



भारत सरकार **Government of India**

विद्युत मंत्रालय **Ministry of Power**

उत्तर पूर्वी क्षेत्रीय विद्युत समिति **North Eastern Regional Power Committee**

AGENDA NOTES FOR DISCUSSION

OF

19TH TCC MEETING

(UNDER THE AEGIS OF POWERGRID)

Venue : Hotel Radisson Blu, Guwahati

Date (TCC) : 28th November, 2018

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NORTH EASTERN REGIONAL POWER COMMITTEE



1. MEETING SCHEDULE

| SN | Meeting | Date | Time | Venue |
|----|---------|------------|----------|--------------------------------|
| 1 | TCC | 28.11.2018 | 10:00 AM | "Hotel Radisson Blu," Guwahati |
| 2 | NERPC | 29.11.2018 | 10:30 AM | |

2. CONFIRMATION OF THE MINUTES OF 18TH TCC MEETING & 18TH NERPC MEETING

The minutes of the 18th TCC & 18th North Eastern Regional Power Committee (NER Power Committee) meetings held on 10th & 11th October, 2017 respectively at Shillong were circulated vide letter no. NERPC/OP/Committee/2017/813(A) dated 03.11.2017.

No comments or observations were received from any constituents, the TCC and NER Power Committee may confirm the minutes of above meetings.

3. PRESENTATION BY CEA PERTAINING TO AUTOMATIC GENERATION CONTROL (AGC)

4. ARRANGEMENT OF AGENDA OF 19th TCC MEETING:

| SN | DESCRIPTION | CATEGORY |
|----|-----------------------|----------|
| 1 | ITEMS FOR DISCUSSION | A |
| 2 | ITEMS FOR APPROVAL | B |
| 3 | COMMERCIAL ISSUES | C |
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1. CATEGORY - A : ITEMS FOR DISCUSSION

ITEM NO. A.01 : EARLY COMPLETION OF OPGW BASED COMMUNICATION SYSTEM IN INTRASTATE GRID OF MANIPUR IN THE INTEREST OF NER GRID SECURITY AND SMOOTH POWER SUPPLY MANAGEMENT IN MANIPUR - MSPCL

SLDC Manipur located at Yurembam was established by Power Grid with 11 nos. of RTUs in 132 kV sub-stations – nine for State sector and 2 for Central sector. Even long after the starting of commercial operation of the SLDC on 9/11/2016 it is currently operating with data acquired from few sub-stations through PLCC links only. It is not serving the purpose of the establishment of SLDC for real time scheduling and dispatch of electricity in the intra-state system for ensuring grid security.

Currently, the main control center at Yurembam is unable to acquire voice connectivity and SCADA from the nodes at the 11 nos. of 132 kV sub-stations because of the absence of OPGW connectivity and installation of communication equipment.

During the 15th TCC & 15th NERPC Meeting held on the 20th and 21st of August, 2015 at Guwahati, the TCC recommended the revision of OPGW connectivity for Manipur from 149 Km to 365 Km. RPC noted and approved it. The investment is to be recovered as per tariff determined by CERC.

Altogether PGCIL is implementing the work for the installation of 385 Km. of OPGW including 20 Km for LI-LO on Kongba – Kakching at Thoubal under Quantity Variation Clause as deliberated in the 17th TCC Meeting held on the 4th of October, 2016 at Imphal and noted by RPC.

MSPCL has taken up integration of 400 kV sub-station and the remaining 132 kV sub-stations into SLDC Manipur with 5 nos of RTUs and 206 km of OPGW under PSDF funding. This has been incorporated in the scope of “Reliable Communication & Data Acquisition System upto 132 kV Sub-Stations in Manipur (NER)” initiated by the Government of India.



During the 18th TCC Meeting held on the 10th of October at State Convention Centre, Shillong POWERGRID informed that materials have been inspected at China and would be delivered by end of Nov'17. GM, NERTS informed that the target for completion as per 6th NETeST meeting of NERPC is November, 2018. However, not much progress has been made till date.

PGCIL is therefore requested once again to pay special attention and place the latest status of the work including timeline for completion before the board for deliberation. TCC may kindly deliberate the request of MSPCL in the interest of NER Grid Security and smooth power supply management in Manipur and may advise PGCIL to complete the installation of OPGW at the earliest.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.02 : NO SLIPPAGE OF TIME IN (I) THE COMPLETION OF UPGRADATION OF 2X50 MVA, 132/33KV SUBSTATION AT IMPHAL (PG) TO 400/132KV, 7X105MVA SINGLE PHASE TRANSFORMER AND (II) CONSTRUCTION OF 2 NOS. 400 KV GIS LINE BAYS AT 400/132 KV SILCHAR SUB-STATION FOR TERMINATION OF SILCHAR - IMPHAL (PG) 400 KV D/C LINE - MSPCL

Construction of 3x105 MVA, 400/132 kV Sub-Station at Thoubal in Manipur is nearing its completion and ready for commissioning. The associated 400 kV D/C line from Imphal (PG) to Thoubal is also complete except for two spans which could not be completed on time because of the unprecedented delay in settling of ROW issues and payment of compensation. Work for the two incomplete spans is now going on in full swing. MSPCL is targeting to inaugurate the 400 kV sub-station in December, 2018 when the line is expected to be completed.

Commissioning of this 400 kV sub-station depends on the completion of the upgradation of 2x50 MVA, 132/33 KV Sub-Station at Imphal (PG) to 400/132 KV, 7x105 MVA single phase units (including one spare single-phase unit) and



construction of 2 nos. 400 kV GIS line bays at 400/132 kV Sub-Station, Silchar.

During the 18th TCC Meeting held on the 10th of October, 2017 at State Convention Centre, Shillong it was intimated that POWERGRID has been facing some transportation problems and assured that the upgradation would be completed by January 2018.

Further it was informally intimated the work may be completed by 3rd week of May 2018. However, the upgradation of 2x50 MVA, 132/33 KV Sub-Station at Imphal (PG) to 7x105 MVA, 400/132 KV with single phase transformer and construction of 2 nos. 400 kV GIS line bays at 400/132 kV Sub-Station Silchar have not been completed, yet. More importantly the shifting of existing 400 kV lines due to interference with Railway tracks nearby Yurembam substation (PG) is not completed.

PGCIL is therefore requested once again to pay special attention to the upgradation of 2x50 MVA, 132/33 KV Sub-Station at Imphal (PG) to 400/132 KV, 7x105 MVA single phase unit and the construction of 2 nos. 400 kV GIS line bays at 400/132 kV Sub-Station, Silchar for termination of Silchar – Imphal (PG) 400 kV D/C line so that there is no further delay. Also it is requested to indicate the actual timeline.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

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| ITEM NO. A.03 : INSURANCE AGAINST SLDC ASSETS - MePTCL |
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During 147th OCCM, SE, SLDC, MeECL informed that they need clarification from NERTS about the coverage of insurance in existing tariff before processing for insurance of SLDC under operation. Subsequently, it was clarified that POWERGRID has not considered the running and maintenance cost including insurance in the tariff petition for the SLDC assets of Meghalaya and other states established under SCADA up-gradation project by POWERGRID.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.04 : 100% FUNDING FOR RELIABLE COMMUNICATIONS & DATA ACQUISITION SCHEME FROM PSDF – NERPC

In 138th OCCM, MePTCL inform the forum, that the Techno Economic Sub Group was held on the 16th November 2017 at 10:30 hrs in the office of the Chief Engineer (NPC), CEA, NRPC Building, 18A, Katwaria Sarai, New Delhi wherein the scheme for Reliable Communication & DATA Acquisition System upto 132 kV for MePTCL, Meghalaya was examined during the meeting.

- Grant requested 100 %, Communication schemes eligible for 50%

EE (SP), MePTCL requested the forum to take up with NLDC for ensuring 100% funding of the Communication related projects. The forum requested MePTCL to incorporate the changes in the revised DPR and to submit within November 2017 for finalisation by Dec 2017.

NERPC assured the forum that the matter will be placed in the next TCC/NERPC Meetings so that funding of 100% funding or atleast 90-10 would be taken up with CEA/MoP for consideration for NER as special category states.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.05 : REQUIREMENT OF OPGW FOR LINE DIFFERENTIAL PROTECTION – NERPC

In 10th NETeST meeting, MePTCL representative informed that the DPR for Line differential Protection has been recasted wherein OPGW item is incorporated in the revised DPR of Reliable Communication Scheme in line with the Techno Economic Committee observations which is presently under the evaluation process. The DPR is awaiting approval from PSDF.

After detailed deliberation the forum decided that OPGW for differential protection in selected lines except for POWERGRID lines would be taken up under separate scheme of PSDF. NPC has suggested that any OPGW requirement would be kept under Reliable Communications Scheme. However for short lines Differential



Protection implementation requires OPGW. Hence the matter would be referred to the next TCC/RPC meeting for resolution.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.06 : ACUTE ROW ISSUE FOR MAINTENANCE OF TRANSMISSION LINES IN ASSAM BY POWERGRID - NERPC

During various OCC & PCC Meetings, POWERGRID, NERTS expressed / shared their difficulties in maintaining some of the important transmission lines viz. 800 kV HVDC BNC-AGRA Line, 400 kV D/C Bongaigaon – Balipara – III & IV, 400 kV D/C Silchar – PK Bari – I & II etc. due to severe opposition from one activist group and some individuals / groups. Presently, with active support and co-operation of all concerned local administration, emergency maintenance of the said lines could be done by POWERGRID in certain identified stretches only. However, routine maintenance of lines in various areas like Udalguri, Kamrup, Baksa, Barpeta, Bongaigaon, Chirang, Hailakandi & Karimganj Districts of Assam is adversely affected due to severe opposition by local villagers backed by some activist group.

The forum may please deliberate the issue and escalated the same to appropriate level of administration for permanent solution.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.07 : CYBER SECURITY ARRANGEMENT FOR SCADA SYSTEM - NERPC

Presently, the SCADA/EMS Upgrade Project is running through its final phase & all state SLDCs except Arunachal & Nagaland are integrated with NERLDC. This network is also connected to rest of the RLDCs via NLDC. In this scenario, any



security incident/ intrusion in one system will affect other connected systems also. Therefore hardening of the security of SCADA/EMS system is a necessity.

In 10th NETeST meeting Director (O&P), NERPC informed the forum that CE (IT), CEA would give a presentation in the upcoming TCC/RPC meeting.

CE(IT), CEA may give presentation.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.08 : SAMAST IMPLEMENTATION IN NER - NERPC

As decided in the 5th Forum of Regulator (FOR) Technical Committee meeting on July, 2016, a robust mechanism known as SAMAST i.e. SCHEDULING (S), ACCOUNTING (A), METERING (M), AND (A), SETTLEMENT OF (S) TRANSACTIONS (T) IN ELECTRICITY should be in place in all the States across the Country. The implementation would include Metering at intra-State level, AMR scheme to fetch data to SLDC, intra-State scheduling, Open Access web portal, Accounting, Settlement system etc. This would pave way for intra-State ABT implementation.

Status in NER is as below:

(i) Inclusive approach has been adopted in NER for SAMAST implementation in all NER States and SAMAST Group formed by Member Secretary, NERPC has organized extensive meetings with all SLDCs and vendors.

(ii) Detailed Project Report of all States prepared and submitted for PSDF funding on 30.05.2018. Summary of project cost is as below:

SAMAST DPR OF NER STATES

Figures Rs. in Lacs



| SN | Name | No. of Meters | Cost of Meter | Cost/Meter | Cost of HW/SW | Project cost of SAMAST | CT/PT Replacement | Grand Total |
|----------------|-----------|---------------|---------------|------------|---------------|------------------------|-------------------|----------------|
| 1 | AP | 121 | 55.7 | 0.461 | 1287.6 | 1343.3 | 0.0 | 1343.3 |
| 2 | Assam | 700 | 322.5 | 0.461 | 1530.8 | 1853.3 | 157.6 | 2010.9 |
| 3 | Manipur | 589 | 284.9 | 0.484 | 1561.6 | 1846.5 | 1685.5 | 3532.0 |
| 4 | Meghalaya | 374 | 180.9 | 0.484 | 1467.0 | 1647.9 | 229.3 | 1877.2 |
| 5 | Mizoram | 413 | 190.3 | 0.461 | 1435.7 | 1626.0 | 200.0 | 1825.9 |
| 6 | Nagaland | 198 | 91.2 | 0.461 | 1335.9 | 1427.1 | 445.0 | 1872.2 |
| 7 | Tripura | 366 | 168.6 | 0.461 | 1343.1 | 1571.7 | 1339.3 | 2851.0 |
| Total = | | 2761 | 1294.0 | - | 9961.8 | 11255.8 | 4056.6 | 15312.5 |

- (i) Matter was discussed in Technical Committee meeting of Forum of Regulators (FOR) held at Shillong on 16.04.2018 and it was decided as below:
- (ii) NERPC will act as a Nodal Agency to finalize the DPR and also to carry out bulk/single tendering for NER States.
- (iii) NERPC will interact with each State so that they get approval of the respective Govt. of that State to carry out bulk/single tendering.
- (iv) Subsequently, as agreed in OCC and CC forums of NERPC, various Committees have been formed comprising of NER utilities to finalise technical specs of hardware, software and all related items to enable to commence the process of tendering.
- (v) As suggested by Chairperson, Hon'ble Assam SERC during the meeting with SAMAST Group on 16.05.2018, it was agreed to follow QCBS (Quality and Cost Based System) for selection of bidder in SAMAST project as at times only L1 criteria of selection do not ensure quality.
- (vi) On approval of fund by PSDF, SAMAST Group of NER would go ahead with tendering and subsequent to that LOA for SAMAST would be issued by respective States.
- (vii) In the OCC forum of NERPC, it has been agreed that there would be a Project



Monitoring Committee for monitoring implementation of SAMAST which would comprise of all SLDC heads and members of SAMAST Group of NER.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.09 : IMPLEMENTATION OF ADMS IN NER - NERPC

The implementation of AMDS in NER under PSDF Fund was deliberated in various OCC forum and during 148th meeting, all constituents agreed that NERPC will act as a Nodal Agency for calling common tender for all NER States for following benefits:

- a. To attract more vendors
- b. To have a competitive price
- c. For early/uniform implementation of the scheme

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.10 : REQUIREMENT OF HIGH SPEED INTERNET FACILITY WITH RELIABILITY AT ISGS STATIONS AND SLDCs - NERPC

During 148th OCC Meeting, NERLDC informed that WBES had been implemented in NER w.e.f. 1st September 2018 and Web based Reporting System will also be implemented shortly in NER. Further, it is stated that with the implementation above software, the availability of high speed Internet facility is again an issue with most of the constituents, ISGS/ SLDCs mainly NEEPCO/ OTPC/ NHPC Stations as intimated by the constituents during the WBES implementation Training Programme held at NERLDC, Shillong on 29th August'18. All SLDCs and ISGS stations are requested to plan for having reliable and high-speed internet facilities. However, after detailed deliberation and considering additional financial implication the forum recommended



to refer the issue to TCC / NERPC for further deliberation.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.11 : INCLUSION OF SIKKIM AS NERPC MEMBER - NERPC

During the 9th NERPC Meeting held on 12th August, 2010 at Shillong, Resolution was made by NERPC for inclusion of Sikkim as NERPC Member. Meanwhile, Ministry of Power, Govt. of India vide letter dated 31.10.2018 has desired to get a comments/feedbacks on “whether Sikkim can be included in North Eastern Region in place of Eastern Region, where it is currently included”

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.12 : FOR SUB-GROUP TO RECOMMEND SUITABLE MEASURES AND ROADMAP FOR INSTITUTION BUILDING AND STRENGTHENING OF THE LOAD DESPATCH CENTRES (LDCs) - NERLDC

Man Power Survey is being conducted under the FOR Sub-Group to Recommend Suitable Measures and Roadmap for Institution Building and Strengthening of the Load Despatch Centres (LDCs) and the matter was discussed during the 25th FOLD Meeting held on 07th August, 2018.

