MW) Sep' 13
1	Ar. Pradesh	110	110	130	130	
2	Assam	1250	1250	1300	1300	
3	Manipur	110	110	130	130	
4	Meghalaya	290	280	280	280	
5	Mizoram	75	70	90	90	
6	Nagaland	120	110	120	120	
7	Tripura	240	230	250	250	
	Region	2195	2160	2300	2300	

The sub-Committee may review the anticipated peak availability and finalize the same for the months of May to September, 2013.

S.No.	State	Peak Availability (MW) May 13	Peak Availability (MW) Jun' 13	Peak Availability (MW) Jul' 13	Peak Availability (MW) Aug' 13	Peak Availability (MW) Sep' 13
1	Ar. Pradesh	65	65	120	120	
2	Assam	850	825	1000	1050	
3	Manipur	70	70	120	110	
4	Meghalaya	170	165	250	250	
5	Mizoram	45	45	75	75	
6	Nagaland	75	65	90	90	
7	Tripura	130	120	185	185	
	Region	1405	1355	1840	1880	

D.3 Request for drawal of power from Bhutan at 132 KV Rangia Grid S/S till 31st May, 2013:

AEGCL vide letter dated 26.04.2013 has requested for drawal of power of around 50 MW from Bhutan at Rangia round the clock via 132 KV Deothang – Rangia line till 31st May, 2013.

Committee may like to discuss.

D.4 Generation Planning (ongoing and planned outages)

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

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

The shutdown proposal for generating elements of NEEPCO is enclosed at **Annexure – D.4**

Members may like to discuss and approve the proposal by NEEPCO/NHPC.

D.5 Agenda by NERLDC

D.5.1. Detailed procedure for congestion management in real time- for management of congestion during real time operation CERC has issued Detailed Procedure vide order dt.22.04.2013. The procedure is available in NERLDC website. The procedure is to be implemented immediately as per CERC direction. All concerned are requested to please go through the procedure and do the needful at their ends.[Deliberation through presentation by NERLDC]

D.5.2. Furnishing of station wise requisition for preparation of daily schedule – In line with Scheduling procedure as per IEGC, all constituents are requested to please furnish station wise requisition as a preparatory step towards ‘Requisition Based Scheduling’ under ABT regime.

D.5.3. Frequent tripping of 400 kV Silchar – Byrnihat line - After commissioning of 400 kV Silchar – Byrnihat line, problems related to shortfall & overloading of lines in 132 kV Pocket has been reduced considerably. But due to frequent tripping of this line creating problem in real time operation. NETC is requested to please look into the matter and do needful for averting unwarranted trippings.

D.5.4. Updated List of Important Grid Elements May 2013 document

- As per Clause No 5.2.c of IEGC, List of Important Grid Elements prepared.
- Updated List of Important Grid Elements May 2013 **e-mailed to regional entities of NER and also available in our website.**
- All are requested to furnish comments to incorporate these in final version of this document by 25th May’12. This document will be finalized by 28th May13.

D.5.5. Updated Power Map May 2013

- a. Power Map of NER States & NER prepared.
- b. Updated Power Map of NER States & NER **e-mailed to SLDCs of NER and also available in our website.**
- c. All are requested to furnish comments to incorporate these in final version of this document by 25th May’12. This document will be finalized by 28th May13.

The committee may like to discuss.

D.6 Outage Planning Transmission elements

The sub-Committee may kindly discuss and approve the transmission line outages proposed by POWERGRID/NEEPCO for May/Jun, 13 as enclosed at Annexure- D.6.

D.7 Estimated Transmission Availability Certificate (TAC) for the month of April, 2013.

The detail outage data for calculation of Transmission System Availability for the month of April, 2013, furnished by PGCIL, is at **Annexure D.7**. NER constituents are requested to kindly communicate their views and observations, if any, by 27th May, 2013 so that Final TAC for the month of April, 2013 may be finalized by NERPC Secretariat.

The Sub-Committee may like to discuss.

D.8 Major grid disturbances in the previous month (April, 2013)

As intimated by NERLDC, there was no major grid disturbance during the month of April, 2013.

Members may kindly note.

D.9 Any other item:

D.10 Date and Venue of next OCC

It is proposed to hold the 86th OCC meeting of NERPC on 6th June, 2013 (Thursday). As per roaster, Mizoram will be the host for 86th OCC meeting. The exact venue will be intimated in due course.
