

North Eastern Regional Power Committee

**MINUTES OF THE 40<sup>th</sup> PROTECTION COORDINATION  
SUB-COMMITTEE MEETING OF NERPC**

**Date** : 17/12/2015 (Thursday)  
**Time** : 14:00 hrs  
**Venue** : "Hotel Gateway Grandeur", Guwahati.

The List of Participants in the 40<sup>th</sup> PCC Meeting is attached at **Annexure - I**

Shri P.K. Mishra, Member Secretary, NERPC welcomed all the participants to the 40<sup>th</sup> PCC meeting. He mentioned that some constituents were again absent in the meeting and hence any items pertaining to them will not be able to conclude. He requested members to attend the meetings regularly and also to participate in the meeting for fruitful deliberation.

Thereafter, Member Secretary, NERPC requested Shri B. Lyngkhoi, Director/SE(O) to take up the Agenda items.

**A. CONFIRMATION OF MINUTES**

**CONFIRMATION OF MINUTES OF 39<sup>th</sup> MEETING OF PROTECTION SUB-COMMITTEE OF NERPC.**

SE(O) informed that the minutes of 39<sup>th</sup> meeting of Protection Sub-committee held on 23<sup>rd</sup> November, 2015 at Tawang were circulated vide letter No. NERPC/SE(O)/PCC/2015/4520-4555 dated 9<sup>th</sup> December, 2015.

*The Sub-Committee confirmed the minutes of 39<sup>th</sup> PCCM of NERPC since no comments/observations were received from the constituents.*

**ITEMS FOR DISCUSSION**

**A.1 Implementation of 3-Phase Auto Reclosure Scheme of Radially fed 132kV Lines connected to Ranganadi HEP:**

At present, the power flows to Nirjuli, Gohpur and Ziro radially from Ranganadi HEP and any transient fault in line causes undesirable outages. Hence, to avoid outages

during transient fault it is essential to implement 3- Phase Dead Line charging of following 132kV Lines.

- a) 132kV Ranganadi – Nirjuli Line (Dead Line Charging at RHEP)
- b) 132kV Nirjuli – Gohpur Line (Dead Line Charging at Nirjuli)
- c) 132kV Ranganadi – Ziro Line (Dead Line Charging at RHEP)

During 39<sup>th</sup> PCC meeting, POWERGRID stated that they will extend help to incorporate 3-phase dead-line charging at RHEP end in EPAC Relay. For this NEEPCO will arrange for S/D with due consent of Arunachal Pradesh and intimate POWERGRID in advance. Meanwhile NEEPCO informed that new relay for Nirjuli & Ziro Line has been ordered and expected delivery is November, 2015 and the same will be installed by NEEPCO at RHEP by December 2015.

**Deliberation of the sub-Committee**

Sr. Manager (O&M), NEEPCO once again informed the forum that material has already reached at site and installation would be completed by 31/12/2015 as mentioned earlier. He requested NERTS to help them in relay coordination during implementation of the scheme. NERTS agreed.

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

***Action: NEEPCO, PGCIL & Ar. Pradesh***

**A.2 Implementation of 3-phase Auto Reclosure Scheme in all lines associated with Khandong and Kopili HEP:**

For reliable operation of Power system it is required to implement 3-Phase Auto Reclosure Scheme in all the 132kV lines associated with Kopili and Khandong HEP of NEEPCO. The lists of such lines are:

- a) 132kV Khandong – Umrangso - Halflong
- b) 132kV Kopili – Khandong #1

During 39<sup>th</sup> PCC meeting, the Sub-committee directed that joint inspection comprising of NERTS, NEEPCO & AEGCL should be carried out in the first week of December, 2015 for completion of carrier inter-trip signal between Khandong – Umrangso – Halflong line. Also, relay portion of the work regarding implementation of 3-phase AR scheme and PLCC has to be carried out by AEGCL.

**Deliberation of the sub-Committee**

AEGCL informed the forum that they have already written a letter to SAMA Power to carry out the work through ERL but so far they have not revert back. AEGCL stated that they will take up the matter once again.

The Sub-committee directed that a joint visit for carrier inter-trip signaling check to be conducted by POWERGRID & AEGCL at a suitable date and AEGCL should intimate to POWERGRID & NEEPCO 3 days in advance and the same should be completed before the next PCC meeting.