During 147th OCC Meeting, SE, SLDC, MeECL very briefly articulated the problems being faced by Meghalaya SLDC:

- (i) Basic manpower requirement has increased. In light of frequent new regulations and intense monitoring the manpower required has drastically increased.
- (ii) Though most of the SLDC personnel have completed their certificate course in System Operation, there has been no increment or financial benefit for them.
- (iii) Officials posted in SLDC at the working level are frequently transferred after they are trained. This is resulting in wastage of trained manpower and hampering smooth operation of SLDC. He requested for ring fencing of SLDC at the earliest.



As deliberated in 147th OCC Meeting, the forum noted the above and requested NERPC to highlight the problems at the highest level viz. FOLD/TCC/RPC.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.13 : NON-AVAILABILITY OF TELEMETRY AND DEDICATED VOICE COMMUNICATION FROM TIPAIMUKH SUBSTATION - NERLDC

LILO of 132 kV Jiribam-Aizawl line at Tipaimukh (Manipur) was done on 3rd June'18 but still real time data and dedicated voice communication is not available. NERLDC is facing problem in case of any tripping of Aizawl -Tipaimukh / Jiribam -Tipaimukh and taking long time for restoration.

MSPCL to give priority to Tipaimukh S/S so that telemetry may be put through as early as possible.

MSPCL may update the status and confirm the telemetry/dedicated voice communication time frame.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.14 : STATUS OF FO EXPANSION AND MW VACATION PROJECT IN NER - NERLDC

The status of ongoing projects is attached in **Annexure – A.14**. Delay in execution is contributing towards non-availability and reliability of Real time data and Dedicated Voice communication.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.15 : PROGRESS OF URTDSM PROJECT - NERLDC

NER Grid system become complex and Dynamic status monitoring of Grid can be achieved only through Wide Area Measurement. In this context the project was awarded to M/s GE on 15.01.2014 by POWERGRID. The original completion schedule of Project as per LOA was 24 months from date of LOA.

The status submitted by NERTS, POWERGRID is enclosed in **Annexure – A.15**

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.16 : ROUND THE CLOCK OPERATION REQUIRED AT NEEPCO CONTROL ROOM, SHILLONG – NERLDC

We have in NER 7 Generating Stations (ISGS) of NEEPCO alongwith Monarchak and Tural. Most of the stations are remotely located and communication is poor. So co-ordination with the stations from RLDC is difficult especially during night hours. NEEPCO Control room can communicate with them through VSAT on round the clock basis. POWERGRID established RTAMC/CPCC to co-ordinate with POWERGRID stations which is working 24X7 basis and RLDC is getting all operation related information from them smoothly and coordination is easier. So from NEEPCO side also one point communication with NERLDC is required for smooth operation of Grid and this will help in proper & quick decision making process of operation.

Direct VSAT communication may be extended by NEEPCO between ISGS and NERLDC and till that time round the clock NEEPCO control room may be set up

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.17 : SIGNING OF POWER PURCHASE AGREEMENT (PPA) IN RESPECT OF SUBANSIRI LOWER H.E PROJECT (2000MW) IN ARUNACHAL PRADESH - NHPC

Signing of PPA with Deptt of Arunachal Pradesh, in respect of Subansiri Lower H.E project is pending since long. Modification sought by Arunachal Pradesh in PPA has already been agreed to & conveyed vide this office letter dated 10.11.2016.

Arunachal Pradesh is requested to resolve the issue at the earliest.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.18 : SIGNING OF POWER PURCHASE AGREEMENT (PPA) IN RESPECT OF TAWANG HE PROJECT, STAGE – I & II - NHPC

Signing of power Purchase Agreement (PPA) in respect of Tawang HE Project, Stage – I & II, is pending with Manipur & Arunachal Pradesh.

All concerned beneficiaries are requested to give their consent for signing of PPA at the earliest.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.19 : DOWNSTREAM SYSTEM AT 132/33 KV SIHHMUI S/S (MIZORAM) – POWERGRID

POWERGRID is implementing (a) Silchar – Melriat 400 kV D/C line (initially to be operated at 132 kV) (b) Melriat – Sihhmui 132 kV D/C line and (c) LILO of Aizwal – Zemabawk at Melriat under Transmission system associated with Pallatana GBPP and Bongaigaon TPS. Silchar – Melriat 400 kV D/C line (initially to be operated at 132 kV) is in the advanced stages of construction and is expected to be completed by



August 2018. Melriat – Sihhmui 132 kV D/C line and LILO of Aizwal – Zemabawk at Melriat are ready for commissioning. However, the downstream network at Sihhmui (Mizoram) S/S which includes installation of 132/33 kV ICTs and 33 kV lines are not ready, for utilization of the system.

It is to bring to the notice of the members that, in recent orders, CERC has been allocating the transmission charges of commissioned unutilized system on the defaulting entities.

Mizoram is requested to expedite the works of downstream system at its Sihhmui S/S to match with ISTS system so as to enable utilization of the ISTS system which is in the advanced stages of construction and intimate the status in this regard.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.20 : GENERATION LINKED PROJECTS – POWERGRID

(1) KAMENG – BALIPARA 400 KV D/C TL

POWERGRID has been entrusted with the implementation of “North East - Northern / Western Interconnector - I” which included evacuation of power from Kameng HEP. The scope of works for inter-state transmission system was firmed up in the meeting of the Standing Committee on Power System Planning for WR on 26.9.2005, for NR on 6.1.2005 and for NER 24.10.2005 at Guwahati and concurred in the 6th TCC and 6th NERPC meeting held on 7th & 8th August, 2008 at Gurgaon, Haryana. As per communication from NEEPCO, it was intimated that the commissioning of the units of Kameng HEP are scheduled progressively from Dec, 2012 to May, 2013. Investment approval was accorded for this project vide Memorandum dated 27.02.2009 and commissioning schedule as per the investment approval was February 2013. Accordingly, POWERGRID proceeded to take up the implementation of the transmission scheme.

During the 12th NERPC held on 15.11.2011 it was informed that NEEPCO has revised its commissioning schedule to June 2016.



During 136th OCC meeting held on 13.09.2017, NEEPCO has informed the status of Kameng HEP as early 2018 for the commissioning of first unit. During 18th NERPC, status of commissioning of Kameng Unit I & II is provided as March 2018.

Despite the schedule of Generation from Kameng HEP being revised multiple times, POWERGRID has taken earnest efforts to match the commissioning of 400kV D/C Kameng – Balipara transmission line with Generation Unit. The Kameng - Balipara transmission line was completed and ready for commissioning in March, 2018. The line could not be put into commercial operation due to non-readiness of Kameng HEP.

Implementation Agreement (IA) was proposed to be signed between POWERGRID and NEEPCO in this regard and signed copy (by POWERGRID) of IA was sent to NEEPCO vide letter dated 06.07.2016. A reminder regarding the same was also sent on 31.08.2017 but the IA has not been signed till date.

It is to bring to the notice of the members that, in recent orders, CERC has been allocating the transmission charges of commissioned unutilized system on the defaulting entities.

NEEPCO may expedite the completion of HEP so that the ISTS system is put into regular service and intimate the present status/expected commissioning of the project.

NEEPCO may update. Members may also deliberate the issue of debt servicing of the funds deployed by POWERGRID and O&M of line.

(2) LOWER SUBANSIRI - BISWANATH CHARİYALI 400 KV TWO (2) D/C LINES

POWERGRID has been entrusted with the implementation of “North East - Northern / Western Interconnector - I”. The said transmission system interalia comprises of Transmission System for immediate evacuation of power from Lower Subansiri HEP(NHPC) as under:

- (a) Lower Subansiri – Biswanath Chariyali (Pooling Point) 400 kV two (2) D/C line with twin lapwing conductor
- (b) Extension of 400 kV line bays at Biswanath Chariyali Pooling Substation Transmission line



As per the investment approval, the 400 kV D/C Lower Subansiri – Biswanath Chariali Transmission lines (Line-I & II) was to be commissioned by February, 2013.

Due to mass agitation by various NGOs & student bodies with support from the local people protesting against construction of Lower Subansiri & other big dam projects, and their evacuating transmission lines, coming up in the neighbouring state of Arunachal Pradesh since early 2011, the progress of the works was adversely affected and the works came to a complete stop w.e.f. December 2011. As the Lower Subansiri Generation project is also stalled and the associated lines are meant for immediate evacuation of power, it would be prudent to match the lines with the Generation Project schedule. POWERGRID has already incurred exorbitant loss due to the inordinate delay in the project and the commissioning of the Generation unit and transmission line is uncertain.

NHPC may intimate the present status/commissioning schedule of the project.

NHPC may update. Members may also deliberate the issue of debt servicing of the funds deployed by POWERGRID and O&M of line.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

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| ITEM NO. A.21 : ISSUES WITH NER STATES - NERPSIP |
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1) MANIPUR

Lands for 33/11kV Takyel S/S is pending.

2) NAGALAND

Land for 33/11kV Wokha SS Aug. is pending (space constraint).

3) TRIPURA

a) Lands for following 7 nos. of new 33/11kV S/S is pending.

Dhalak – NOC from Education Dept. pending

Sekerkote – to be demarcated and handed over

Tila Bazar – to be demarcated and handed over



Ekinpur, Barpathari & Nidaya – Forest Land, clearance pending
Manughat – Yet to be acquired

- b) Existing 132kV Line & 33kV Line to be shifted by TSECL in 132/33kV Udaipur Extension Substation.
- c) Existing 11kV Line to be shifted by TSECL in Ambassa Extension S/S.
- d) Existing 11kV Gantry & 33kV Line to be shifted by TSECL in Kailasahar Extension Substation.
- e) Existing 11kV Line to be shifted by TSECL in Sabroom New Substation.

4) ARUNACHAL PRADESH:

Lands for 3 out of 24 nos. of new EHV substations, 28 out of 70 nos. of new DMS substation yet to be handed over.

EHV: Seijosa, Halaipani & Palin

DMS: Seijosa, Gohpur Tinali, Pappu Nalah, Kanubari, Thimbu, AIR Pasighat, Jeying, Giba, Maro, Diyun, Murimugli, Nacho, Nyapin, Sippi, Tali, Thalia, Boleng, Jenging, Kaying, Koreng, Maryang, Mechuka, Tuting, Bijari, Bolung, Haliapani, Hawaii & Wallong.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.22 : LAND COMPENSATION OF TRANSMISSION LINE CORRIDOR DURING CONSTRUCTION - NERPSIP

Modality for land compensation of transmission lines pending for Mizoram and Arunachal Pradesh are to be notify by respective State Govts.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.23 : IMPLEMENTATION OF SPS FOR TRANSFER OF 160 MW POWER TO BANGLADESH THROUGH TRIPURA-BANGLADESH LINK AND MODIFICATIONS SUGGESTED FOR OTHER SPSs IN NER - NERPC

In Special Meeting on SPS, UFR etc. held on 23.06.17, NERTS, POWERGRID presented the draft scheme to implement the suggested SPS for transfer of 160 MW



power to Bangladesh through Tripura-Bangladesh link. The Sub-Committee discussed the suggested schemes in detail and agreed in principle to implement the schemes.

The forum requested NERPC to take up the matter with CEA/CTU/NLDC for implementation at the earliest after vetting in OCC forum. Further, the forum expressed that to implement the above scheme, physical visit to their sub-stations and meeting with operation teams of Bangladesh is a must for security of NER Grid.

Member Secretary, NERPC stated that the visit to Bangladesh could not be planned without proper approval & funding, as NERPC Secretariat has no provision for funding such types of visit. Since CTU-POWERGRID is involved in construction of cross border transmission lines to Bangladesh border, Hence CTU may arrange meeting and visit to Bangladesh to resolve operational issues with Bangladesh.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

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| ITEM NO. A.24 : STATUS OF VARIOUS TRANSMISSION PROJETS BEING EXECUTED BY M/S STERLITE |
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In 18th TCC/RPC meeting it was approved that 400kV Surjamaninagar – P.K. Bari and 132kV AGTCCPP – P.K. Bari would be executed using Multi circuit towers and 132kV Biswanath Chariali – Itanagar would be implemented using Monopoles by M/s STERLITE.

During 18th NERPC Meeting held at Shillong on 11th October, 2017, M/s Sterlite has given the target date of completion of projects as below:

- The projects are targeted for completion by July, 2019 against the scheduled completion date of July, 2020. CEA requested to commission the projects by December, 2018 on best effort basis by adopting new technologies.
- NER States will be benefited for early completion of the projects and for the same new technology shall be used for construction
- The proposal is in principle approved by CEA. Necessary matching with readiness of



other related elements shall be finalized for early commissioning.

In addition the status of any other transmission projects being executed in NER by M/s STERLITE may please be updated.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.25 : INCLUSION OF NETC AS MEMBER OF NERPC - NETC

NETC vide letter dated 28.09.2016 had informed NERPC that North East Transmission Company Limited (NETC) is a JV of PGCIL, OTPC & six other States of NER and accordingly requested for full membership of NERPC forum for better co-ordination required for running the Palatana Transmission System.

Accordingly, this matter was put up and deliberated in 17th TCC & 17th NER Power Committee Meetings. TCC members agreed to grant NETC for full membership of NERPC. The recommendation of TCC was also endorsed by RPC. Accordingly, NERPC vide their letter No. NERPC/OP/Committee/2017/5154-55 dated March 29, 2017 had taken up the matter with CEA, New Delhi recommending the resolution as agreed by the NERPC forum. However, till date no intimation in this regard has been received by NETC.

Therefore, it is urged that the respected house of NERPC may again discuss the issue and take a suitable decision in this regard since NETC is only operating in NER and the number of members in NER is very few compare to other regions. Therefore, NETC may kindly be granted as full membership of NERPC.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.26 : DIVERSION OF 400 KV D/C SILCHAR-BYRNIHAT-AZARA TRANSMISSION LINE BETWEEN LOCATION NO. 573 TO 580 (2.33 KM) TO FACILITATE CONSTRUCTION OF TETELIA - BYRNIHAT RAILWAY LINE OF NORTHEAST FRONTIER RAILWAY (NFR).

