

**MINUTES OF SYSTEM STUDIES (SS) MEETING**

**Date** : 14/07/2015 (Tuesday)  
**Time** : 14:00 hrs  
**Venue** : "Hotel Pragati Manor", Guwahati.

The List of Participants in the Meeting is attached at **Annexure - I**

Shri P.K. Mishra, Member Secretary, NERPC requested Shri B. Lyngkhoi, Director/SE(O) to continue & take up the System Studies Agenda.

**1. Review of SPS I, II, III & SPS IV related to Palatana GBPP, OTPC after commissioning of Palatana Module II**

Out of the four (4) System Protection Scheme (SPS) associated with generating Unit-1 (363.3MW) of OTPC at Palatana, three (3) SPS have already been implemented:

**SPS II (implemented w.e.f 23.02.15):**

In case of tripping of 400 kV Palatana- Silchar D/C lines (with Module I & II generation of Palatana, OTPC), load will be disconnected by tripping of the following elements:

- 132 kV Silchar - Srikona D/C
- 132 kV Silchar - Panchgram
- 132 kV Badarpur - Panchgram
- 132 kV Silchar - Dullavcherra - Dharmanagar

And Generation of Palatana, OTPC will be reduced to around 20 MW excluding their auxiliary consumption.

During 5th SS meeting, OTPC representative informed that they are planning different scheme in place of SPS-II above, since reduction of generation to 20 MW is not possible.

NERLDC stated that 400/132 kV, 125 MVA ICT at Palatana should be tripped under this SPS II for safe, secure & reliable operation of the grid.

After detailed deliberation, the Sub-committee requested OTPC to give the detail presentation about the scheme proposed by them in the next meeting for further discussion. OTPC agreed.

**Deliberation of the sub-Committee**

DGM, OTPC informed during the 111st OCC meeting that the new scheme planned by them has just been sent to NERLDC/NERPC during the meeting. He requested NERLDC/NERPC to check the scheme and give the comments/observations so that the same can be finalized by them.

Since no representative from OTPC was present in this meeting, the sub-committee suggested to discuss the issue in the 111th OCC meeting.

During 111st OCC meeting, DGM, OTPC informed that the new scheme planned by them will be sent to NERLDC & NERPC by **31.07.15**

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

***Action: NERLDC/NERPC***

NERLDC informed that since Palatana is now generating more than 500 MW, SPS I, & SPS IVI associated with Palatana, OTPC are to be renewed & redesigned:-

**SPS I (implemented w.e.f 14.09.13):**

In case of tripping of Module I & II of Palatana, OTPC, load disconnection is to be enhanced.

**SPS IV (implemented w.e.f 23.02.15):**

In case of tripping of 400 kV Silchar – Byrnihat & 400 kV Silchar- Azra lines (without generation of Palatana, OTPC), load disconnection is to be enhanced.

Study results carried out by NERLDC is attached in ***Annexure -1 (a, b, c & d)***.

**Deliberation of the sub-Committee**

SE(O) informed that present load disconnection is around 80MW during off-peak and 130MW during peak. He enquired from NERLDC the new quantum load disconnection proposed by them.

DGM (SO-II), NERLDC informed that the new enhanced load is around 180 MW/130 MW in both peak/off-peak which is required for safety, secure & reliable operation of the grid.

NERLDC gave presentation on enhancement of load shedding through SPS I/SPS IV related to tripping of Palatana machines. DGM (SO-II), NERLDC informed that Palatana is generating more than 550 MW. In case of tripping of Palatana machine with more than 550 MW generation, SPS I / SPS IV related load disconnection amount is not sufficient for safe, secure & reliable grid operation. It is required to enhance SPS I / SPS IV related load disconnection. SPS I / SPS IV related load disconnection may be enhanced if 132/33 kV, 2x50 MVA transformers at Silchar & 132 kV Aizwal – Lungmual line also disconnected through these SPS.

P&E, Mizoram informed that 132 kV Aizwal – Lungmual line may be opened through SPS I / SPS IV in case of tripping of Palatana machines.

MSPCL is requested to connect radial load of around 35 MW at 132/33 kV, 2x50 MVA transformers at Imphal. NERTS, POWERGRID was requested to explore the implementation of SPS I / SPS IV based load disconnection through these elements also.

AGM, LDC, AEGCL suggested to disconnect the ICT at Silchar instead of increasing the number of feeders to be disconnected and this requires many wiring activities and the scheme may not work properly during real time contingency.