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

***Action: POWERGRID, NEEPCO & Assam***

**A.3 Implementation of the recommendations of the Protection Audit:**

As per SI. no 9.1.1 & 9.1.4 of Report on Enquiry Committee on Grid Disturbance in Northern Region on 30<sup>th</sup> July 2012 and in Northern, Eastern & North-Eastern Region on 31<sup>st</sup> July 2012, thorough Third Party protection audit needs to be carried out periodically along with independent audit of Fault Recording Instruments.

The status as intimated by NERLDC during the 40<sup>th</sup> PCC meeting is as given below:

<b><i>Status of submission of data related to Third Party Protection Audit</i></b>			
<b><i>Name of Constituent</i></b>	<b><i>As per format of Task Force</i></b>	<b><i>As per format of NERPC</i></b>	<b><i>Remarks</i></b>
<b><i>DoP, Ar. Pradesh</i></b>	<b><i>Not submitted</i></b>	<b><i>Submitted</i></b>	<b><i>Not updated as Ar. Pradesh was absent</i></b>
<b><i>AEGCL</i></b>	<b><i>Yes (only checklist submitted)</i></b>	<b><i>21 SS has been submitted during meeting.</i></b>	<b><i>Balance By 30.12.2015</i></b>
<b><i>MSPCL</i></b>	<b><i>Submitted</i></b>	<b><i>Submitted</i></b>	
<b><i>P&amp;E Dept. Mizoram</i></b>	<b><i>Submitted</i></b>	<b><i>Submitted</i></b>	
<b><i>DoP, Nagaland</i></b>	<b><i>Submitted</i></b>	<b><i>Submitted</i></b>	
<b><i>TSECL</i></b>	<b><i>Not submitted</i></b>	<b><i>Submitted</i></b>	<b><i>By 31.12.2015</i></b>

<i>NEEPCO</i>	<i>AGTPP Not submitted</i>	<i>AGTPP Not submitted</i>	<i>By 31.12.2015</i>
<i>NTPC</i>	<i>Submitted</i>	<i>Submitted</i>	
<i>NHPC</i>	<i>Submitted</i>	<i>Submitted</i>	

After detailed deliberation, the Sub-committee had decided that those who have not submitted the data as per format of Task Force in Annexure A.2 (II) & also, as per the format of NERPC in Annexure A.2 (i) for 3rd Party Protection Audit are requested to furnish these data **by 31.12.15 positively**.

*The Sub-committee noted as above.*

*Action: All remaining utilities as above.*

#### **A.4 Status of R&M Implementation of NER from PSDF:**

The Sub-committee requested all the constituents to intimate the status of progress to NERPC regularly so that the same could be intimated to CERC.

#### **Deliberation in the Meeting:**

*The Sub-committee requested all constituents to complete the proactive actions like taking Board's approval, floating of NITs, selection of bidders etc., as directed by the Hon'ble CERC.*

*Action: All 7 NER States.*

#### **A.5 Installation of PLCC Panel and Commissioning of SPAR in Loktak – Ningthoukhong 132kV Feeder (MSPCL):**

NHPC informed that keeping in view of Power Evacuation, Loktak – Ningthoukhong 132 kV Feeder (MSPCL) is very essential feeder for Loktak Power Station. Since No PLCC Panel has been installed in this feeder, therefore no SPAR (Single Pole Auto Reclosure) has been installed. It is well known that maximum nature of fault occurred in the feeders are temporary in nature.

In order to increase the reliability of this feeder, MSPCL is requested to install PLCC Panels at the both ends so that necessary SPAR can be commissioned.

During 39<sup>th</sup> PCC meeting, MSPCL informed that provision for installation of PLCC panels is included in R&M and within 30/11/2015 commissioning of PLCC panels will be completed.

**Deliberation in the Meeting:**

MSPCL informed the forum that it would not be possible to complete the R&M works within 30/11/2015 and the same will be completed by 31.03.2016.

SE(O), NERPC informed that as per directive of Hon'ble CERC, MSPCL has to complete the R&M associated with Substations of Manipur within November, 2016. He requested MSPCL to adhere to the direction of CERC and complete the R&M works within the stipulated time. MSPCL representatives informed that they will take up the matter with the Competent Authority and inform about the CERC Order accordingly.