This issue was deliberated in 134th OCC Meeting where in the members agreed to the proposal of NETC for booking of the diversion expenditure of Rs. 14.0 Cr. under PoC mechanism and recommended for approval of TCC and NERPC. Accordingly, this matter was put up and deliberated in 18th TCC & 18th NER Power Committee Meetings. TCC was of the opinion that Railways should deposit the amount on submission of DPR by NETC as is the norm followed by Railways for diversion of roads & Transmission lines. However, considering the intricacy the matter was subsequently referred for discussion to RPC. The RPC endorsed the view of TCC and it was decided that a Resolution in this regard will be adopted by Hon'ble Power Ministers of NER to Ministry of Power & Ministry of Railways to pay to NETC.

Chairman, NERPC accordingly vide his D. O letter: NERPC/Committee/2017 Dated 12th Oct 2017 enclosing a copy of the resolution adopted and signed by the Power Ministers NER in respect to the subject agenda had taken up the matter with the Union Minister of State for Power (I/c). Vide the said letter attention of the Union Minister was drawn to have a logical conclusion regarding bearing of the cost by Railways instead of by NETC for the diversion of the subject line to facilitate the construction of Railway line. However, till date no intimation in this regard has been received by NETC.

Therefore, it is urged that the respected house of NERPC may again discuss the issue and take a suitable decision in this regard.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :



**ITEM NO. A.27 : LAYING OF OPGW ON NETC TRANSMISSION ASSET –
COMMERCIAL MECHANISM THEREOF.**

The Regional Power Committee in its 15th & 17th NERPC meeting had approved the installation of OPGW by POWER GRID in the 400 KV D/C Palatana-Silchar-Byrnihat-Bongaigaon Transmission Lines (400 KV Palatana Transmission system) owned by NETC. Presently, installation of OPGW in NETC lines is being implemented by POWER GRID with no commercial advantage to NETC.

It is understood that, development of such Communication Infrastructure under NER Expansion project was approved by NERPC as a part of existing ULDC Scheme considering the need of dedicated and reliable communication (both voice & data) for better operation of Power System.

In such a large fibre optic based Communication Infrastructure after meeting the ULDC requirement, there remains enough spare capacity excluding the standby and spare capacity earmarked for the original requirement. It is now a general practice to use such unused fibre capacity for normal communication purposes instead of keeping as redundant. The redundant capacity of the existing NER ULDC fibre Network is thus being utilized by POWER GRID for telecom purposes for earning additional revenue after duly compensating towards OPGW cost.

In line with above, NETC is keen to utilize such redundant capacity thus generated due to laying of OPGW in NETC's infrastructure to generate additional revenue.

NETC being the owner of a single Transmission project has limited scope for expansion making it difficult to leverage O&M expenditure and any possibility of additional revenue generation would help NETC for its sustainability.

NETC therefore request the intervention of NERPC in the matter of finalization of commercial mechanism for utilizing such spare fibre capacity generated due to laying of OPGW to the satisfaction of concerned Stakeholders.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.28 : WITHDRAWAL OF CRPF DEPLOYED AT LOKTAK POWER STATION – NHPC.

NHPC informed vide Ministry of Home Affairs letter No. ID12013/2018/NHPC-Loktak(M)/PF-II Dated 28/09/2018 (copy enclosed), that the proposal for continuation of CRPF for security of Loktak Power Station had been examined in the Ministry and it has been decided to replace the CRPF with CISF for the security of the Loktak Power Station. CISF is requested to take over the security of Loktak Power Station, Manipur from CRPF by deploying equal number of manpower deployed by CRPF (710 Personnel) on internal security duty pattern, with immediate effect. Earlier, the same issue had been raised in 2011 and as per 11th TCC & 11th NERPC meeting held on 5th & 6th May 2011, NERPC & Govt. of Manipur along with NHPC had taken up the matter in 2012 with Ministry of Power, Govt of India to review the decision of withdrawal of CRPF.

The cost of deployment of CISF at Loktak Power Station, Manipur will have higher tariff implications. NHPC is pursuing with Ministry of Power (Copy of Letter enclosed) not to withdraw CRPF from Loktak Power Station.

The withdrawal; of CRPF will lead to a sense of insecurity amongst the employees affecting the operation and generation of Power Station. Further, the cost of deployment of 710 CISF personnel at Loktak Power Station will make the generated power substantially costlier (increase in tariff rates) for the beneficiary state i.e. North Eastern States.

Being an important issue concerning smooth operation of Loktak Power Station and as interest of North Eastern States is also involved, NHPC requests the forum to take up the matter, not to replace CRPF with CISF, through NERPC & NEC for an early review by Home Ministry, Govt. of India.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.29 : PROPOSAL FOR CONSIDERATION OF 220KV SALAKATI- AGIA LINE OF AEGCL AS DEEMED ISTS LINE FOR POC MECHANISM – AEGCL.

Around 30-70 MW load flow occurs on radial mode from 132Kv bus of 220Kv Agia GSS (AEGCL) to 132Kv Nangalbibra GSS (Meghalaya). This load of Meghalaya is catered by AEGCL through its 220KV BTPS-Agia line. In the light of CERC's order against the Petition No. 213/TT/2013 Dtd. 18.03.2015 of Rajasthan Rajya Vidyut Prasaran Nigam Ltd. {RRVPL} and Petition No. 88/TT/2017 Dtd. 19.12.2017 of Madhya Pradesh Power Transmission Company Ltd. {MPPTCL}; AEGCL request this forum to do the needful for inclusion of this 220KV Salakati-Agia line under the category of deemed ISTS line for PoC mechanism so that AEGCL gets the benefits of ISTS for justified reason.

The accounting of YTC cost for aforesaid line should also be considered in line with above mentioned CERC's order.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

2. CATEGORY - B : ITEMS FOR APPROVAL

ITEM NO. B.01 : REVIEW OF AUTOMATIC UNDER FREQUENCY LOAD SHEDDING (AUFLS) RELAY SETTINGS IN INDIAN POWER SYSTEM – NERPC

Director/SE (O&P) stated that the stages of the operation UFR from existing frequency band from 49.2 – 48.6 Hz (100MW) has been revised to 49.4 – 48.8 Hz (170MW) in four stages viz., 49.4 Hz, 49.2 Hz, 49.0 Hz, 48.8 Hz by NPC.

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During 148th OCC Meeting issue was deliberated and constituents agreed for implementation of revised band of frequency and quantum of shedding from:

EXISTING:

| Present UFR scheme | Total (MW) | Stg-I-49.2Hz 100 MW (all figs in MW) | Stg-II - 49.0Hz 100 MW (all figs in MW) | Stg-III- 48.8Hz 100 MW (all figs in MW) | Stg-IV - 48.6Hz 100 MW (all figs in MW) |
|--------------------|------------|--------------------------------------|---|---|---|
| AP | 20 | 5 | 5 | 5 | 5 |
| Assam | 220 | 55 | 55 | 55 | 55 |
| Manipur | 20 | 5 | 5 | 5 | 5 |
| Meghalaya | 60 | 15 | 15 | 15 | 15 |
| Mizoram | 20 | 5 | 5 | 5 | 5 |
| Nagaland | 20 | 5 | 5 | 5 | 5 |
| Tripura | 40 | 10 | 10 | 10 | 10 |
| Total | 400 | 100 | 100 | 100 | 100 |

TO REVISE:

| Proposed UFR scheme | Total (MW) | Stg-I-49.4hz 100 MW (all figs in MW) | Stg-II - 49.2Hz 100 MW (all figs in MW) | Stg-III-49.0Hz 100 MW (all figs in MW) | Stg-IV-48.8Hz 100 MW (all figs in MW) |
|---------------------|------------|--------------------------------------|---|--|---------------------------------------|
| AP | 34 | 10 | 10 | 10 | 10 |
| Assam | 374 | 90 | 90 | 90 | 90 |
| Manipur | 34 | 10 | 10 | 10 | 10 |
| Meghalaya | 102 | 25 | 25 | 25 | 25 |
| Mizoram | 34 | 5 | 5 | 5 | 5 |
| Nagaland | 34 | 10 | 10 | 10 | 10 |
| Tripura | 68 | 20 | 20 | 20 | 20 |



| Proposed UFR scheme | Total (MW) | Stg-I-49.4hz 100 MW (all figs in MW) | Stg-II - 49.2Hz 100 MW (all figs in MW) | Stg-III-49.0Hz 100 MW (all figs in MW) | Stg-IV-48.8Hz 100 MW (all figs in MW) |
|----------------------------|-------------------|---|--|---|--|
| Total | 680 | 170 | 170 | 170 | 170 |

As per calculation the load shed for Ar. Pradesh, Manipur and Nagaland are 8.5MW rounded off to 10MW.

For Mizoram since the demand met is less than 100MW no additional shedding is proposed.

During 148th OCC Meeting, the issue was deliberated and the forum recommended for approval of TCC/NERPC

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.02 : RELIABLE COMMUNICATION SCHEME UNDER CENTRAL SECTOR FOR NORTH-EASTERN REGION – POWERGRID

OPGW based communication network for Reliable Communication Scheme for North-Eastern Region totaling to 2125 kms along with communication equipments was discussed and agreed upon in the 18th NERPC/TCC meeting. Breakup of 2125kms of OPGW network is as below:

- (i) 816 kms. of OPGW along with communication equipments for replacement under Central Sector.
- (ii) 1158 kms. of OPGW along with communication equipments for redundant and additional links under Central Sector.
- (iii) 150 kms. of OPGW along with communication equipments for replacement in Meghalaya under State Sector.



As per approval 150 kms OPGW installation alongwith communication equipments at para (c) above to be implemented by the concerned state utility i.e. MeSEB and balance 1974 kms by POWERGRID (816 kms. for replacement and 1158 kms. for redundant and additional links for Central Sector).

As per discussions in 9th NETest Committee meeting, 132kV Aizawl – Jiribam line (175 Km) has been considered against CS1-CS2 link (95km) in 18th NERPC minutes (at Annexure-A.14). Accordingly, total requirement to be implemented by POWERGRID for Reliable Communication Scheme under Central Sector for North-Eastern Region shall be 2054kms at an estimated cost of Rs. 75 Crs.

The scheme will be implemented on cost plus basis. Tariff for the investment made is to be shared by all constituents as per applicable CERC regulation. The scheme shall become part of existing Commercial Agreement signed for ULDC Project.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.03 : PROCUREMENT OF 70 LAPTOPS WITH SOFTWARE BY POWERGRID – POWERGRID

(Refer Item No. D-40 of 145th OCC Meeting)

During deliberation in various Metering Meeting the forum decided to procure 70 nos. of Laptop with software by POWERGRID for downloading of meter reading by the constituents. Accordingly, POWERGRID prepared Cost estimate of Rs. 49.29 Lakhs (Rs. 37.02 Lakh for Laptop & Rs. 12.27 Lakh for software licence) and processed for tendering. However, due to implementation of GST the cost estimate had to be revised. Further, during post GST regime the original software also become obsolete / end of life. Accordingly, the revised cost estimate worked out to be Rs. 59.47 Lakh (Rs. 36.17 Lakh for Laptop & Rs. 23.29 Lakh for new software licence). During 145th OCC Meeting the forum opined to procure laptop through ongoing tendering at cost estimate of Rs. 36.17 Lakh and float separate tender for new software licence at cost estimate of Rs. 23.29 Lakhs). This will be one time procurement and cost to be recovered from the NER constituents.



Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.04 : PROCUREMENT OF REGIONAL SPARE 500MVA, 400/220kV TRANSFORMER AND 125MVAR, 420kV BUS REACTOR FOR NER – POWERGRID

Under various North Eastern Region Strengthening Scheme (NERSS) following Transformers and Reactors are going to be installed in NER by POWERGRID:

Transformer

- (a) Two (2) nos. of 500MVA, 400/220kV, 3-Phase Transformer at Misa (PG) Substation.
- (b) Two (2) nos. of 500MVA, 400/220kV, 3-Phase Transformer at Mariani (PG) Substation.

Bus Reactor

- (a) One (1) nos. of 125MVAR, 420kV, 3-Phase Bus Reactor at Balipara (PG) Substation.
- (b) One (1) nos. of 125MVAR, 420kV, 3-Phase Bus Reactor at Bongaigaon (PG) Substation.
- (c) One (1) nos. of 125MVAR, 420kV, 3-Phase Bus Reactor at Silchar (PG) Substation.
- (d) One (1) nos. of 125MVAR, 420kV, 3-Phase Bus Reactor at Imphal (PG) Substation.

However, there is no regional spare of Transformer and Reactor of above rating in NER which is likely to cause severe operational problem of Grid in the event of breakdown.

Accordingly, considering remoteness of the NE Region and also, longer lead time for repair / procurement of Transformer and Reactor, it is proposed to procure the following Transformers & Reactors as Regional Spare in NER against central sector

NER transmission system in line with the procurement carried out in earlier occasions obtaining approval of NERPC and Standing Committee:

- (a) one (1) no. of 500MVA, 400/220kV, 3-Phase Transformer and
- (b) one (1) no. of 125MVAR, 420kV, 3-Phase Reactor

The issue was deliberated in details in 146th OCC Meeting and the members approved the proposal in-principle and referred to next TCC/RPC meeting.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.05 : INSTALLATION OF LINE DIFFERENTIAL RELAYS IN TRANSMISSION LINE LENGTH LESS THAN 10 KM – POWERGRID

In 50th PCC Meeting it was decided to install Line Differential Relays for lines having length less than 10 Km. Accordingly, following lines are worked out for installation of Line Differential Relays:

| SN | Line | Length (CKm) |
|----|--|--------------|
| 1 | 132kV D/C RC Nagar – Agartala - I | 8.38 |
| 2 | 132kV D/C RC Nagar – Agartala - II | 8.38 |
| 3 | 132kV D/C Mokokchung – Mokokchung - I | 1.70 |
| 4 | 132kV D/C Mokokchung – Mokokchung - II | 1.70 |
| 5 | 132kV S/C Aizawl – Melriat | 12.00 |
| 6 | 132kV S/C Badarpur – Badarpur | 1.02 |
| 7 | 132kV S/C Imphal – Imphal – I | 1.50 |
| 8 | 132kV S/C Imphal – Imphal – II | 1.50 |
| 9 | 132kV S/C Kumarghat – PK Bari | 5.00 |



| SN | Line | Length (CKm) |
|-----------|--|---------------------|
| 10 | 132kV S/C Khliehriat – Khliehriat - I | 7.80 |
| 11 | 132kV S/C Dimapur (PG) – Dimapur (S) - Old | 0.65 |
| 12 | 132kV S/C Dimapur (PG) – Dimapur (S) - New | 0.65 |
| 13 | 220kV S/C Balipara - Tezpur | 8.62 |
| 14 | 220kV Salakati – BTPS - I | 2.70 |
| 15 | 220kV Salakati – BTPS - II | 2.70 |

The tentative expenditure for (1) Procurement of Relays, FO Cables, Connectors etc. and (2) OPGW for lines in SN 8 & 12 will be approximately Rs. 1.70 Crores (One Crores Seventy Lakhs Only). POWERGRID proposes to execute the job and recover the expenditure on PoC Mechanism obtaining approval of TCC & NERPC.