All members agreed to the proposal of Assam and members requested NERLDC to carry out the system study for above proposal. Members also requested NERTS to check the alternate feasibility for additional wiring in case load enhancement by disconnecting at Imphal S/S & Luangmual S/S of POWERGRID is required.

DGM (AM) stated that feasibility report above will be sent shortly to NERLDC/NERPC.

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

***Action: NERLDC/NERPC & NERTS, POWERGRID***

**2. SPS based load disconnection in case of overloading of 220 kV Salakati – BTPS- I line/II line:**

In case of tripping of 400 kV Bongaigaon – Azara & 400 kV Bongaigaon –Byrnihat lines, 220 kV Salakati – BTPS I line / II line may be overloaded and tripped. In case of tripping of this line Capital area of Guwahati, Dhaligaon area of Assam & Nangalbibra area of Meghalaya, North Bengal & Bhutan system may be collapsed.

To safe, secure & reliable operation of these areas of NER, SPS is to be designed for load disconnection in these areas.

Assam stated that Dhaligaon load needs to be kept in radial mode and Bhutan load through 132 kV Rangia – Deothang S/C must not be affected.

During the 6<sup>th</sup> SS meeting, Assam informed that above scheme as suggested is agreeable to them and the scheme would be implemented by 21.06.2015. Necessary shutdown for carrying out the above work has been proposed already. The status will be intimated in the next meeting.

**Deliberation of the sub-Committee**

AEGCL informed that 132 kV BTPS-Dhaligaon I & II lines will be opened through the SPS in case of more than 600 A current flow from Salakati to BTPS of 220 kV Salakati –BTPS I line or 220 kV Salakati –BTPS II and this Scheme was implemented by them on 23.06.15

Further, Assam informed that three SPS including this SPS have been implemented by them in their State.

The Sub-committee appreciated the initiative taken by AEGCL in this regard and requested AEGCL to send the detailed scheme of these SPS including schematic diagram to NERLDC/NERPC by 31.07.15.

The Sub-committee requested MePTCL to send the detailed scheme of their SPS including schematic diagram to NERLDC/NERPC by 31.07.15.

The Sub-committee also requested AEGCL & MePTCL to send details of SPS which are under implementation by 31.07.15.

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

***Action: AEGCL & Me. PTCL***

**3. SPS based generation reduction of AGTPP in case of tripping of 132 kV AGTPP – Kumarghat line**

It has been observed from study results that after commissioning of Palatana 2nd Module, Monarchak Unit I & II and AGTPP Unit 5 & 6, 132 kV AGTPP – Kumarghat, 132 kV Monarchak – Udaipur, 132 kV Baramura – Teliamura & 132 kV Teliamura-Ambassa lines will be highly loaded.

In case of tripping of 132 kV AGTPP - Kumarghat line, following lines will be overloaded:-

1. 132 kV Monarchak - Udaipur : 72 MW
2. 132 kV Dhalabil - Agartala : 84 MW
3. 132 kV Dhalabil - Kamalpur : 79 MW
4. 132 kV Baramura - Teliamura : 88 MW
5. 132 kV Teliamura - Ambassa : 86 MW
6. 132 kV PK Bari - Kumarghat : 92 MW
7. 132 kV PK Bari - Ambassa : 81 MW
8. 132 kV PK Bari - Kamalpur : 76 MW

During 6<sup>th</sup> SS Meeting, NEEPCO once again informed that above scheme would be implemented by 25.06.2015 i.e. before synchronization of STGs and the status will be intimated in the next meeting.

**Deliberation of the sub-Committee**

NEEPCO informed that SPS related generation reduction of AGTPP would be implemented by them before trial operation of STG II of AGTPP.

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

***Action: NEEPCO & NERTS, POWERGRID***

**4. SPS at Silchar.**

During meeting held on 06.04.2015, DGM (SO-II), NERLDC informed that Silchar is very important station in Southern Assam part of NER Grid and after termination of 132 kV Silchar – Imphal (PG) D/C lines, loading of 2x200 MVA, 400/132 kV Silchar ICTs has increased and persistent violation of N-1 condition was observed during peak hours. In case of overloading & tripping of any ICTs at Silchar during peak hours, there may be cascade tripping of transmission elements of this part of NER

and grid disturbance may occur in this part of NER. As more 132 kV lines from 132 kV Silchar (PG) substation are expected to connect load centers in Tripura, Mizoram, the loading of Silchar ICTs are expected to increase further.