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

***Action: MSPCL.***

**A.6 Implementation of 3-Ph Auto Reclosure in 132 kV Loktak-Jiribam, (PG):**

NERTS informed that on every tripping of 132 kV Loktak-Jiribam (PG) line Auto Reclosure is successful from Loktak end but, at Jiribam (PG) end the CB is of gang (3 pole) operated. Accordingly, NHPC may implement 3-Ph Auto Reclosure with check sync at Loktak end with 1.40 sec dead time and Jiribam (PG) end dead line charging with 0.80 sec dead time.

During 37<sup>th</sup> PCC meeting, NHPC requested that OEM is to be called for relay configuration and testing so that smooth implementation can be carried out.

DGM (AM), NERTS stated that the same work has been carried out by them in many locations and the same will be implemented by themselves.

During 38<sup>th</sup> PCC meeting, NHPC agreed to POWERGRID's offer. POWERGRID informed that work would be completed within a month subject to finalization of date.

**Deliberation in the Meeting:**

During deliberation NHPC disagreed for support from POWERGRID. Subsequently, after detailed deliberation it was agreed that representative of POWERGRID will visit LHEP on receipt of official communication from NHPC for implementation of the scheme.

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

***Action: NHPC, POWERGRID.***

**A.7 Grid Incidences during November, 2015:**

The following numbers of Grid Disturbances (GD) occurred during the period w.e.f 1<sup>st</sup> November, 2015 to 30<sup>th</sup> November, 2015:-

SI No	Control Area	Grid Disturbance in nos.	
		1 <sup>st</sup> November, 2015 to 30 <sup>th</sup> November, 2015	1 <sup>st</sup> January, 2015 to 30 <sup>th</sup> November, 2015
1	Palatana	0	7
2	AGBPP	0	1
3	AGTPP	0	8
4	Ranganadi	0	4
5	Kopili	0	2
6	Khandong	0	3
7	Doyang	0	5
8	Loktak	0	10
9	Arunachal Pradesh	1	74
10	Assam	3	76
11	Manipur	3	64
12	Meghalaya	1	52
13	Mizoram	0	14
14	Nagaland	0	33
15	Tripura	1	9

SI No	Category of GD	Grid Disturbance in nos.	
		1 <sup>st</sup> November, 2015 to 30 <sup>th</sup> November, 2015	1 <sup>st</sup> January, 2015 to 30 <sup>th</sup> November, 2015
1	GD 1	9	228
2	GD 2	0	3
3	GD 3	0	1
4	GD 4	0	1
5	GD 5	0	1
	<b>Total</b>	9	234

*This is for information to the members. Remedial actions are to taken by the concerned power utilities of NER*

*The Sub-committee noted as above.*

**A.8 Root cause analysis of tripping in Southern Part of NER on 08.08.2015 and 24.09.2015 & Remedial Measures:**

**Remedial Measures suggested by sub group members at the meeting held at NERPC on 29.09.15**

It was decided that tower footing resistance of 400 kV Silchar – Azara and 400 kV Silchar – Byrnihat lines are to be brought within permissible limits at around 10 towers on either side close to location of faults and Tower top patrolling around 10 towers on either side close to the location of faults are to be carried out.

**Deliberation in the Meeting:**

DGM (AM), NERTS informed that that tower footing resistance of 400 kV Silchar – Azara and 400 kV Silchar – Byrnihat lines around 10 towers on either side has been carried out and the resistance was found to be in the range of 2-3 ohms, except in few locations where is it less than 10 ohms which is in normal range.

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

**The islanding scheme of AGTPP with Tripura system is to be reviewed so as to ensure successful islanding in such cases of isolation in NER Grid.**

During 38<sup>th</sup> PCC meeting, the Sub-Committee decided that in addition to the recommendations of the sub-group the following should be implemented ASAP:

1. Modification to SPS-1 at Palatana: Unit-I and II to be put in AND logic so that SPS-1 would operate.

**Deliberation in the Meeting:**

OTPC informed that the work has already been completed.