The issue was deliberated in details in 51st PCC Meeting and the members approved the proposal in-principle and referred to next TCC/RPC meeting.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.06 : REPLACEMENT OF OBSOLETE RTUs IN NERTS – POWERGRID

Under ULDC phase1 project in NER, M/S Alstom Make S900 RTUs were installed in various stations of NER including POWERGRID stations during 2001 - 2003. List of POWERGRID stations is given below:

| SN | Names of Stations | kV | Details of RTU |
|-----------|--------------------------|-----------|-----------------------|
| 1 | Badarpur | 132 | S900-GEC Alsthom |
| 2 | Jiribam | 132 | S900-GEC Alsthom |
| 3 | Aizawl | 132 | S900-GEC Alsthom |
| 4 | Kumarghat | 132 | S900-GEC Alsthom |

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| SN | Names of Stations | kV | Details of RTU |
|----|-------------------|-----|---|
| 5 | Haflong | 132 | S900-GEC Alsthom |
| 6 | Khliehriat | 132 | S900-GEC Alsthom |
| 7 | Imphal | 132 | S900-GEC Alsthom |
| 8 | Nirjuli | 132 | S900-GEC Alsthom |
| 9 | Balipara | 400 | S900-GEC Alsthom |
| 10 | Salakati | 220 | C264-Areva, old CPU type |
| 11 | Bongaigaon | 400 | S900-GEC Alsthom |
| 12 | Misa | 400 | S900-GEC Alsthom |
| 13 | Dimapur | 220 | S900-GEC Alsthom |
| 15 | Ziro | 132 | There was no RTU installed in ULDC phase at Ziro Sub Station. However, POWERGRID installed Calliston – Nx RTU for Remote operation and Data Communication without any cost booking. Presently, remote operation is being carried out using RTUs installed under RTAMC project. However, for Data Purpose the existing obsolete Calliston – Nx RTU is frequently hanging and requires replacement. |

Now, the S-900 RTUs of M/S Alstom has already become obsolete and there is no service support from OEM as well as availability of spares in market. POWERGRID is maintaining those RTUs departmentally till now but, all the spares got exhausted the maintenance has become difficult.

As 15 Years has already been completed, it is proposed to replace all the above RTUs under PoC Mechanism. The financial implication for the same will be around Rs. 5.00 Crores which is inclusive of AMC for 7 (1+6) years where supply of requisite



test tools, providing training, FRTU-Portable test RTU-2nos & minimum spare is also included.

The issue was deliberated in 148th OCC Meeting and the members agreed to the proposal of POWERGRID and recommended for approval of TCC / NERPC Members.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.07 : RECONDUCTORING OF 132KV KOPILI – KHANDONG LINE-1 (PGCIL) WITH HTLS CONDUCTOR INSTEAD OF ACSR PANTHER CONDUCTOR – 7th SCM & 18th NERPC (Item No. C.5)

The transformation capacity at Kopili is being enhanced to 2x160 MVA, 220/132kV after installation of 2nd ICT which is under progress. However, there are two 132 kV circuits between Kopili and Khandong HEP. The Circuit # 2 is strung with ACSR Zebra conductor but, the Old Circuit # 1 is strung with ACSR Panther conductor. Thus capacity of Circuit # 1 will limit the evacuation of power between Kopili and Khandong in the event of outage of Circuit # 2. Thus, to have (N-1) compliance between Kopili and Khandong HEP, the existing ACSR Panther Conductor needs to be replaced with HTLS Panther equivalent conductor.

The issue was deliberated in 18th TCC and 18th NERPC Meeting and the members agreed and referred the issue to SCM. Subsequently, in 7th SCM, Members agreed for replacement of existing ACSR panther conductor of 132kV Kopili – Khandong Line-1 by HTLS Conductor (ampacity equivalent to ACSR Zebra) and suitability up gradation of terminal equipment as per requirement.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. B.08 : MODIFICATIONS IN THE NERSS-II (PART B) AND NERSS - V SCHEMES – 7TH SCM & 18TH NERPC (ITEM NO. C.7)

During 6th Standing Committee Meeting of NER & 36th Empowered Committee Meeting, the following elements have been approved under final Scope of NERSS-II (Part-B) and NERSS-V schemes:

A. NERSS II (Part B)

- (a) Biswanath Chariyali (POWERGRID) – Itanagar 132kV D/c line.
- (b) 2 nos. 132kV line bays at Itanagar for termination of Biswanath Chariyali (POWERGRID) – Itanagar 132kV D/c line.
- (c) LILO of one circuit of Biswanath Chariyali (POWERGRID) – Itanagar 132kV D/c line at Gohpur (AEGCL)
- (d) Silchar (POWERGRID) – Misa (POWERGRID) 400kV D/c Line.

B. NERSS -V

- (a) Establishment of 400/132kV, 2 X 315MVA S/s at Surajmaninagar
- (b) Establishment of 400/132kV, 2 X 315MVA S/s at P.K. Bari
- (c) Surajmaninagar – P.K. Bari 400kV D/C line
- (d) 2 no. 400kV line bays at Palatana GBPP switchyard for termination of Palatana-Surajmaninagar 400kV D/c line
- (e) AGTCCPP (NEEPCO) – P.K.Bari (TSECL) 132kV D/c line with high capacity HTLS conductor
- (f) 2 no. 132 kV line bays at P.K. Bari (TSECL) S/s for termination of AGTCCPP (NEEPCO) – P.K. Bari (TSECL) 132kV D/c line.

Subsequently, the proposal was deliberated in 18th NERPC meeting, where the forum agreed in principle for following modifications/changes subject to deliberation and approval of SCM:

| SN | Old Provision | Modifications / changes (approved in 37th ECM) |
|----|---|--|
| 1 | Establishment of 400/132kV, 2x315MVA transformer at | Establishment of 400/132kV, 7x105MVA Single Phase transformers |



| SN | Old Provision | Modifications / changes (approved in 37th ECM) |
|-----------|---|--|
| | Surajmaninagar substation | (including one spare unit) at Surajmaninagar (ISTS) substation |
| 2 | Space for future 400kV line bays (including space for switchable line reactor): 4 no. at Surajmaninagar S/s | Space for future 400kV line bays (including space for switchable line reactor): 6 nos. at Surajmaninagar S/s (ISTS) |
| 3 | 132kV Line bays: 4 no. [2 no. for Surajmaninagar (TSECL) – Surajmaninagar (TBCB) 132kV D/C high capacity / HTLS (equivalent of single moose) line and 2 no. for future line] Space for 132kV future line bays: 4 no. | 132kV Line bays: 2 no. [for Surajmaninagar (TSECL) – Surajmaninagar (ISTS) 132kV D/C line [with high capacity / HTLS (equivalent of single moose)] and Space for 132kV future line bays: 6 nos. at Surajmaninagar (ISTS) |
| 4 | Establishment of 400/132 kV, 2x315 MVA transformer at P.K.Bari substation | Establishment of 400/132kV, 7x105MVA single phase transformers (including one spare unit) at P.K.Bari (ISTS) substation |
| 5 | Space for future 400kV line bays (including space for switchable line reactor): 4 no. at P K Bari S/s | Space for future 400kV line bays (including space for switchable line reactor): 6 nos. at P K Bari substation (ISTS) |
| 6 | 132kV Line bays: 2 no. [2 no. for P K Bari (TSECL) – P K Bari (TBCB) 132kV D/C high capacity/ HTLS (equivalent of single moose) line and 2 no. for future line] | 132kV Line bays: 2 no. [for P K Bari (TSECL) – P K Bari (ISTS) 132kV D/C line [with high capacity / HTLS (equivalent of single moose)] and Space for 132kV future line bays: 6 nos. at P K Bari substation (ISTS) |



| SN | Old Provision | Modifications / changes (approved in 37th ECM) |
|-----------|--|---|
| | Space for 132kV future line bays: 4 no. | |

During subsequent 7th SCM, members agreed for the above modification under NERSS-II (Part B) and NERSS-V schemes.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.09 : ESTABLISHMENT OF ROING (ARUNACHAL PRADESH) – CHAPAKHOWA (ASSAM) 132KV S/C LINE ON D/C TOWERS – 7th SCM

During 7th SCM, CEA informed that Arunachal Pradesh had proposed for establishment of Rupai (Assam) – Namsai (Arunachal Pradesh) 132kV S/c line on D/C towers for reliability & redundancy. Rupai – Chapakhowa 132kV S/C line on D/C towers (approx. 35km) is already under implementation in Assam under NERPSIP (Tranche-1) scheme. Namsai substation in Arunachal Pradesh is constructed by POWERGRID as part of Palatana – Bongaigaon scheme.

Further, in the meeting held at CEA on 25.11.2016, it was agreed for implementation of Roing (Arunachal Pradesh) – Chapakhowa (Assam) 132kV S/C line on D/c tower instead of Rupai (Assam) – Namsai (Arunachal Pradesh) 132kV S/C line on D/C towers which passes through hilly terrains and there is no space for 132 kV bay at Rupai S/S and the matter would be taken up in the SCM for implementation as ISTS line.

NERLDC informed that there is constraint in loading of Tinsukia – Rupai 132kV line that is connected through AGBPP. Rupai S/s is further connected to Chapakhowa S/s.

Chief Engineer, DoP Arunachal Pradesh stated that Roing (Arunachal Pradesh) – Chapakhowa (Assam) 132kV S/C on D/C towers is required for improving the



reliability of power supply to Arunachal Pradesh. In addition to this line, AGBPP – Namsai 220 kV link is also required for reliable power supply in Arunachal Pradesh. Member Secretary, NERPC stated that Namsai is being fed from RHEP through long 132kV radial system viz. Ranganadi – Ziro – Daporijo – Along – Passighat - Roing - Tezu – Namsai and there is need for second connectivity with Namsai. Connectivity between AGBPP and Namsai would increase reliability of power supply in Arunachal Pradesh.

The representative of NEEPCO informed that the availability of space at AGBPP needs to be checked.

The representative of CTU stated that the long 132kV network of Arunachal Pradesh viz. Ranganadi – Ziro – Daporijo – Along – Pasighat – Roing – Tezu – Namsai – Miao – Jairampur – Changlang – Khonsa – Deomail – AGBPP would be fed from Ranganadi & Pare HEPs at one end and AGBPP at other end. Thus, providing an additional feed [i.e. Roing (Arunachal Pradesh) – Chapakhowa (Assam) 132kV S/c line on D/c towers)] to this long 132kV network would improve the reliability of power supply to Arunachal Pradesh. The matter was also deliberated in the 18th TCC/NERPC meetings. The requirement of AGBPP – Namsai 220 kV link or other alternative proposals need to be studied in detail.

After detailed deliberation it is agreed in 7th SCM, implementation of Roing (Arunachal Pradesh) – Chapakhowa (Assam) 132kV S/C line on D/C tower as ISTS for system strengthening in NER.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.10 : REVIEWING OF “TRANSMISSION SYSTEM FOR PHASE-1 GENERATION PROJECTS IN ARUNACHAL PRADESH” SCHEME – 7th SCM

During 7th SCM, following was agreed:

The “Transmission system for Phase-1 generation projects in Arunachal Pradesh” scheme shall stand modified as under:



- (i) Establishment of 7x166 MVA, 400/220kV pooling station (GIS) at Dinchang in Arunachal Pradesh
- (ii) Dinchang - Rangia / Rowta Pooling station 400kV D/c line (with Quad Moose ACSR conductor)

With Deletion of following works from the scheme:

- (i) Establishment of 2x500MVA, 400/220kV substation at Rangia / Rowta
- (ii) LILO of both ckts of Balipara - Bongaigaon 400kV D/c (ACSR Twin Moose) line at Rangia / Rowta Pooling station

The modified scope of “Transmission system for Phase-1 generation projects in Arunachal Pradesh” scheme shall be taken up for implementation only after confirmation of commissioning schedule of associated hydro project (s) in Arunachal Pradesh.

The following scope of work would be implemented by Assam as an intra-state scheme:

- (i) Establishment of 2x500MVA, 400/220kV new GIS substation at Rangia / Rowta
- (ii) LILO of both circuits of Balipara - Bongaigaon 400kV D/c line (with Twin Moose ACSR conductor) at Rangia / Rowta Pooling station
- (iii) 420kV, 2x125MVA bus reactors along with associated bays
- (iv) 6 no. of 220kV line bays for planned 220kV outlets (Rangia, Amingaon and Rowta 220kV D/c lines)
- (v) Space provision for 6 no. of 220kV future line bays (for ISTS / Intra-state)
- (vi) Space provision for 8 no. of 400kV future line bays (including space for switchable line reactor) for ISTS lines terminating at this station
- (vii) Space provision for 400kV future line bays for state’s own requirement may be finalized by Assam.

Space provision for future ISTS: 2x500MVA, 400/220kV transformer along with associated bays at 220kV and 400kV levels.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. B.11 : STRENGTHENING OF TRANSMISSION SYSTEM IN ASSAM INCLUDING FORMATION OF SECOND 400KV NODE IN ER-NER CORRIDOR – 7th SCM

In the 5th SCM of NER, it was agreed that 2nd 400kV AC node in NER for interconnection with national grid is needed to address any eventuality at Bongaigaon S/s. Further, in the 6th SCM of NER, it was decided to build a new substation at Bornagar in Assam, with Bornagar (Assam, NER) – Parbotipur (Bangladesh) – Katihar (Bihar, ER) 765kV D/c line and back-to-back HVDC at Parbotipur. Bornagar S/s is required in Assam as second feed for interconnection with national grid. However, in the 14th JSC/JWG meetings held on 30th - 31st Jan 2018, it was decided that the NER-Bangladesh-ER interconnection may be re-examined considering the short-term and the long-term power transfer requirement as well as benefits of India and Bangladesh.

During 7th SCM, after detail deliberation, following were agreed to be implemented as an ISTS scheme:

- (i) Construction of 400kV Bornagar switching station
- (ii) LILO of Bongaigaon-Balipara 400kV D/C line (with Quad Moose ACSR conductor) at Bornagar
- (iii) Disconnection of Alipurduar – Bongaigaon 400kV D/C line (with Quad Moose ACSR conductor) from Bongaigaon end and termination of the same line at Bornagar S/s so as to form Alipurduar – Bornagar 400kV D/C line (with Quad Moose ACSR conductor)
- (iv) 2x125 MVAR, 420kV Bus Reactor at Bornagar

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.12 : INSTALLATION OF 80MVAR BUS REACTOR AT RANGANADI – 7TH SCM

As per the 5th & 6th SCM on Power System Planning for NER, it was decided to install 420kV, 80 MVAR bus reactor at Ranganadi with GIS bay. However, it could not be



implemented due to high excavation costs and environmental issues. Further, as per OCC meeting of NERPC, 80MVAR Bus reactor is required at Ranganadi.

Representative of CTU stated that the NEEPCO may install the 420 kV, 80MVAR Bus reactor at Ranganadi with GIS bay. NEEPCO have to bear the cost of GIS bay & Reactor and the proposal for tariff revision may be submitted to CERC.

NEEPCO had informed that the commissioning of the 80MVAR bus reactors would require at least 3 to 4 years. Cost of installation of 80 MVAR Reactor is very high. Tariff of Ranganadi HEP will further increase after installation of 420kV, 80 MVAR bus Reactor with GIS bay.