He suggested to have one more SPS at Silchar and that the current SPS based load shedding associated with SPS related to Palatana unit tripping may be extended to Silchar substation such that load is disconnected automatically in case of tripping of any ICT at Silchar.

The Sub-committee requested NERLDC to carry out the system study and so that the proposed SPS at Silchar can be discussed further.

DGM (AM), NERTS informed that above scheme would be implemented within May, 2015.

During 6<sup>th</sup> SS Meeting, DGM (AM), NERTS informed that Alstom engineers is expecting to arrive at site shortly and the work is likely to be completed soon. The current status and the same will be intimated to NERPC/NERLDC.

**Deliberation of the sub-Committee**

DGM (AM), NERTS, POWERGRID informed that SPS related to load disconnection in case of tripping of 400/132 kV, 200 MVA ICT at Silchar was implemented by them on 29.06.15.

The Sub-committee appreciated NERTS for successful implementation of the scheme and the requested them to send the detailed scheme of the SPS including schematic diagram to NERLDC/NERPC by 31.07.15.

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

***Action: NERTS, POWERGRID***

**5. Installation of Reactor at Rangandai HEP.**

During 4<sup>th</sup> SS meeting, DGM (SO-II), NERLDC informed that on several occasions NER grid experiencing very high voltage condition during off-peak hours resulting in opening of numbers of 400 kV circuits to contain over voltage especially at RHEP. 400 kV Balipara- RHEP D/C link is operated through single circuit only in most of the time sacrificing reliability of the system. Similar is the condition in other corridors including IR link. To address the problem, conversion of line reactors as

Bus reactors for 400 kV Bongaigaon-Balipara D/C line and installation of additional bus reactors at Balipara have been proposed.

In addition to this, one bus reactor of at least 50 MVAR capacity is required to be installed at RHEP so that over voltage problem can be solved

During 5<sup>th</sup> SS Meeting, SE(O) informed that communication from NEEPCO on the above issue has been received and after examining thoroughly by them, they have suggested the possibilities which is reproduced as below:

1. **Option-1:-** Possibility for installation of bus reactor at 400 kV/ 132kV switchyard has been examined. As per the preliminary study under present site condition, there is a possibility to accommodate one reactor at 400kV switchyard by way of extension of bus towards hill side. However, it will require cutting/ leveling of hillock, providing protection wall, diversion of road, drains, fencing etc.
2. **Option-2:-** RHEP units cannot be run in synchronous condenser mode because provision for the same is not available in the present scheme and lots of modifications including piping works shall be necessitated.
3. **Option-3:-** Loading of bus reactor in Tertiary of ICTs is also not feasible; because those are very old ICTs and failed earlier also and put in service after repairing.
4. NEEPCO is assisting the grid operator to counter the over voltage problem at RHEP by way of putting the 400 kV line reactor at bus whenever required. However, I would like to inform you that this operation is done through isolators as switching breakers are not available. The then Member Secretary, GM, NERLDC, POWERGRID representatives visited the site in 2007 and the idea may dropped and necessary modification was done at Balipara. The operation through isolators in present scenario involves risks for the operators and detrimental to the equipment like isolators as well. Probably, the present arrangement is not at all advisable.

During 6<sup>th</sup> SS Meeting, DGM (AM), NERTS stated that the installation of new reactor will take more than two years meanwhile many ongoing projects will get commissioned and so, the requirement of reactor may be reviewed. DGM (SO-2), NERLDC informed that the reactor will be required in long term also. Accordingly, DGM (AM), NERTS stated that in such case the matter may taken up to next standing committee meeting for necessary approval. However, in such case, NEEPCO has to inform the availability of space for installation of reactor.

Further, it was also discussed that for immediate measure to contain overvoltage NEEPCO should carry switching operation of existing Reactors.

**Deliberation of the Sub-Committee**

After detailed deliberation, the Sub-committee requested NEEPCO to put up the agenda item to Standing Committee of CEA so that necessary approval can be taken up in the next TCC/RPC meeting. Meanwhile, the Sub-committee also requested NERLDC to carry out the system studies if installation of reactor at Ranganadi is required in future to contain the over voltage.