DGM (SO-II), NERLDC stated that on 15.12.2015, SPS 1 was triggered when only one module is in operation which is not correct. The SPS 1 should be triggered when both the modules are in service. He requested OTPC to check the scheme and do the necessary logic correction at the earliest.

***Action: OTPC.***

**Root Cause Analysis & Remedial Measures by sub group members at the meeting held at NERPC on 18.11.15 regarding Non-Tripping of Azara-Bongaigoan as raised by AEGCL:**

***Cause:*** As per information given by POWERGRID, the incidences above are due to high arcing faults.

***Remedial Measures:***

- a. Explore to increase the resistive reach of Z-2 and Z-3.
- b. DEF characteristics should be IDMT in place of definite time with 1100msec opening time at maximum fault level
- c. Further, Z-3 setting should be 1000msec and necessary co-ordination is required for associated lines.
- d. NERPC Secretariat may extend help wherever necessary Administrative coordination is required for clearance of faults.

**Deliberation in the Meeting:**

*POWERGRID requested AEGCL to implement Zone 3 setting as per the recommendation of task force. Also DEF delay setting should be 100 ms more than Zone 3 setting with IDMT characteristics. AEGCL proposed for review of Zone 3 setting as recommended by task force. However, POWERGRID opined that there is no scope for review as it is the matter for implementation. AEGCL insisted for joint meeting for which POWERGRID sought agenda from AEGCL.*

*The Sub-committee requested NERPC to invite AEGCL during the monthly Sub-committee meeting to discuss about various grid incidences being held every month by NERPC along with above issues of Assam.*

*Action: NERPC.*

**A.9 Protection System in Tripura, OTPC & POWERGRID System for reliable power supply to Bangladesh:**

It is understood that Tripura is going to sell power to Bangladesh through 132 kV Surjamaninagar (TSECL) – Comilla (Bangladesh) D/C lines from December, 2015.

In view of the above, TSECL, OTPC & POWERGRID are requested to provide the status of protection system in their respective substations for providing reliable power supply to Bangladesh.

During 39<sup>th</sup> PCC meeting, TSECL informed that POWERGRID will take care of all protection system pertaining to 132kV S.M. Nagar to Commilla South.

**Deliberation in the Meeting:**

SE(O), NERPC stated that the main concern is the protection within Tripura system. As it is learnt that no primary protection system is in place in many of their important lines and any delayed tripping on their system may affect the power supply to Bangladesh. Further, he stated that the issue was brought to the notice of Tripura in many occasions but no positive response was made from Tripura side.

*After detailed deliberation, the Sub-committee requested NERPC to write letter to highest authority of Tripura with a copy to MoP in this regard.*

*Action: NERPC.*

**A.10 Finalization of operational protocols for operation of line for supply of power to Bangladesh:**

It is anticipated that power supply to Bangladesh from Surjamaninagar sub-station of Tripura will commence from middle of December, 2015. The power will be transmitted through international line jointly owned by India (India portion) & Bangladesh (for Bangladesh portion).

Before commencement of power supply it is essential that the following operational protocols are finalized:

**Real time operation –**

1. Issuance of code for charging of the line after tripping due to some fault.
2. Routing of proposals for shutdown both planned & emergency and issuance of code for the purpose opening & closing after return of shutdown
3. Co-ordination for dealing with any overdrawal issue
4. Co-ordination for contingency situations.
5. Restoration after grid disturbance and related co-ordination etc. etc

**Deliberation in the Meeting:**

After detailed deliberation it was decided that:

- a. Code for charging to be given by NLDC India.
- b. Proposals for shutdown to be routed through OCC forum of RPC to NLDC India and code to be given by NLDC India.
- c. Overdrawal issue to be dealt by Tripura.
- d. For item 4 & 5 procedures to be drawn up after detailed study of existing ones of ER - Bangladesh power transfer.

GM, NERLDC concluded that any other modalities would be worked out by NERLDC considering ER Bangladesh procedure

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

***Action: NERLDC, TSECL & POWERGRID.***

**A.11 Root cause analysis of tripping during October, 2015:**

**A. Disturbance in Meghalaya System:**

- a. **At 1308 Hrs on 20.11.15**, due to tripping of 132 kV Agia- Nangalbibra (**Agia-DP, ZI, R-Y-E and Nangalbibra- No tripping**) power supply to Nangalbibra area of Meghalaya interrupted.