Superintendent Engineer, NERPC stated that cost of Reactor would be borne by the beneficiaries of the asset.

The representative of AEGCL informed that Assam is facing high voltage problem at 132kV Gohpur substation, so installation of reactor is required to resolve overvoltage problem.

During 7th SCM, it was discussed that installation of 1x80MVAR, 420kV Bus Reactor at Ranganadi was agreed as a technical requirement. NEEPCO may recover the tariff from beneficiaries as per CERC regulations after installation of Reactors at Ranganadi. After detailed deliberations in 7th SCM, it was agreed to install 1x80MVAR, 400kV Bus reactor along with associated GIS Bay by NEEPCO at Ranganadi.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.13 : 500MW HVDC BACK-TO-BACK STATION AT NORTH COMILLA (BANGLADESH) FOR TRANSFER OF POWER THROUGH SURJAMANINAGAR – NORTH COMILLA LINK – 7TH SCM

During 7th SCM, it was discussed that in the 13th JSC/JWG meetings on Indo-Bangladesh Cooperation in power sector held on 27-28th September 2017, it was decided to take up implementation of 500MW HVDC Back-to-Back terminal at North



Comilla (Horindhora) and 400kV operation of Surjamaninagar – North Comilla link (presently operating at 132kV) to enhance the export of power from about 160MW to 500MW to Bangladesh.

Further, it was deliberated that for 400kV operation of the Surjamaninagar – North Comilla link, the line needs to be shifted from 132kV bus of Surajmaninagar (TSECL) 132kV S/s to 400kV bus of Surajmaninagar 400/132kV S/s (ISTS) being implemented under NERSS-V. This shall involve construction of additional line section at Surjamaninagar (ISTS) end and 2nos. of 400kV line bays at Surajmaninagar S/s (ISTS) for termination of Surajmaninagar – North Comilla 400 kV D/c line.

The representative of CTU informed that the commissioning of Surjamaninagar (India) – North Comilla (Bangladesh) 400kV D/C line in Indian Territory with back-to-back HVDC at North Comilla is expected by December 2020.

Members agreed for 400kV operation of Surjamaninagar (India) – North Comilla (Bangladesh) 400kV D/C line in the Indian Territory for export of power of the order of 500MW to Bangladesh with following scope of works:

- (i) Operation of Surajmaninagar (TSECL) – North Comilla 400kV D/c line (presently operated at 132kV) at 400kV by terminating at 400kV Bus of *Surajmaninagar S/s (ISTS) so as to form Surajmaninagar (ISTS) – North Comilla 400kV D/c line.
- (ii) 2 nos. 400kV line bays at *Surajmaninagar S/S (ISTS) for termination of Surajmaninagar (ISTS) – North Comilla 400kV D/c line

*Note: *Surajmaninagar 400/132kV ISTS S/s is being implemented under NERSS-V scheme through TBCB route: expected commissioning schedule as per RfP is July 2020.*

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. B.14 : MODIFICATION IN SCHEME - ADDITIONAL ±800KV HVDC CORRIDOR IN THE CHICKEN NECK AREA UNDER NORTH EAST – NORTHERN/WESTERN INTERCONNECTOR PROJECT – 7TH SCM

The representative of CTU stated that in view of huge hydro potential in NER, Sikkim and Bhutan, the construction of a high capacity HVDC line connecting NER with rest of the Indian grid was envisaged along with provision of three additional corridors in the Chicken Neck area for future HVDC lines. In the 6th SCM of NER held on 03-10-2016, it was agreed to delete stringing and anti-theft charging of additional three HVDC lines in the chicken neck area. However, in order to avoid theft of tower members of the erected towers in the additional three HVDC corridors, tack welding up to cross arm level of towers was approved. POWERGRID informed that the foundation works on the entire corridor (i.e for three additional corridors) has been completed. However, tower erection at seven locations could not be completed due to stiff resistance from local people.

The representative of POWERGRID requested to delete the scope of tower erection at these seven locations in the chicken neck from the scope of works as the objective of blocking the corridor for HVDC lines has been achieved and the erection of towers at these seven locations in the chicken neck area would be taken up at the time of implementation of the HVDC lines in the corridors.

After detailed deliberations in 7th SCM, following were agreed:

- (i) The erection of towers at seven locations in the chicken neck area would be deleted from the scope of works covered under “Additional ±800kV HVDC Corridor in the chicken neck area under North East – Northern/Western Interconnector Project” scheme.
- (ii) The erection of towers at these seven locations in the chicken neck area would be taken up at the time of implementation of the HVDC lines in these corridors.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

NORTH EASTERN REGIONAL POWER COMMITTEE



ITEM NO. B.15 : DOWNSTREAM SYSTEM DEVELOPMENT BY STUs FROM THE VARIOUS COMMISSIONED AND ON-GOING ISTS SUBSTATIONS – 7TH SCM

The downstream 220kV or 132kV system to be developed by ISTS licensee / STUs from the various commissioned /on-going ISTS substations is as below:

| SN | ISTS S/s | Trans. Cap | Voltage level (kV) | Total no. of Bays | Lines emanating from S/s | No. of circuit | Status of Lines | Remarks |
|----|--------------------|--------------------------------|--------------------|---|--|----------------|---------------------------|---|
| 1 | Biswanath Chariali | 400/132kV 2x200MVA | 132 | 2 - Existing | BiswanathChariali-Pavoi | 2 | Existing | |
| | | | | 2 - to be awarded | Biswanath Chariali – Itanagar | 2 | Under TBCB | NERSS-II Part-B (RfP Schedule Mar 2020) |
| 2 | Bongai gaon | 400/220kV 1x315MVA+1x315MVA | 220 | 2 - Awarded | Bongaigaon-Salakati | 2 | Under Const. by POWERGRID | NERSS-III (Exp. Comm. Sept 2018) |
| 3 | Surajmaninagar | 400/132kV, 2x315MVA | 132 | 2 - (RfP Schedule Jul 2020) | Surajmaninagar (TSECL) – Surajmaninagar (TBCB) | 2 | Tripura to update | NERSS-V |
| 4 | P. K. Bari | 400/132kV, 2x315MVA | 132 | 2 - (RfP Schedule Jul 2020) | P. K. Bari (TSECL) – P. K. Bari (TBCB) | 2 | Tripura to update | NERSS-V |
| 5 | New Mariani | 400/220kV, 2x500MVA | 220 | 2 - to be awarded | New Mariani – Mariani | 2 | Assam to update | NERSS-VI |
| 6 | New Kohima | 400/220kV, 2x500MVA | 220 | 2 - (RfP Schedule Jul 2020) | New Kohima (TBCB) – New Kohima (Nagaland) | 2 | Nagaland to update | NERSS-VI |
| 7 | Rangia | 400/220kV, 2x500MVA | 220 | 6 - Rangia S/s implementation is being reviewed | Rangia (TBCB) – Rangia (Assam) | 2 | Assam to update | Trans. Sys. for Phase-1 IPPs in Arunachal Pradesh |
| | | | | | Rangia (TBCB) - Amingaon (AEGCL) | 2 | Assam to update | |
| | | | | | Rangia (TBCB) - Rowta (AEGCL) | 2 | Assam to update | |

- CTU stated that downstream intra-state system mentioned above should be



ready in matching time frame and states of NER should expedite the works at their substation.

- Assam informed that the Mariani - New Mariani (POWERGRID) 220kV D/C line would be available in matching time frame of the substation upgradation.
- Further, it was informed that following bays has been modified in the previous SCM and NERPC Meeting at different substation of NER as per the requisition of the states.
 - (i) 2 nos. of 132kV line bays at both Surajmaninagar and P.K. Bari S/s - **DELETED**
 - (ii) 2 nos. of additional 132kV line bays at both Surajmaninagar and P.K. Bari substations for future usage of TSECL - **PROVISION OF SPACE FOR 2 NOS. FUTURE BAYS.**
 - (iii) 2 nos. of 220kV bays at New Kohima 400/220 kV S/S - **DELETED**
 - (iv) 2 nos. of 220 kV future bays at New Kohima - **PROVISION OF SPACE FOR 2NOS. FUTURE BAYS.**
 - (v) 220kV line bays from four to six on request of Assam at Rangia / Rowta 400/220kV S/s - **ADDITION OF 2 NOS. 220KV BAYS**
 - (vi) 2 nos. of 220kV bays at Bongaigaon substation may be deleted (viz. from four to two bays) - **DELETED**
- Tripura stated that 400 kV S/S at Surajmaninagar (ISTS) would be at a distance of 10 KM from exiting Surajmaninagar S/S (TSECL) and 400 kV S/S at P.K. Bari (ISTS) would be at a distance of 8 km from existing P.K. Bari substation (TSECL). 400 kV substations at Surajmaninagar and P.K.Bari are being constructed by M/s Sterlite under NERSS-V through TBCB route. Due to shifting of location of substations, the length of 132kV links has increased. He stated that while finalizing the locations of 400 kV proposed substations, no interaction was made with TSECL by the Sterlite. Further, Tripura stated that it is very difficult to construct the 132 kV line from Surajmaninagar (ISTS) to Surajmaninagar (TSECL) and P.K.Bari (ISTS) to P.K.Bari (TSECL) without any financial assistance. Tripura cannot bear the additional financial burden to construct these lines due to shifting of locations of these substations. In



Tripura, most of the transmission system as well as distribution system have been constructed only by Govt. of India funding or grant by some other agencies.

- Member (PS) stated that for funding for these lines, Tripura may submit the proposal to MoP with intimation to CEA.
- Representative from Nagaland was not present. The status of bays at New Kohima could not be discussed.
- CEA requested Member Secretary (NERPC) to take up the matter with Mizoram and other NER states for expediting the intra-state works so that the transmission assets created are effectively utilized.

After detailed deliberations in 7th SCM, following were agreed:

- (i) NERPC will take up the matter in respect of commissioning and operation of Sihhmui S/s of Mizoram.
 - (ii) Mariani-New Mariani (POWERGRID) 220kV D/c line would be available in matching time frame of the substation upgradation.
 - (iii) Following bays would be modified at different substation of NER as per the requisition of the states.
 - (a) 2 nos. of 132kV line bays at both Surajmaninagar and P.K. Bari S/s – **DELETED**
 - (b) 2 nos. of additional 132kV line bays at both Surajmaninagar and P.K. Bari substations for future usage of TSECL - **PROVISION OF SPACE FOR 2 NOS. FUTURE BAYS**
 - (c) 2 nos. of 220kV bays at New Kohima 400/220 kV S/S - **DELETED**
 - (d) 2 nos. of 220 kV future bays at New Kohima - **PROVISION OF SPACE FOR 2 NOS. FUTURE BAYS**
 - (e) 220kV line bays from four to six on request of Assam at Rangia / Rowta 400/220kV S/s - **ADDITION OF 2NOS. 220KV BAYS**
 - (f) 2 nos. of 220kV bays at Bongaigaon substation may be deleted (viz. from four to two bays) - **DELETED**
- Matter regarding construction of 132 kV D/c lines from Surajmaninagar (ISTS) to Surajmaninagar (TSECL) and P.K.Bari (ISTS) to P.K.Bari (TSECL) would be



discussed in CEA.

Based on the above discussion, the downstream table is updated as follows:

| SN | ISTS S/s | Voltage ratio, Trans. Cap | Voltage level (kV) | Total no. of Bays | Lines emanating from S/s | No. of circuit | Status of Lines | Remarks |
|----|--------------------|-------------------------------------|--------------------|-----------------------------|--|----------------|--|---|
| 1 | Biswanath Chariali | 400/132kV, 2x200MVA | 132 | 2 - Existing | Biswanath Chariali- Pavo | 2 | Existing | |
| | | | | 2 - to be awarded | Biswanath Chariali – Itanagar | 2 | Under TBCB | NERSS-II Part-B (RfP Schedule Mar 2020) |
| 2 | Bongaigaon | 400/220kV, 1x315MVA +1x315MVA | 220 | 2 - Awarded | Bongaigaon-Salakati | 2 | Under Const. by POWERGRID | NERSS-III (Exp. Comm. Sept 2018) |
| 3 | Surajmaninagar | 400/132kV, 2x315MVA | 132 | 2 - (RfP Schedule Jul 2020) | Surajmaninagar (TSECL) – Surajmaninagar (TBCB) | 2 | Matter to be discussed in CEA meeting | NERSS-V |
| 4 | P. K. Bari | 400/132kV, 2x315MVA | 132 | 2 - (RfP Schedule Jul 2020) | P. K. Bari (TSECL) – P. K. Bari (TBCB) | 2 | | NERSS-V |
| 5 | New Mariani | 400/220kV, 2x500MVA | 220 | 2 - to be awarded | New Mariani – Mariani | 2 | AEGCL to implement in matching timeframe | NERSS-VI |
| 6 | New Kohima | 400/220kV, 2x500MVA | 220 | 2 - (RfP Schedule Jul 2020) | New Kohima (TBCB) – New Kohima (Nagaland) | 2 | Nagaland to update | NERSS-VI |

Note: Rangia 400/220kV S/s would be implemented by AEGCL (Assam) as an intra-state scheme.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :



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|---|
| ITEM NO. B.16 : NORTH EAST - NORTHERN / WESTERN INTERCONNECTOR - I PROJECT - 7TH SCM |
|---|

During 7th SCM, the representative of POWERGRID stated that keeping in view the hydro potential in NER, Sikkim & Bhutan, the construction of Lower Subansiri (2000MW) and Kameng (600MW) hydro projects in NER and availability of surplus power in NER, ± 800 kV Biswanath Chariali – Agra HVDC Bipole line along with other AC system was planned as part of the subject project.

For implementation purpose, the scheme was divided into three parts. However, single investment approval from POWERGRID's Board of Directors was taken for the complete scheme as per the following scope of works.