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

**Action: NEEPCO & NERLDC**

**6. Implementation of islanding scheme in NER**

During the 94thOCC meeting, the committee had decided the following islanding scheme and associated frequencies levels for creation of islands in NER:

SN	Islanding Scheme	Lines required to be opened	UFR Location	Implementing Agency
1	<b>ISLAND AT 48.80 Hz with 500 ms delay:</b> Island comprising of generating units of AGBPP (Gas), NTPS (Gas) & LTPS (Gas) and loads of Upper Assam system & Deomali area (Ar. Pradesh) <b>[Total Generation: 380-400MW and load: 200MW (off peak)-300MW (peak)]</b>	(a) 220 kV New Mariani (PG) – AGBPP	UFR-1 [At New Mariani (PG)]	PGCIL
		(b) 220 kV Mariani – Misa	UFR-2 [At Mariani, Samaguri of AEGCL]	AEGCL
		(c) 220 kV Mariani – Samaguri		
		(d) 132 kV Mokukchung – Mariani	UFR-3 [At Dimapur (PG)]	PGCIL
		(e) 132 kV Dimapur (PG) – Bokajan		
		(f) Generators to be desynchronized for reduction of generation [if Generation > Load in the islanded pocket]		
		(g) De-synchronization / isolation of one GT and one ST from each of two modules of AGBPP, which are in operation, leading to reduction of generation of about 80-90 MW [i.e each	At AGBPP [UFRs of line bays & Generator to be used]	NEEPCO



		module will contribute to reduction of about 40-45 MW (GT:30MW+ST:15MW)].		
		<b>(h) Lines required to be opened for load shedding of 30MW (off-peak) and 50MW (peak) [if load &gt; generation in the islanded pocket]</b>		
		(i) 132kV Tinsukia – Ledo S/C line (at 48.7Hz instantaneous).	UFR [At Tinsukia]	<b>AEGCL</b>
		(j) 66kV Tinsukia – Rupai S/C line (at 48.6Hz instantaneous)		<b>AEGCL</b>
		(k) 132kV Jorhat – Bokakhat line (at 48.5Hz instantaneous)	UFR [At Jorahat / Bokakhat]	<b>AEGCL</b>
2	<b>ISLAND AT 48.80 Hz with 500 ms delay :</b> Island comprising of generating units of AGTPP (Gas), generating units at Baramura (Gas), Rokhia (Gas) & Gumati (Hydro) and loads of Tripura system & Dullavcherra area (Assam) <b>[Total Generation: 150-160MW and load: 110MW (off-peak) &amp; 170-180MW (peak)]</b>	132 kV Palatana – Udaipur	UFR-1 [At Palatana]	<b>OTPC</b>
		132 kV Palatana – Surjamani Nagar		
		132 kV Silchar – Dullavcherra	UFR-2 [At Silchar]	<b>PGCIL</b>
		132 kV AGTPP – Kumarghat	UFR-3 [At Kumarghat]	<b>PGCIL</b>
		132 kV P K Bari – Kumarghat		
3	<b>ISLAND AT 47.90 Hz:</b> Isolation of NER from NEW grid at ER-NER boundary with rest of the generation and load of NER	To be decided after system study		

After detailed deliberation, the 4th SS Sub-committee decided to set both the Islanding Scheme I & II at 48.80 Hz. Necessary action has to be carried out by concerned utilities at the earliest.

During 5<sup>th</sup> SS meeting, Manager (AM), NERTS informed that resetting of frequency from 48.5 Hz to 48.8 Hz with 500 ms delay in Islanding Scheme – II have been completed by them.

OTPC informed that that resetting of frequency from 48.5 Hz to 48.8 Hz with 500 ms delay in Islanding Scheme – II will be completed by May, 2015. The status will be intimated in next meeting.

**Deliberation of the sub-Committee**

Since no representative from OTPC was present in this meeting, the sub-committee suggested to discuss the issue in the 111th OCC meeting.

During 111st OCC meeting, DGM, OTPC informed that he will take up the matter with concerned division and the same will be intimated shortly to NERLDC/NERPC.

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

***Action: OTPC.***

**7. Assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) by SLDC on respective Inter-State Transmission Corridor**

SLDCs of NER are requested to assess the above on monthly basis, 5 months in advance (eg: TTC/TRM/ATC for the month of November to be calculated by 15th of July), for further assessment of TTC, ATC and TRM of NER-ER corridor, group of control areas, individual control areas with the region and state-control-area to state-control-area by NERLDC, if required.

SLDCs are also requested to send study results for Peak (Export & Import) & Off Peak (Export & Import) along with assumptions in details and 6 nos sav case files (Base Case for Peak & Off Peak, Off Peak & Peak Export & Off Peak & Peak Import) to NERLDC by 15th of the month for the fifth month. All India sav case files have been sent to SLDCs. SLDCs are requested to use this sav case files while computing TTC, ATC & TRM for their state control area.