**Load loss:** 35 MW in Meghalaya  
**Category as per CEA Standards:** GD-I

**Deliberation in the Meeting:**

It was informed by MePTCL that the tripping was due to vegetation problem and the same has been cleared.

***The Sub-committee requested MePTCL to submit monthly report of patrolling/vegetation clearance.***

**B. Disturbance in Manipur System.**

a. At **0647 Hrs on 09.11.15**, due to tripping of 132 kV Imphal (PG)- Imphal (MSPCL) I & II lines (**Line 1: Imphal (PG)- Earth Fault & Imphal (MSPCL)- Not Furnished and Line 2: Imphal (PG)- Earth Fault & Imphal (MSPCL)- Not Furnished**) power supply to Capital area of Manipur interrupted.  
**Load loss:** 61 MW in Manipur.

b. At **1608 Hrs on 12.11.15**, due to tripping of 132 kV Imphal (PG)- Imphal (MSPCL) I & II lines (**Line 1: Imphal (PG)- No tripping & Imphal (MSPCL)- Not Furnished and Line 2: Imphal (PG)- Earth Fault & Imphal (MSPCL)- Not Furnished**) power supply to Capital area of Manipur interrupted.  
**Load loss:** 39 MW in Manipur.

c. At **2151 Hrs on 23.11.15**, due to tripping of 132 kV Loktak – Ningthoukhong (**Loktak- No tripping and Ningthoukhong- Overcurrent**) line power supply to Ningthoukhong area of Manipur interrupted. 132 kV Imphal(PG)-Ningthoukhong line & 132 kV Kakching - Kongba line was kept open for system constraint.  
**Load loss:** 38 MW in Manipur.

**Category as per CEA Standards:** GD-I

**Deliberation in the Meeting:**

MSPCL informed the forum that tripping was due to vegetation problem. As decided earlier NERTS has already implemented faster isolation at Imphal end till MSPCL improves their protection system. The Sub-committee requested MSPCL to submit monthly report of patrolling/vegetation clearance. The Sub-committee also requested MSPCL to submit monthly report of status of R&M work associated with Substations of Manipur.

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

***Action: MSPCL.***

**C. Disturbance in Arunachal Pradesh system:**

- a. **At 0907 Hrs on 24.11.15**, 132 kV Balipara – Khupi (Balipara- DP, ZI, R-Y-E and Khupi- Not furnished) line tripped. Due to tripping of this element, Khupi area of Arunachal Pradesh separated from rest of NER Grid and subsequently collapsed due to no source in this area.

**Load loss:** 24 MW in Arunachal Pradesh

**Category as per CEA Standards: GD-I**

**Deliberation in the Meeting:**

Since no representative from Ar. Pradesh was present, the status could not be updated. But as per observation it is analyzed that its due to infringement problem only.

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

***Action: DoP Ar. Pradesh.***

**D. Disturbance in Assam system:**

- a. **At 0519 Hrs 19.11.15**, 132 kV Silchar- Dullavcherra (**Silchar- DP, ZI, R-E and Dullavcherra- No tripping**) line tripped. Due to tripping of this element, Dullavcherra area of Assam separated from rest of NER Grid and subsequently collapsed due to no source in this area.

**Load loss:** 10 MW in Assam

- b. **At 1342 Hrs 19.11.15**, 132 kV Silchar- Dullavcherra (**Silchar- No tripping and Dullavcherra- DP, ZI, B-E**) line tripped. Due to tripping of this element, Dullavcherra area of Assam separated from rest of NER Grid and subsequently collapsed due to no source in this area.

**Load loss:** 13 MW in Assam

- c. **At 0329 Hrs 24.11.15**, 132 kV Silchar- Dullavcherra (**Silchar- No tripping and Dullavcherra- DP, ZI, B-E**) line tripped. Due to tripping of this element, Dullavcherra area of Assam separated from rest of NER Grid and subsequently collapsed due to no source in this area.

**Load loss:** 12 MW in Assam

**Category as per CEA Standards: GD-I**

**Deliberation in the Meeting:**

DGM (AM), NERTS informed that tripping had occurred beyond the jurisdiction of PGCIL. He requested AEGCL to find out the actual location of fault.