Part-A: North East – Northern / Western Interconnector – I

- (i) Biswanath Chariyali – Agra ± 800 kV, 6000MW HVDC bipole line
(This includes 22km of four (4) nos. of corridors with ± 800 kV HVDC towers in the chicken neck area. Two of the corridors would be utilised by stringing of the BiswanathChariyali – Agra HVDC bipole line (one pole in each corridor) while the other two corridors would be strung with single panther conductor per corridor charged at 132kV. Further, this would include Earth Electrode line of 50km length at BiswanathChariyali end and of 40km length at Agra end.)
- (ii) Balipara – Bishwanath Chariyali 400kV D/c line
- (iii) LILO of Ranganadi – Balipara 400kV D/c line at Biswanath Chariyali (the existing 2x50MVA line reactors at Balipara end to be made switchable after LILO)
- (iv) Biswanath Chariyali – Biswanath Chariyali (AEGCL) 132kV D/c line
- (v) Establishment of 400/132kV Pooling Station at Biswanath Chariyali with 2x200MVA, 400/132/33 kV transformers alongwith associated line bays
- (vi) HVDC rectifier module of 3000MW at Biswanath Chariyali and inverter module of 3000MW capacity at Agra
- (vii) Augmentation of 400kV Agra substation by 1x315MVA (4x105MVA), 400/220/33kV transformer alongwith associated bays
- (viii) Extension of 400kV line bays at Balipara substation



- (ix) Extension of 132kV line bays at Biswanath Chariyali (AEGCL) substation
- (x) 420kV, 2x80MVAR bus reactor at Biswanath Chariyali
- (xi) 420kV, 1x80MVAR bus reactor at Bongaigaon

Part-B: Transmission System for immediate evacuation of power from Kameng HEP

- (i) Kameng – Balipara 400kV D/c line
- (ii) Balipara – Bongaigaon 400kV D/c line (Quad conductor) with 30% Fixed Series Compensation (FSC) at Balipara end
- (iii) 400/220kV, 315MVA 2nd ICT at Misa
- (iv) Extension of 400kV line bays at Bongaigaon and Balipara substations
- (v) 420kV, 1x80MVAR bus reactor at Balipara
- (vi) 1x63MVAR fixed line reactor at both ends on each circuits of Balipara – Bongaigaon 400kV D/c line (total 4 no. of reactors)

Part-C: Transmission System for immediate evacuation of power from Lower Subansiri HEP

- (i) Lower Subansiri – Biswanath Chariyali (Pooling Point) 400kV 2xD/c line with twin lapwing conductor
- (ii) Extension of 400kV line bays at Biswanath Chariyali Pooling Substation
- (iii) 1x63MVAR switchable line reactor at Biswanath Chariyali end on each circuits of Lower Subansiri – Biswanath Chariyali 400kV 2xD/c line (total 4 no. of reactors)

All the elements of **Part-A** and **Part-B**, have been commissioned. **Part-C** inter alia includes immediate evacuation line for Lower Subansiri HEP (2000MW) of NHPC viz. Lower Subansiri – Biswanath Chariyali 400kV 2x D/C line with twin lapwing conductor. The Lower Subansiri HEP is delayed and completion of hydro project would take 4 years from restart of works. The transmission line scheme is being short closed on account of uncertainty in implementation of the associated generation project.



The Lower Subansiri – Biswanath Chariyali lines were planned along with 4x63MVAR line reactors at Biswanath Chariyali end. In order to control high voltage in the NER grid under off-peak or low hydro scenarios, out of four 63MVAR line reactors at Biswanath Chariyali, two reactors were approved to be installed as bus reactors at Biswanath Chariyali S/s itself in the 6th SCM of NER held on 03-10-2016. The said 2x63MVAR reactors have been commissioned as bus reactors.

In the 6th SCM of NER held on 03-10-2016, it was agreed to delete stringing and anti-theft charging of additional three HVDC lines in the chicken neck area. However, in order to avoid theft of tower members of the erected towers in the additional three HVDC corridors, tack welding up to cross arm level of towers was approved.

In the 33rd and 34th SCM of NR held on 23-12-2013 and 08-08-2014 respectively it has been approved to replace the 50MVAR line reactors at Agra end of Agra – Sikar 400kV D/c line with 80MVAR line reactors as part of North East – Northern / Western Interconnector-I Project. The same has been commissioned.

In view of the above, POWERGRID requested that Part-C of the project except the 2x63MVAR switchable line reactors (installed as bus reactor) at Biswanath Chariyali may be delinked from the main scheme and may be taken up as an independent scheme as “Transmission System for immediate evacuation of power from Lower Subansiri HEP”.

Director (PSPA-2) stated that POWERGRID has requested for the revised name and following scope of works of two schemes:

(a) NORTH EAST – NORTHERN / WESTERN INTERCONNECTOR-I PROJECT

(i) Part-A: North East – Northern / Western Interconnector – I

(i) Biswanath Chariyali – Agra ± 800 kV, 6000MW HVDC bipole line

*(This includes 22km of four (4) nos. of corridors with ± 800 kV HVDC towers in the chicken neck area. One corridor is to be utilised by the above HVDC bipole line. In the other three corridors, tack-welding upto cross-arm level of towers needs to be carried out to avoid theft of tower members. Further, this would include Earth Electrode line of 50km length at BiswanathChariyali end and of 40km length at Agra end.)



- (ii) Balipara – Bishwanath Chariyali 400kV D/c line
 - (iii) LILO of Ranganadi – Balipara 400kV D/c line at Biswanath Chariyali (the existing 2x50MVAR line reactors at Balipara end to be made switchable after LILO)
 - (iv) Biswanath Chariyali – Biswanath Chariyali (AEGCL) 132kV D/c line
 - (v) Establishment of 400/132kV Pooling Station at Biswanath Chariyali with 2x200MVA, 400/132/33 kV transformers alongwith associated line bays
 - (vi) HVDC rectifier module of 3000MW at BiswanathChariyali and inverter module of 3000MW capacity at Agra
 - (vii) Augmentation of 400kV Agra substation by 1x315MVA (4x105MVA), 400/220/33kV transformer alongwith associated bays
 - (viii) Extension of 400kV line bays at Balipara substation
 - (ix) Extension of 132kV line bays at BiswanathChariyali (AEGCL) substation
 - (x) 420kV, 2x80MVAR bus reactor at Biswanath Chariyali
 - (xi) 420kV, 1x80MVAR bus reactor at Bongaigaon
- (ii) Part-B: Transmission System for immediate evacuation of power from Kameng HEP**
- (i) Kameng – Balipara 400kV D/c line
 - (ii) Balipara – Bongaigaon 400kV D/c line (Quad conductor) with 30% Fixed Series Compensation (FSC) at Balipara end
 - (iii) 400/220kV, 315MVA 2nd ICT at Misa
 - (iv) Extension of 400kV line bays at Bongaigaon and Balipara substations
 - (v) 420kV, 1x80MVAR bus reactor at Balipara
 - (vi) 1x63MVAR fixed line reactor at both ends on each circuits of Balipara – Bongaigaon 400kV D/c line (total 4 no. of reactors)
 - (vii) Installation of 2x63MVAR switchable line reactor of Biswanath Chariyali end of Lower Subansiri – Biswanath Chariyali 400kV 2xD/c line as bus reactor at BiswanathChariyali S/s



(viii) Replacement of 50MVAR line reactors at Agra end of Agra – Sikar 400kV D/c line with 80MVAR line reactors (total 2 reactors)

(b) TRANSMISSION SYSTEM FOR IMMEDIATE EVACUATION OF POWER FROM LOWER SUBANSIRI HEP

- (i) Lower Subansiri – BiswanathChariyali (Pooling Point) 400kV 2xD/c line with twin lapwing conductor
- (ii) Extension of 400kV line bays at BiswanathChariyali Pooling Substation
- (iii) Installation of new 1x63MVAR switchable line reactor at BiswanathChariyali end on each circuits of Lower Subansiri – BiswanathChariyali 400kV 1st D/c line.
- (iv) The existing 2x63MVAR switchable line reactors installed as bus reactors at BiswanathChariyali end (under the North East – Northern / Western Interconnector-I Project) are to be reinstalled as switchable line reactors in the Lower Subansiri – BiswanathChariyali 400kV 2nd D/c line.

During 7th SCM, members agreed for above revised name and scope of works of two schemes as mentioned at (a) and (b).

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.17 : IMPLEMENTATION OF ADDITIONAL 132 KV TRANSMISSION SYSTEM PROPOSED BY ARUNACHAL PRADESH UNDER COMPREHENSIVE SCHEME OF ARUNACHAL PRADESH – 7TH SCM

During 7th SCM, it was stated that the following additional proposal of Ar. Pradesh for implementation under Comprehensive Scheme of Arunachal Pradesh had been discussed and agreed in the meeting held in CEA on 05.12.2017 under the Chairmanship of Member (Power System).

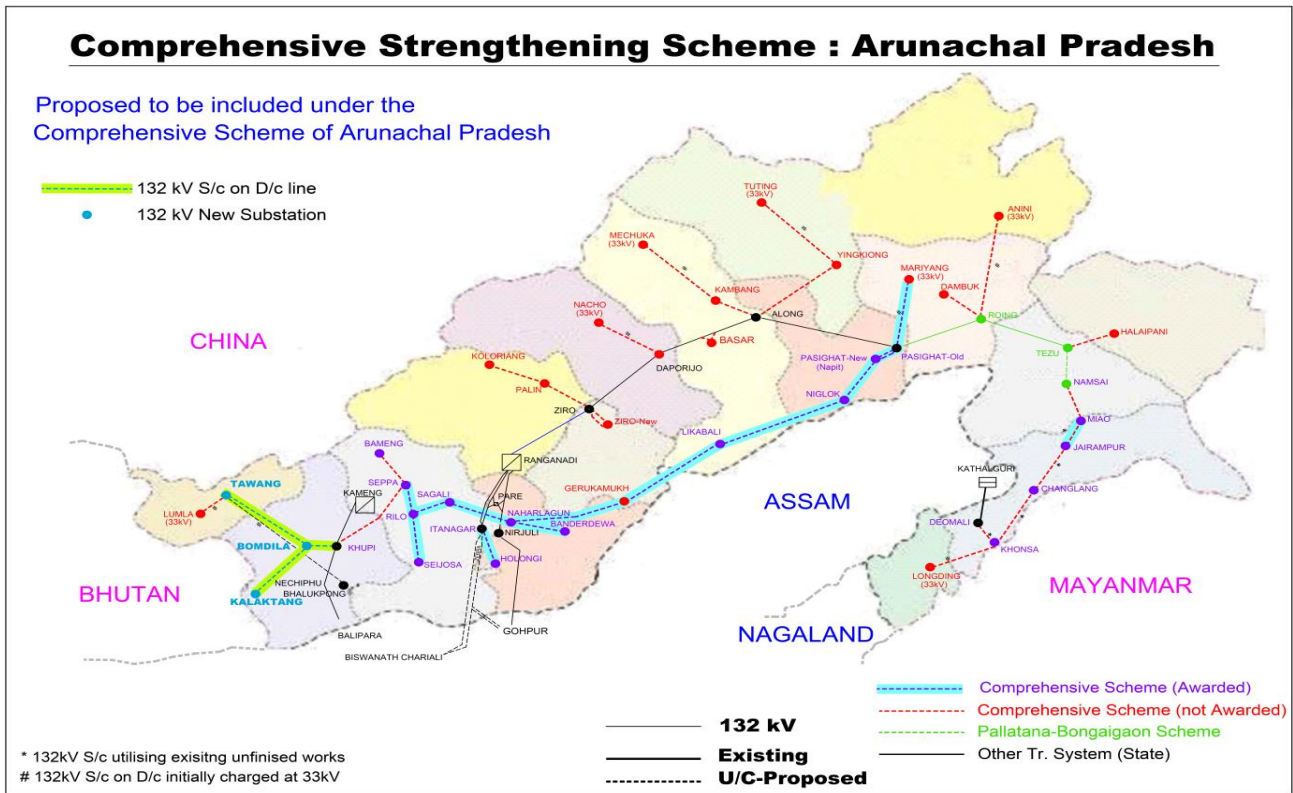


- (i) Khupi – Bomdila – Tawang 132kV S/c line on D/c tower alongwith 7x5MVA 132/33kV S/s each at Bomdila & Tawang
- (ii) Bomdila – Kalaktang 132kV S/c line on D/c tower alongwith 4x5MVA 132/33kV S/s at Kalaktang

It was agreed that the matter would be taken up with MoP for approval and inclusion of the above works in the ongoing Comprehensive Scheme of Ar. Pradesh.

In 7th SCM, members agreed for implementation of following additional 132 kV scheme under the on-going Comprehensive Scheme of Arunachal Pradesh:

- (i) Khupi – Bomdila – Tawang 132kV S/c line on D/c towers along with 7x5MVA, 132/33kV substation each at Bomdila & Tawang
- (ii) Bomdila – Kalaktang 132kV S/c line on D/c towers along with 4x5MVA 132/33kV S/s at Kalaktang



Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. B.18 : SHIFTING PDC SYSTEM FROM SLDC ARUNACHAL PRADESH TO SLDC TRIPURA DUE TO SPACE CONSTRAINT AT SLDC AP AT CHIMPU SS – POWERGRID

Due to space constraints in present SLDC of Arunachal Pradesh at Chimpu Substation, PDC installation could not be done under URTDSM Phase1. Accordingly, during 149th OCCM, members decided for shifting the PDC to SLDC Tripura.

Members may like to discuss.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.19 : ENHANCEMENT OF TRANSFORMATION CAPACITY FROM 2X315 MVA 400/220KV TO 2X500MVA 400/220KV FOR ESTABLISHMENT OF 400/220KV SONAPUR GSS IN EASTERN PART OF GUWAHATI TO BE IMPLEMENTED BY AEGCL AS AN INTRA_STATE SCHEME – AEGCL

During 5th SCM & subsequent NERPC, the proposal of AEGCL for establishment of 2X315 MVA, 400/220KV GSS at Sonapur was approved. However, CEA has recently advised AEGCL to enhance the transformation capacity from 2X 315 MVA to 2X 500 MVA.

Placed for in-principle approval for enhancement of Transformation capacity. Subsequently, approval will be obtained in 8th SCM.

Members may kindly approve.

TCC Deliberation :

NERPC Deliberation :



3. CATEGORY - C : COMMERCIAL ISSUES

ITEM NO. C.01 : DEFAULT IN PAYMENT OF OUTSTANDING DUES BY BENEFICIARIES – POWERGRID

The details of outstanding dues for more than 60 days as on 16.11.2018 in respect of defaulting beneficiaries of POWERGRID are as under (Figures in INR Crores):

| SN | NAME OF THE DIC | 60-90 DAYS | >90 DAYS | TOTAL |
|----|-----------------|------------|----------|-------|
| 1 | Manipur | 3.54 | 2.98 | 6.52 |
| 2 | Meghalaya | 2.78 | 14.48 | 17.26 |
| 3 | TSECL | 0.00 | 1.43 | 1.43 |
| | TOTAL | 6.32 | 18.89 | 25.21 |

The concerned utilities may liquidate the outstanding dues on priority.

Members may update the status.

ITEM NO. C.02 : OPENING OF LETTER OF CREDIT – POWERGRID

Details of DICs with deficient LC is given in the below table. DICs are requested to enhance the LC to required amount expeditiously.

| SN | DIC NAME | LC | | Remarks |
|----|----------|----------|-----------|---|
| | | REQUIRED | AVAILABLE | |
| 1 | Manipur | 4.31 | 2.37 | LC extension for 1 year and enhancement by an amount of ` 1.94 Cr is required to be done by DIC |
| 2 | Tripura | 3.79 | 3.25 | LC enhancement by an amount of Rs. 0.54 Cr is required to be done by DIC |

(Figure in INR Crores)

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ITEM NO. C.03 : LIQUIDATION OF OUTSTANDING BY MEECL – NTPC

An outstanding due more than 60 days as on 19.11.2018 is Rs 204.56 Crore.

| SN | Beneficiaries | Total Outstanding in Cr. | Outstanding more than 60 days |
|----------------|------------------|--------------------------|-------------------------------|
| 1 | MeECL, Meghalaya | 226.86 | 204.56 |
| Total = | | 226.86 | 204.56 |

Meghalaya is requested to make payment at the earliest.