The latest .sav case files of Off Peak & Peak Cases have been mailed to SLDCs of NER on **8th June, 2015**.

The study results for assessment of Total Transfer Capability (TTC), Transmission Reliability Margin (TRM) and Available Transfer Capability (ATC) have not been received from any SLDC of NER.

NERLDC have assessed TTC of each control area of NER for Nov15 and has been emailed to SLDCs of NER. States may check the TTC of their control areas as computed by NERLDC and issue comments, if any as TTC, ATC & TRM figures of States control area and group of control areas may be uploaded in NLDC website, if required.

**Deliberation of the sub-Committee**

DGM(SOII), NERLDC requested to SLDCs of NER again for submission of study results of peak & off peak scenarios related to assessment of TTC , TRM & ATC on respective Inter State Transmission Corridor on monthly basis for 5th month by 15th of the month by them. It was discussed to identify the persons of each SLDC of NER who will conduct system study of their system.

The following concerned officers who are carrying out the system studies were furnished by the constituents during 111st OCC meeting.

Constituent	Name of Nodal Officer	Contact No	Email id:
Ar. Pradesh	Domo Kamduk		
Assam	Navojit Patir		
Manipur	S.J. Kumar Sharma		
Mizoram	Zoramdingliana		
Meghalaya	D.J. Lyngdoh		
Nagaland			
Tripura	Mrinal Paul		

***The Sub-committee noted as above and requested Nagaland to nominate the concerned officer at the earliest.***

***Action: Nagaland***

**8. Enhancement of Transformation capacity of 400/132kV Silchar S/S:**

It has been observed that 400/132 kV, 2x200 MVA ICTs at Silchar is highly loaded at peak hours. In case of tripping of any one ICTs, other ICT will be overloaded and may trip subsequently. Due to tripping of both the ICTs, Southern Part of NER may collapse.

To safe, secure & reliable operation of Southern Part of NER, the transformation capacity of 400/132 kV Silchar substation is to be enhanced.

Study results carried out by NERLDC is attached in **Annexure -8 (1 & 2)**.

**Deliberation of the sub-Committee**

NERLDC gave presentation on requirement of additional 400/132 kV, 200 MVA ICT at Silchar in case of tripping of any existing ICT at Silchar as Southern part of NER Grid is not safe under N-1 condition. DGM (SOII), NERLDC informed that most of times, loading of 400/132 kV, x200 MVA ICT at Silchar is more than full capacity of one no of this ICT. Moreover, loading of these ICTs will be increased after commissioning of 132 kV Silchar– P K Bari I & II line & 132 kV Silchar – Melriat I & II lines. Under this condition, southern part of NER grid consisting of Tripura, Manipur, South Assam & Mizoram systems may be insecure. It is requested to install one more 400/132 kV, 200 MVA ICT at Silchar for safe, secure & reliable operation of southern part of NER Grid.

After detailed deliberation, the Sub-committee unanimously agreed to proposal for installation of 3<sup>rd</sup> ICT at Silchar S/S and requested NERPC to take up the matter to next RPC for endorsement.

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

**Action: NERPC**

**9. Requirement of new lines for evacuation of power from 4x21 + 2x25.5 MW**

**AGTPP:**

NERLDC informed that it has been observed that critical lines of Tripura System & lines of POWERGRID in this area will be highly loaded in case of tripping of any critical line in this area & these lines may trip subsequently resulting total collapse of Tripura System.

To address this issue, 132 kV D/C lines from AGTPP to P K Bari are required for safe, secure & reliable operation of the grid.

Study results carried out by NERLDC is attached in **Annexure-9 (I & II)**.

**Deliberation in the meeting**

SE(O) informed that the issue has been discussed in detailed during the 4<sup>th</sup> Standing Committee of CEA, the forum had decided that the 8 km long Agartala GBPP – Agartala S/s (State) 132 kV D/c line may be re-strung by POWERGRID with high capacity HTLS conductor.

DGM(SOII), NERLDC gave presentation on requirement of new line for safe evacuation of power from **4x21+2x25.5 MW AGTPP**. NERLDC informed that critical lines of POWERGRID & TSECL will be highly loaded in case of tripping of any of these lines & this will result into total collapse of Tripura & AGTPP System. To address this issue, line from AGTPP to P K Bari at 132 kV level is required.

After detailed deliberation, the Sub-committee requested NERLDC to put up the agenda item to Standing Committee of CEA so that necessary approval can be taken up in the next TCC/RPC meeting. Meanwhile, the Sub-committee also requested NERLDC to carry out the system studies regarding constraints of power evacuation from combined cycle of AGTPP.