DGM(SO-II), NERLDC requested PGCIL & AEGCL to check the DPR at Silchar & Dullavcherra respectively and send the details to NERLDC for analyzing. NERTS & AEGCL agreed.

*The Sub-committee noted as above.*

**Action: AEGCL & NERTS.**

**E. Disturbance in Tripura system:**

- a. **At 1037 Hrs 20.11.15**, 132 kV Silchar- PK Bari I & II (**Line 1: Silchar- DP, ZIII, R-Y-E and PK Bari- No tripping & Line 2: Silchar- DP, ZIII, R-Y-E and PK Bari- No tripping**) and 132 kV PK Bari – Kumarghat (**PK Bari- Earth Fault and Kumarghat- No tripping**) line tripped. Due to tripping of these elements, PK Bari area of Tripura separated from rest of NER Grid and subsequently collapsed due to no source in this area. (132 kV P.K Bari - Ambasa, 132 kV Kamlpur-Ambasa & 132 kV Dhalabil - Agarthala lines kept open for system requirement & 132 kV Silchar-Dullavcherra line was not restored after tripping)

**Load loss:** 26 MW in Tripura

**Category as per CEA Standards: GD-I**

**Deliberation in the Meeting:**

DGM (AM), NERTS informed that there was a fault in 132 kV Kamalpur – P K Bari line and it was not cleared by ends of this line. It was observed that 132 kV P K Bari – Kumarghat line tripped at P K Bari on E/F due to non directional feature.

*The sub-committee requested TSECL to change setting of E/F relay with directional feature and also requested to check the relay setting of 132 kV Kamalpur – P K Bari line and inform the status to NERPC & NERLDC before next PCC meeting.*

**A.12 Protection Details of Transmission Lines, Transformers, Reactors and Bus Bars:**

NERLDC has collected the protection details of Transmission Lines, Transformer, Reactors and Bus Bar from all the utilities of North Eastern Region.

**Deliberation in the Meeting:**

DGM (SO-II), NERLDC stated that Protection System Database has been prepared based on information furnished by power utilities of NER. He requested all Power utilities of NER to check & validate the same.

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

**A.13 Completion of activities within specified time as per directives of CERC vide order in Petition No. 113/MP/2014**

As per order in Petition No. 113/MP/2014 of CERC, CERC directed to power utilities and organizations of NER to complete the activities within specified time/submit monthly reports as per provisions of IEGC & Grid Standards of CEA etc. List of actions/activities/reports to be completed within specified time as per directives of CERC vide order in Petition No. 113/MP/2014 attached at - **Annexure II.**

Power utilities and organizations of NER are requested to send monthly status report of activities related to order in Petition No. 113/MP/2014 to NERPC & NERLDC.

**Deliberation in the Meeting:**

The sub-committee had requested all power utilities and organizations of NER to comply all provisions of IEGC & Grid Standards of CEA & send monthly status report of activities related to order in Petition No. 113/MP/2014 to NERPC & NERLDC.

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

**Date and Venue of next PCC**

It is proposed to hold the 41<sup>st</sup> PCC meeting of NERPC in the second week of January, 2016. The exact 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 40<sup>th</sup> PCC Meetings held on 17/12/2015**