ITEM NO. C.04 : OPENING OF LETTER OF CREDIT – NTPC

Following beneficiaries have not yet opened the LC of required amounts after commercial operation of BgTPP U#2.

| SN | Beneficiaries | LC Required As per PPA (Cr.) | Remarks |
|----|------------------------|------------------------------|---|
| 1 | MeECL, Meghalaya | 8.75 | Not yet opened |
| 2 | DoP, Arunachal Pradesh | 8.79 | LC opened for Rs 4.01 Crs. LC to be enhanced. |
| 3 | MSPDCL, Manipur | 7.95 | Not yet opened |
| 4 | TSECL, Tripura | 11.08 | Not yet opened |

MeECL, DoP Arunachal, MSPDCL, TSECL is requested to open the LC of requisite value.

ITEM NO. C.05 : OUTSTANDING DUES OF NHPC FOR MORE THAN 60 DAYS – NHPC



MeECL, Meghalaya

As per MeECL letter No.251 dated 31.01.2017 entire outstanding dues had to cleared by August, 2017; But till date, MeECL Meghalaya have not clear the entire dues despite repeated reminders.

As on date, an amount of Rs. 25.72 CRS (including surcharge of Rs.14.69 CRS up to 31.07.2018) is due for payment from MeECL, Meghalaya. IT is reiterated that amount outstanding beyond a period of 60 days from date of billing is attracting late payment surcharge at the rate of 1.50% per month as per CERC (Term & Condition of Tariff) Regulation, 2014. The auditors are stressing upon NHPC to settle the issue of pending huge outstanding dues at the earliest.

MeECL, Meghalaya is requested to liquidate the entire outstanding dues as early as possible.

ITEM NO. C.06 : PENDING PAYMENTS – NHPC

Power & Electricity Department, Govt of Mizoram

An amount of Rs. 2.20 Crs is due for payment from Mizoram for current bill of June'2018. Govt. of Mizoram is requested to liquidate the amount at the earliest to avoid late payment surcharge.

ITEM NO. C.07 : RECONCILIATION OF ENERGY ACCOUNT – NHPC

Manipur State Power Distribution Co. Limited

Reconciliation of Energy Account is pending since Jan'18 to June'18 i.e. quarter 4th (2017-2018) & quarter 1st (2018-2019).

ITEM NO. C.08 : OUTSTANDING DUES OF REGULATORY ACCOUNTS – NERLDC

(a) DSM CHARGE OUTSTANDING

From the DSM Outstanding Status, it can be seen that Ar. Pradesh (₹ 3.28 Crores) and Assam (Rs. 1.99 Crores) are major defaulters.



Ar. Pradesh has outstanding of (Rs. 1.90 Crores) more than 13 weeks (90 days).

(b) REACTIVE CHARGE OUTSTANDING

From Reactive Outstanding Status, it can be seen that Ar. Pradesh (₹ 24.46 Lakhs), Assam (Rs. 35.77 Lakhs), Manipur (Rs. 4.75 Lakhs) & Mizoram (₹ 9.74 Lakhs) are defaulters.

CERC in order dated 02.09.2015 in Petition No: 142/MP/2012 with I.A. 7/2013 has stipulated denial of Open Access in case of default in payment of UI/deviation charges, transmission charges, reactive energy charges, congestion charges and RLDC fees and charges for more than 90 days.

Utilities are requested to clear the dues.

ITEM NO. C.09 : REIMBURSEMENT OF TAXES – NERPSIP

As per MoU, state portion taxes including State Tax / GST to be reimbursed by Govt. / State Utility to POWERGRID. Accordingly, claims have been submitted up to September'18 amounting to Rs. 54.67 Cr as detailed below. Reimbursement to be expedited.

| SN | State | Claim Submitted Rs. in Cr |
|--------------|-------------|--|
| 1 | Assam* | APDCL : Rs.5.55 Cr. AEGCL : Rs.4.21 Cr. |
| 2 | Meghalaya | MePDCL : Rs.3.50 Cr. MePTCL : Rs.3.60 Cr. |
| 3 | Tripura | TSECL : Rs.10.33 Cr. |
| 4 | Manipur | MSPCL : Rs.2.76 Cr. |
| 5 | Nagaland | DoP : Rs.1.28 Cr. |
| 6 | Mizoram | P&E : Rs.0.39 Cr. |
| 7 | Ar. Pradesh | DoP : Rs.23.05 Cr. |
| Total | | Rs.54.67 Cr. |

*Assam (AEGCL) has reimbursed Rs.0.81 Cr. so far.

Reimbursement to be expedited



ITEM NO. C.10 : SIGNING OF PPA FOR 600 MW KAMENG HYDRO ELECTRIC PROJECT (KAHEP) - NEEPCO

Kameng HEP (600 MW) to be owned and operated by NEEPCO is scheduled to be commissioned by March 2019. Allocation of power from KaHEP has been made by the Ministry of Power, Govt. of India vide letter No. 11/1/2002-DO (NHPC) dated 14.07.2009.

Draft PPAs were sent to all the beneficiaries of the project of NE region; However, Mizoram and Manipur are yet to convey any decision regarding signing of said PPA. Therefore, it is requested to the Electricity Department of Mizoram and MSPDCL of Manipur through this forum to sign the PPA as per allocated share of Kameng HEP.

The allocation to Mizoram and Manipur are detailed below for appraisal of the house.

| SN | Name of Beneficiary | % Allocation | MW Allocation (out of 138 MW) |
|----|---------------------|--------------|-------------------------------|
| 1 | Mizoram | 6.34 | 9.00 |
| 2 | Manipur | 9.86 | 14.00 |

Members may update the status.

ITEM NO. C.11 : NON-RECEIPT OF PAYMENT FROM MEPDCL, MEGHALAYA- NEEPCO

Outstanding dues of MePDCL, Meghalaya payable to NEEPCO as on 12.11.2018 are as follows:

| Beneficiary | Principal (₹ in crore) | Late Payment Surcharge accumulated till 31.08.2018 (₹ in crore) | Total (₹ in crore) |
|-------------------|------------------------|---|--------------------|
| MePDCL, Meghalaya | 305.88 | 245.22 | 551.10 |

Due to accrual of such outstanding dues, NEEPCO is facing acute financial crunch to meet its day to day expenditure including fuel cost required for operating its thermal power stations.

The above is for deliberation of the house, with a request to MePDCL, Meghalaya, to



appraise the house on their action plan for early settlement of the said dues.

Payment to be expedited

ITEM NO. C.12 : PENDING PAYMENTS – OTPC

The current total outstanding dues of OTPC against the NER beneficiary states (as on 12-11-2018) are as under:

(Amount in Rs Crores)

| SN | Beneficiary | Outstanding Dues (>60 Days) | Total Outstanding |
|----|-------------------|--------------------------------------|--------------------------------------|
| 1 | Arunachal Pradesh | 0.00 | 4.25 |
| 2 | Assam | 0.00 | 23.71 |
| 3 | Manipur | 12.35 | 25.04 |
| 4 | Meghalaya | 62.16 (including Supplementary Bill) | 87.16 (including Supplementary Bill) |
| 5 | Mizoram | 0.00 | 0.73 |
| 6 | Nagaland | 0.00 | 0.00 |
| 7 | Tripura | 0.00 | 25.22 |
| | Total | 74.51 | 166.12 |

The total outstanding dues as on 12-11-2018 are Rs 166.12 Crores out of which outstanding beyond 60 days is Rs 74.51Crores. While the outstanding dues for other beneficiaries are regular monthly bills, for Meghalaya the dues have accumulated to alarming levels. The auditors have been regularly reflecting the issue of outstanding dues and absence of LC from Meghalaya as a special concern in our Board Meetings. Constituents, especially Meghalaya, are hence requested to clear at least the outstanding dues over 60 days, at the earliest. The forum is requested to impress the urgency of the issue upon Meghalaya.

A. Status of Payment Security Mechanism of the beneficiaries required against monthly energy billing as per Power Purchase Agreement and CERC regulations – OTPC

| SN | Beneficiary | Letter of | LC | Valid Upto | Remarks |
|----|-------------|-----------|----|------------|---------|
|----|-------------|-----------|----|------------|---------|

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| | | Credit (LC) required as per PPA (Rs Crore) | amount status (Rs Crore) | | |
|----------|-------------------|---|---|-------------|---|
| 1 | Arunachal Pradesh | 11.62 | 11.62 | 08-Oct-2019 | LC is in place |
| 2 | Assam | 40 | 40 | 28-Apr-2019 | LC is in place |
| 3 | Manipur | 15.02 | 3.7 | 16-Oct-2018 | Kindly renew the LC |
| 4 | Meghalaya | 29.78 | - | - | Meghalaya has never provided the LC even after continuous persuasion |
| 5 | Mizoram | 7.5 | 7.5 | 6-May-2019 | LC is in place |
| 6 | Nagaland | 9.46 | 9.46 | 20-Mar-2019 | LC is in place |
| 7 | Tripura | 46.53 | 18 | 19-Mar-2019 | LC is in place. However, Tripura is requested to enhance the LC in line with the requirements of the PPA. |

Beneficiaries are requested to enhance and renew the LC amount as per the PPA at the earliest.

**4. CATEGORY - D : ITEMS FOR INFORMATION**

ITEM NO. D.01 : STRENGTHENING OF CAPACITY OF KHANDONG BUS AS PER REQUIREMENT – 7TH SCM & 18th NERPC (Item No. C.3)

Director (PSPA-2), CEA stated that NEEPCO is in the process of R&M of the 2x25 MW Khandong power station as it would complete its useful service life in April, 2019. Khandong switchyard is having Double Bus & transfer facility at 132 kV level, bus conductor is single Zebra and all the jack buses & jumpers are single Panther. Since the structure cannot support higher size ACSR conductor like Twin Moose, HTLS conductor equivalent to Zebra or tubular bus of suitable size may be considered for strengthening of bus.

The representative of CTU stated that the matter is not part of transmission planning. Member (PS) stated that since the matter is a design related issue, NEEPCO may consult CPRI / CEA / any other agency for technical consultancy.

For Kind information

ITEM NO. D.02 : EVACUATION OF 2ND CIRCUIT OF EXISTING 132kV PALATANA-UDAIPUR – 7th SCM & 18th NERPC (Item No. B.6)

During deliberation in 18th TCC Meeting, Director (Tech.), TGPL stated that if 132kV Palatana-Udaipur is disconnected; then Monarchak power may be evacuated to 60MW approx. Also he informed the forum that many ROW challenges are associated with commissioning of 132kV Monarchak – S.M. Nagar.

ED (O&M), NEEPCO strongly agreed with TSECL as there would be heavy loss due to generation reduction of Monarchak and requested that 132kV Palatana-Udaipur remain connected.

Director (C&O), NERPC requested that the disconnection may be deferred till April, 2018.

Member Secretary intimated that decisions taken in CEA meeting could not be



revoked and requested Tripura to write to CEA/MOP so that they may be agreed for deferment till April, 2018 and requested TSECL to strictly adhere to the time line agreed in the meeting.

Subsequently, in 7th SCM, the representative of TSECL informed that the power is being fed to south Tripura through Udaipur S/s of TSECL. In case of opening of Palatana – Udaipur 132kV line, the power supply to Udaipur area will be affected.

He again requested to retain the Palatana-Udaipur 132kV line till the commissioning of Monarchak – Surajmaninagar and Rokhia – Surajmaninagar 132kV D/c lines which are expected by September, 2018.

Member (PS) advised Tripura to expedite the commissioning of Monarchak – Surajmaninagar and Rokhia – Surajmaninagar 132kV D/c lines.

After detail deliberations in 7th SCM, it is agreed that the Palatana – Udaipur 132kV line shall be opened by September 2018 to enable termination of 2nd circuit of Palatana – Surajmaninagar 400kV D/C line (operating at 132kV) at Palatana end and accordingly NERPC would take further action.

For Kind information

| |
|--|
| ITEM NO. D.03 : POWER SUPPLY FROM ROING GRID SUB STATION TO CHAPAKHOWA SUB DIVISION OF ASSAM – 7TH SCM |
|--|

NERPC stated that Power Supply to Chapakhowa Sub-Division (Sadiya area) under Tinsukia Electrical Circle is provided from 132/33 kV Rupai Sub-Substation through a 33 KV line, which traverse through a distance of more than 100 kms, major portion of the line being within Arunachal Pradesh. Because of very long distance and the hilly terrain, most of the time this feeder remains under shut down.

There is a proposal for installation of one 132/33 kV sub-station in that area which is expected to be commissioned in two to three years. In the meantime, an arrangement viz. implementation of Roing – Chapakhowa 33 kV line is proposed to buy 5 MW of power from Arunachal Pradesh utilizing the facility of 132/33 kV Roing sub-station of POWERGRID.

After detailed deliberation, Members agreed that the matter may be discussed and resolved in OCC/NERPC forum.

For Kind information



ITEM NO. D.04 : TRIPPING MONITORING SYSTEM' WEB PORTAL FOR FURNISHING DR & EL OUTPUT AND FIR – NERLDC

It has been observed that some power utilities are having problem in furnishing the DR & EL output and FIR on timely manner. Web portal has been developed by POSOCO for furnishing DR & EL outputs and FIR along with documentary evidences for each grid events by concerned utilities. Tripping of important grid elements will be made available in the web portal by NERLDC w.e.f 1st of Sep'18 as discussed in 51st PCCM.

Utilities are requested to upload DR & EL outputs and FIR along with documentary evidences for the events pertaining to them through this web portal within 24 Hours of an grid event.

This is for the information of members and compliance please.

ITEM NO. D.05 : AUDIT OF BOARD FUND OF NERPC – NERPC

The Board Fund of NERPC for FY 2016-2017 and 2017-2018 has been audited by constituents of NERPC who are based in Shillong i.e. MeECL, NERTS & NEEPCO for FY 2016-2017 and 2017-2018. The copy of report is attached at **Annexure D.05**.

This is for the information of members.

ITEM NO. D.06 : UPDATE ON PROTECTION DATABASE MANAGEMENT SYSTEM – NERPC

In compliance with the Task Force Report on Grid Disturbance Analysis in 2012, a Protection Database for different regions in India was envisaged. Accordingly, the web-based Protection Database Management System and Protection Setting Calculation Tool (PSCT) for entire North Eastern Region was thus sanctioned from PSDF in 2018. Award has already been placed to M/s PRDC and the work is in progress. Target date of completion is: April, 2020

All the constituents are requested to cooperate with M/s PRDC at site level for in time completion of project.

This is for the information of members.