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

***Action: NERLDC***

**10. Load-ability of 132kV Lumshnong – Panchgram Line:**

NERLDC informed that it has been observed from system study that 132 kV Badarpur – Khliehriat line will be highly loaded in case of 700 MW Pallatana generation. To reduce the loading of 132 kV Badarpur – Khliehriat line, 132 kV Lumshnong – Panchgram Line is to be connected in loop. However, it has been seen that loading of 132 kV Lumshnong – Panchgram Line will be around 80 MW in case of tripping of 132 kV 132 kV Badarpur – Khliehriat line. Hence, loading capacity of 132 kV Lumshnong – Panchgram Line is to be enhanced.

The issue was discussed during 98<sup>th</sup>, 99<sup>th</sup>, 100<sup>th</sup>, 101<sup>st</sup> & 102<sup>nd</sup> OCC meetings.

The Sub-committee requested to AEGCL and MeECL to take up the necessary action accordingly.

**Deliberation of the Sub-Committee**

EE (MRT), MePTCL had informed during the 35<sup>th</sup> PCC meeting that DPR for Meghalaya portion had already been forwarded to competent authority for approval and action will be taken up soon after the approval.

AGM, Assam requested Meghalaya to send the DPR to them so that they also have to prepare the DPR in line with Meghalaya. Meghalaya agreed.

The Sub-committee suggested Assam & Meghalaya to resolve the issue bilaterally and inform the status of progress to the forum.

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

***Action: Assam & Meghalaya***

Further, Assam also informed that 132kV Dharmanagar – Dullavcherra needs to be re-conducted with HTLS for enhancement of loadability on this line.

***The Sub-committee requested Assam to take up the matter with Tripura and resolve the issue bilaterally.***

***Action: Assam & Tripura***

***N.B: All Annexures i.e 1(a,b,c,d), 8 (1&2) & 9 (I&II) can be downloaded separately from NERPC website)***

**Date & Venue of next OCC meeting**

It is proposed to hold the 8<sup>th</sup> SS meeting of NERPC on first week of August, 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 7<sup>th</sup> System Studies Meeting on 14/07/2015**

SN	Name & Designation	Organization	Contact No.
	<b>No Representatives</b>	<b>Ar. Pradesh</b>	
1.	Sh. P. Saha, Dy. Manager	Assam	09435561717
2.	Sh. H. Kakoti, AGM (Comn. Div)	Assam	09864110407
3.	Sh. Arup K. Sinha, Asst. Manager	Assam	09706881736
4.	Sh. G.K. Bhuyan, AGM, Protection	Assam	09854015601
5.	Sh. Navajit Patir, Dy. Manager, SLDC	Assam	09707380294
6.	Sh. K.M. Singh, Manager	Manipur	09436022380
7.	Sh. P. Yaiphaba, Manager	Manipur	08774088766
8.	Sh. H.F. Shangpliang, EE (SP)	Meghalaya	09863315562
9.	Sh. B. Narry, AEE	Meghalaya	09089000911
10.	Sh. Thanglawra, EE (MRT)	Mizoram	09862537214
11.	Sh. Lalduhawma, EE, SLDC	Mizoram	09436144113
	<b>No Representatives</b>	<b>Nagaland</b>	
	<b>No Representatives</b>	<b>Tripura</b>	
12.	Sh. P. Kanungo, DGM (AM)	PGCIL	09436302823
13.	Sh. A. Mallick, DGM (SO-II)	NERLDC	09436302720
14.	Sh. Rahul Chakrabarti, Sr. Engineer	NERLDC	09402507543
15.	Sh. R. Sutradhar, DGM	NERLDC	09436302714
16.	Sh. Joypal Roy, Sr. Manager (E/M)	NEEPCO	09435577726
17.	Sh. J. Bhattacharyya, AGM (O&M)	NTPC	09435720036
	<b>No Representatives</b>	<b>ENICL</b>	
18.	Sh. S. Medhi, Dy. Manager (E)	NHPC	09435534564
	<b>No Representatives</b>	<b>OTPC</b>	
19.	Sh. P.K. Mishra, MS	NERPC	09968380242
20.	Sh. B. Lyngkhoi, Director/S.E (O)	NERPC	09436163419
21.	Sh. S.M. Jha, E.E	NERPC	08731845175
22.	Sh. S. Mukherjee, AEE	NERPC	08794277306
23.	Sh. Shaishav Ranjan, A.E	NERPC	08794276168