SN	Name & Designation	Organization	Contact No.
	<b>No Representative</b>	<b>Ar. Pradesh</b>	
1.	Sh. Ashutosh Bhattacharjee, Dy. Manager	Assam	09435332928
2.	Sh. B.C. Borah, AGM, SLDC	Assam	09435119248
3.	Ms. Laishram Ritu, Manager, SLDC	Manipur	09612882984
4.	Ms. Khoisnam Steela, Manager (E)	Manipur	08730831103
5.	Sh. T. Gidon, EE, SLDC	Meghalaya	-
6.	Sh. K. Myrthong, Asst. Engineer, SLDC	Meghalaya	-
7.	Sh. P. Nonglong, AE, MRT, MePTCL	Meghalaya	-
8.	Sh. Lalduhawma, EE, SLDC	Mizoram	09436144113
	<b>No Representative</b>	<b>Nagaland</b>	
	<b>No Representative</b>	<b>Tripura</b>	
9.	Sh. T.S. Singh, GM	NERLDC	-
10.	Sh. Amaresh Mallick, DGM (SO-II)	NERLDC	09436302720
11.	Sh. R. Sutradhar, DGM (MO)	NERLDC	09436302714
12.	Sh. B.K. Chakraborty, DGM (E)	NEEPCO	09436309730
13.	Sh. Bhaskar Goswami, Sr. Manager (E/M)	NEEPCO	09436163983
14.	Sh. A. Patir, GM (AM)	PGCIL	09436302529
15.	Sh. P. Kanungo, DGM (AM)	PGCIL	09436302823
16.	Sh. P. Karthik, Engineer	PGCIL	09435568957
17.	Sh. Suraj Kumar Gupta, Engineer (E)	NHPC	09402880218
18.	Sh. Tapash Karmakar, AM (Electronic)	OTPC	09435239314
19.	Sh. Satya Prakash, Dy. Manager	NTPC	09435322461
	<b>No Representative</b>	<b>ENICL</b>	
20.	Sh. P.K. Mishra, MS	NERPC	
21.	Sh. B. Lyngkhai, Director/S.E (O)	NERPC	09436163419
22.	Sh. S. Mukherjee, AD-I/AEE	NERPC	08794277306
23.	Sh. Shaishav Ranjan, AD-II/A.E	NERPC	08794276168

**Annexure-II**

**List of Actions / Activities / Reports to be completed within specified time as per directions of CERC vide order in  
Petition No. 113/MP/2014**

<b>Sl.No.</b>	<b>Responsible Entity / Organisation</b>	<b>Actions / Activities / Reports</b>	<b>Timeline</b>	<b>Remarks</b>	<b>Reference</b>
1	Manipur (MSPCL)	Renovation works associated with Substations	1 year from date of issue of order		Pg.19, Sl.No. 17, Para 1, Line 5-6
2	All SEBs, Distribution Licensees, STUs	Furnish periodic inspection report of UFRs			Pg.21, Sl.No. 21, Para 1, Line 1-2
3	All Entities	Make systems compliant with provisions of Grid Code	One month from date of issue of order	Failure to comply may lead to Sec 142 of Act and other provisions of Act for non-compliance to Grid Code	Pg.21, Sl.No.21, Para 1, Line 2-6
4	OTPC	Explain the reason why SPS related to reduction of Palatana generation in the event of tripping of 400 kV Silchar - Byrnihat line was not implemented within April 2014	31-Dec-15		Pg.22, Sl.No.24, Para 1, Line 6-8
5	AEGCL	Implement recommendations of 3rd party protection audit remarks	1 year from date of issue of order		Pg.24, Sl.No.28, Para 1, Line 3-5
6	All Entities	Complete the work identified in 3rd party protection audit to eliminate frequent tripping in intra-state systems	Expeditionary manner		Pg.24-25, Sl.No.29, Para 2, Line 3-6
7	All Entities	Compliance to provision of Grid Code and CEA Grid Standards Regulations			Pg.25, Sl.No.30, Para 1, Line 5-7
8	STU, Distribution Licensee, SLDCs	Put in service all UFR, df/dt, Islanding schemes and load relief are to be ensured as agreed in NERPC forum			Pg.25, Sl.No.31, Para 1, Line 1-3
9	NERLDC and NERPC	Submit report to CERC regarding operation of UFR & df/dt relays below the setting, if any, and adequate relief to be made available by concerned states / utilities		So that action can be initiated against them as per law	Pg.25, Sl.No.31, Para 1, Line 4-7
10	NPC	Review relay settings of UFR and submit report to CERC			Pg.25, Sl.No.32, Para 1, Line 2-4
11	NERPC	Report regarding adequacy of funds requirement from PSDF for rectification of protection deficiency			Pg.26, Sl.No.33(f), Para 1
12	NERPC	Status of protection audit remarks in respect of all constituents of NER to CERC	2 months from date of issue of order		Pg.26, Sl.No.33(g), Para 1
13	All Constituents	Submit status of implementation of Protection Audit remarks to NERPC	PCSC meetings		Pg.26, Sl.No.33(h), Para 1
14	NERPC	Status report to CERC confirming completion of protection audit remarks of NER Constituents	Bi-annual		Pg.27, Sl.No.33(i), Para 1