ANNEXURES



Annexure-D.14

MW VACATION PROJECT

PART – 1: SUPPLY & ERECTION BY M/S KEC

| S N | Link Name | Sector | OPGW Erection (in KM) | Remarks / Status |
|------------|-----------------------------------|----------------|------------------------------|-------------------------|
| 1 | 132KV Silchar (PG)-Badarpur (PG) | Central Sector | 19.221 | Completed |
| 2 | 132kV Badarpur-Kolasib | Central Sector | 106.759 | Completed |
| 3 | 132kV Kolasib-Aizawl | Central Sector | 65.732 | Completed |
| 4 | 132kV Nehu-Khelieriat | Central Sector | 5.400 | Completed |
| 5 | 220KV Misa-Samaguri | Central Sector | 34.373 | Completed |
| 6 | 400KV BTPS-Salakati via NTPC | Central Sector | 3.490 | Completed |
| 7 | 132kV Badarur(PG)-Badarpur(AEGCL) | Central Sector | 1.023 | Completed |

Sub Total (A) = TOTAL (Central Sector) = 235.998

| | | | | |
|-----------|---|--------------|---------------|---|
| 8 | 132KV Pailapool-Srikona | AEGCL | 33.692 | <i>Data of Pailapool, Srikona, and Jiribam was interrupted of due to failure of 1 tower of 132kV Srikona - Pachgram Line. AEGCL to restore the tower and take further action as decided in 10th NeTEST Meeting. Now, Data & Voice of Pailapool, Srikona & Jiribam are restored through ECI Mux.</i> |
| 9 | 132kV Jiribam-Pailapool | AEGCL | 12.752 | |
| 10 | 132kV Badarur(AEGCL)-Srikona(AEGCL) | AEGCL | 19.586 | |
| 11 | 132KV Balipara-Gohpur | AEGCL | 101.124 | Okay. Data Through |
| 12 | 132kV S/C Mariani - Lakwa TL | AEGCL | 79.298 | Okay. Data Through |
| 13 | 132kV D/C Lakwa - Namrup TL | AEGCL | 58.394 | Okay. Data Through |
| 14 | 220kV Agia-Sarusujai (with LILO at Boko, Mirza) | AEGCL | 130.706 | Rectification work shall be completed by Dec-18. |
| 15 | 132KV Namrup-Tinsukia | AEGCL | 43.571 | |
| 16 | 220kV BTPS-Agia | AEGCL | 65.732 | |
| 17 | 220kV S/C Samaguri - Mariani TL (CKT - II) | AEGCL | 169.717 | |

Sub Total (B) = TOTAL (State Sector) = 714.572

Grand Total (Sub Total A+B) = 950.570

NORTH EASTERN REGIONAL POWER COMMITTEE



PART – 2: SUPPLY BY M/S KEC & ERECTION BY M/S TENDOT

| S N | Link Name | Sector | OPGW Erection (in KM) | Remarks / Status |
|--------|---|-------------------|-----------------------------|--|
| 1 | 132KV Mariani-Mariani | Central Sector | 1.521 | Supply Completed. Execution by 31,03.19 |
| 2 | 132KV Nirjuli-Ranganadi with Parey | Central Sector | 23.492 | Supply Completed. Execution by 31,03.19 |
| 3 | Imphal(PG)-Imphal (State) | Central Sector | 0.769 | Supply Completed. Execution by 31,03.19 |
| 4 | 132KV LILO of Aizawl-Zemabawk-II at Melriat SS | Central Sector | 4.959 | Supply Completed. Execution by 31,03.19 |
| 5 | 132KV Melriat-Shimmui | Central Sector | 6.441 | Supply Completed. Execution by 31,03.19 |
| 6 | 132KV Mokokchung-Mokokchung | Central Sector | 1.443 | Supply Completed. Execution by 31,03.19 |
| 7 | Ranganadi-Gohpur (Part-I) | Central Sector | 61.239 | Supply Completed. Execution by 31,03.19 |
| 8 | Ranganadi-Gohpur (Part-II) | Central Sector | 12.033 | Supply Completed. Execution by 31,03.19 |
| 9 | Aizawl-Zemabawk-II | Central Sector | 6.719 | Supply Completed. Execution by 31,03.19 |
| 10 | Dimapur-Dimapur | Central Sector | 0.647 | Supply Completed. Execution by 31,03.19 |
| 11 | 132kV Ranganadi-Ziro | Central Sector | 44.292 | Supply Completed. Execution by 31,03.19 |
| 12 | 132KV Lekhi-Itanagar/Chimpu SLDC | Central Sector | 13.631 | Supply Completed. Execution by 31,03.19 |
| 13 | 132KV LILO of Nirjuli-Ranganadi at Lekhi | Central Sector | 5.554 | Supply Completed. Execution by 31,03.19 |
| 14 | 132KV Silchar-Srikona | Central Sector | 1.199 | Completed |

Grand Total = 183.939

KEC Part: 236km out of 236 of CS, 714km out of 714km of State sector completed. Total of 17links are made reported to RLDC & SLDC as per list attached.

Rectification 4 link Sama-Mari, Sarusajai-Agia, Agia-BTPS & Namrup-Tinsukia are going on. Data via links Panchgram-Srikona-Pailapul is stopped due to tower failure as One Tower (AEGCL link) collapsed between Panchgram-Srikona-Pailapul. These links were originally commissioned and Equipment SAT is already done with AEGCL. AEGCL is requested to issue TOC for the completed part earlier as part affected due to storm/tower failure may not be linked.

Work suffered delay/ slow due to tough unfavorable natural conditions (recent monsoon Flood in south, Upper Assam, Lower Assam). Further works awarded to

NORTH EASTERN REGIONAL POWER COMMITTEE



M/s Tendot viz. Ranganadi-Gohpur is under progress. Silchar –Srikona, Melriat-Aizawal is also completed. Nirjuli Ranaga is under halt due to LILO part modification by DoP.

PART – 3: Replacement of ULDC old nodes : Supply By M/s KEC, Erection by M/s ECI

SDH equipment node replacement started (Siemens SDH by ECI in 17locations). 15 locs completed. Fibre not ready at Umtru(MEPTCL is to provide). Natural constraints, non-availability of fibers have delayed the project Target: Dec18.

| Status of links considered in FO Expansion Project | | | | | | |
|---|--|----------------|-------------------------------|----------------------------------|--|--------------------------|
| S N | Link Name | Sector | OPGW Route Length (Km) | OPGW Erection status (Km) | Terminal Equipment considered in NER FO Expansion Project | Completion Target |
| 1 | 132kV Khandong~Halflong (PG) | Central Sector | 62.398 | 62.398 | Equipment for the connectivity of all the nodes are supplied. Only DCPS supply pending | Mar-19 |
| 2 | 132kV Dimapur (PG)~ Doyang (NEEPCO) | Central Sector | 91.567 | 91.567 | | Mar-19 |
| 3 | 132kV Doyang (NEEPCO)~ Mokokchung (State) | Central Sector | 26.913 | 26.913 | | Mar-19 |
| 4 | 220kV Mokokchung (PG)~ Mariani (PG) | Central Sector | 48.788 | 48.788 | | Mar-19 |
| 5 | 400kV Mariani (PG)~ Kathalguri (NEEPCO) | Central Sector | 159.245 | 159.245 | | Mar-19 |
| Total | | | 388.911 | 388.911 | | |
| 1 | 132kV Badarpur(PG) ~ Jiribam(PG) | Central Sector | 67 | 28 | Equipment for the connectivity of all the nodes are supplied. Only DCPS supply pending | Jun-19 |
| 2 | Bongaigaon (PG-400 kV) ~ 220kV Salakati- 220 kV BTPS | Central Sector | 4.5 | 0 | | Jun-19 |
| 3 | 400kV Mirza (Azara) ~ Byrnihat | Central Sector | 47.208 | 0 | | Jun-19 |
| 4 | 400kV Silchar ~ Pallatana | Central Sector | 247.414 | 61.146 | | Jun-19 |
| 5 | 400kV Surajmaninagar(TSECL) ~ Pallatana(OTPC) | Central Sector | 36.714 | 27.976 | | Mar-19 |
| 6 | 132kV Agartala(TSECL) ~ RC Nagar (NEEPCO) | Central Sector | 7.656 | 7.656 | | Mar-19 |
| 7 | 132kV Jiribam (PG) (Manipur) ~ Loktak (NHPC) | Central Sector | 82.461 | 0 | | Jun-19 |
| 8 | 132kV Loktak (NHPC) ~ Imphal (PG) | Central Sector | 34.578 | 0 | | Jun-19 |
| 9 | 132kV Melriat (PG) ~ Silchar (PG) | Central Sector | 142.905 | 139.969 | | Jun-19 |
| 10 | PK Bari (TSECL)--LILO of (NETCL) Belonia | Central Sector | 10.441 | 0 | | Jun-19 |
| 11 | 132kV Parey ~ Chimpu | Central Sector | 31 | 0 | | Jun-19 |
| Total | | | 711.877 | 264.747 | | |

NORTH EASTERN REGIONAL POWER COMMITTEE



| | | | | | | |
|----|--|-----------|----------------|----------------|--|--------|
| 1 | 132kV Agartala(TSECL) ~ Barumura(GTP) | Tripura | 34.817 | 34.817 | Equipment for the connectivity of all the nodes are supplied. Only DCPS supply pending | Mar-19 |
| 2 | 66kV 79 Tilla Grid (TSECL) ~ Badharghat | Tripura | 12.39 | 12.39 | | Mar-19 |
| 3 | 132kV Surajmaninagar(TSECL) ~ Budhungnagar | Tripura | 17.863 | 17.863 | | Mar-19 |
| 4 | 132kV Pallatana(OTPC) ~ Udaipur(TSECL) | Tripura | 11.528 | 11.528 | | Mar-19 |
| 5 | 132kV Udaipur(TSECL) ~ Rokhia GTP | Tripura | 45.291 | 45.219 | | Mar-19 |
| 6 | 66kV Udaipur(TSECL) ~ Gumti HEP | Tripura | 37.678 | 33.904 | | Mar-19 |
| 7 | 66kV Gumti HEP ~ Amarpur(TSECL) | Tripura | 24.003 | 24.003 | | Mar-19 |
| 8 | 66kV Satchand(TSECL) ~ Sabroom(TSECL) | Tripura | 12.244 | 12.244 | | Mar-19 |
| 9 | 132kV 79 Tilla Grid (TSECL) ~ Dhalabil(TSECL) | Tripura | 43.037 | 43.037 | | Mar-19 |
| 10 | 132kV Rokhiya (GBPP) ~ Surajmaninagar(TSECL) | Tripura | 21.35 | 0 | | |
| 11 | 132kV Surajmaninagar(TSECL) ~ Monarchak (NEEPCO) | Tripura | 42.172 | 0 | | |
| 12 | 132kV Agartala(TSECL) ~ SM Nagar (TSECL) | Tripura | 17.918 | 17.918 | | Mar-19 |
| | Total | | 320.291 | 252.923 | | |
| 1 | 132kV Nehu ~ Neigrihms | Meghalaya | 7.665 | 0 | Equipment for the connectivity of all the nodes are supplied. Only DCPS supply pending | Jun-19 |
| 2 | 132kV Khliehriat(PG) ~ Khliehriat (State) | Meghalaya | 5.282 | 0 | | Jun-19 |
| 3 | 132kV Khliehriat(State) ~ Myntdu Leshka-HEP | Meghalaya | 24.932 | 0 | | Jun-19 |
| 4 | 132kV Khliehriat(PG) ~ Lumshnong (S/C) | Meghalaya | 25.19 | 0 | | Jun-19 |
| | Total | | 63.069 | 0 | | |
| 1 | 132kV Kohima (132KV) ~ Kohima (220KV) | Nagaland | 25 | 0 | Equipment for the connectivity of all the nodes are supplied. Only DCPS supply pending | Jun-19 |
| 2 | 132kV Kohima ~ Wokha | Nagaland | 58 | 0 | | Jun-19 |
| 3 | 132kV Doyang (NEEPCO) ~ Sanis | Nagaland | 10 | 0 | | Jun-19 |
| | Total | | 93 | 0 | | |
| 1 | 132kV Loktak(NHPC) ~ Ningthoukhong (State) | Manipur | 11 | 0 | Equipment for the connectivity of all the nodes are supplied. Only DCPS supply pending | Jun-19 |
| 2 | 132kV Imphal(State) ~ Karong | Manipur | 60 | 0 | | Jun-19 |
| 3 | 132kV Yurembam ~ Yaingangpokpi | Manipur | 42 | 0 | | Jun-19 |
| 4 | 132kV Yaingangpokpi ~ Kongba | Manipur | 32 | 0 | | Jun-19 |
| 5 | 132kV Kongba ~ Kakching | Manipur | 55.626 | 0 | | Jun-19 |
| 6 | 132kV Kakching ~ Churachandpur | Manipur | 38 | | | Jun-19 |
| 7 | 132kV Yaingangpokpi ~ Hundung | Manipur | 32 | 0 | | Jun-19 |
| 8 | 132kV Kakching ~ Chandel | Manipur | 25 | 0 | | Jun-19 |
| 9 | 132kV Loktak(NHPC) ~ Rengpang | Manipur | 47 | 0 | | Jun-19 |
| 10 | 132kV Jiribam ~ Jiribam state | Manipur | 1 | 0 | | Jun-19 |
| 11 | 132kV Ningthoukhong ~ Churachandpur | Manipur | 32 | 0 | | Jun-19 |
| | Total | | 375.626 | 0 | | |
| 1 | 132kV Aizwal(PG) ~ Zimabawk-I(Luangmual) | Mizoram | 1 | 0 | | Jun-19 |
| | Total | | 1 | | | |



URTDSM PROJECT STATUS

| SN | Equip. | Scope | | Status | | | |
|----|--------------|-----------|------------------|-----------|-----------|--------------------------|--------------------|
| | | Nos. | Location | Erection | SAT | Reporting/ Commission | Data Validation |
| 1 | SPDC | 1 | NERLDC | 1 | 1 | | |
| 2 | PDC | 1 | Assam | 1 | 1 | 1 | |
| 3 | PDC | 1 | Meghalaya | 1 | 1 | 1 | |
| 4 | PDC | 1 | Arunachal | 0 | 0 | 0 | |
| | Total | 4 | | 3 | 3 | 3 | 3 |
| 1 | PMU | 3 | Salakati | 3 | 3 | 3 | 3 |
| 2 | PMU | 6 | Balipara | 6 | 6 | 6 | 6 |
| 3 | PMU | 6 | Bongaigaon | 6 | 6 | 6 | 6 |
| 4 | PMU | 4 | BNC | 4 | 0 | 0 | 0 |
| 5 | PMU | 4 | Silchar | 4 | 4 | 4 | 4 |
| 6 | PMU | 7 | Misa | 7 | 7 | 7 | 6 |
| 7 | PMU | 3 | Mariani | 3 | 3 | 3 | 3 |
| 8 | PMU | 5 | Dimapur | 0 | 0 | 0 | 0 |
| 9 | PMU | 1 | RHEP - NEEPCO | 0 | 0 | 0 | 0 |
| 10 | PMU | 2 | Kopili - NEEPCO | 2 | 2 | 2 | 2 |
| 11 | PMU | 4 | Samaguri – Assam | 4 | 4 | 4 | 4 |
| 12 | PMU | 2 | Agia - Assam | 2 | 2 | 2 | 2 |
| 13 | PMU | 2 | Mariani – Assam | 2 | 2 | 2 | 2 |
| 14 | PMU | 2 | Tinsukia - Assam | 2 | 2 | 2 | 0 |
| | Total | 51 | | 45 | 41 | 41 | 37 |