



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
21ST TCC MEETING
(UNDER THE AEGIS OF DEPARTMENT OF POWER,
GOVERNMENT OF NAGALAND)

Venue : Hotel Vivor, Kohima

Date (TCC) : 03rd February, 2021

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NORTH EASTERN REGIONAL POWER COMMITTEE



1. MEETING SCHEDULE

SN	Meeting	Date	Time	Venue
1	TCC	03.02.2021	10:00 AM	“Hotel Vivor,” Kohima
2	NERPC	04.02.2021	10:30 AM	

2. CONFIRMATION OF THE MINUTES OF 20TH TCC MEETING & 20TH NERPC MEETING

The minutes of the 20th TCC & 20th North Eastern Regional Power Committee (NER Power Committee) meetings held on 12th September, 2019 at Guwahati were circulated vide letter no. NERPC/OP/Committee/2019/5190-5264 dated 30th September, 2019.

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

3. ARRANGEMENT OF AGENDA OF 21ST TCC MEETING:

SN	DESCRIPTION	CATEGORY
1	ITEMS FOR DISCUSSION	A
2	ITEMS FOR APPROVAL	B
3	COMMERCIAL ISSUES	C
4	ITEMS FOR INFORMATION	D



1. CATEGORY - A : ITEMS FOR DISCUSSION

ITEM NO. A.01 : RENOVATION AND UPGRADATION OF 66KV SUBSTATIONS – DoP NAGALAND

66kV Sub-stations in Nagaland come under Transmission Division of Department of Power, Nagaland. It is essential to upgrade control and protection system and replacement of different substation equipment in 66kV voltage class Sub-stations in Nagaland with funding from PSDF.

Total proposal amount INR 13.09 Cr.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.02 : IMPLEMENTATION OF RELIABLE COMMUNICATION IN NAGALAND – DoP NAGALAND

A proposal for implementation of reliable communication in Nagaland with funding from PSDF is placed for deliberation. The scope of work are briefly as follows:

- Installation of OPGW Fiber-Optic cables on the existing EHV transmission lines of 66kV and above network.
- Installation of Fiber Optic Terminal Equipment for communication based upon Synchronous Digital Hierarchy or state of the art technology available at the time of finalization of Technical Specifications to be installed in the substations and generating stations.
- Installation of RTUs at 66kV Substations where provision of telemetry does not exist presently.
- Provision of voice communication at interconnecting substations by means of EPABX, VoIP/ analog telephony.
- Installation of DC power supply at all stations envisaged on FO network.
- Installation of underground OFC where XLPE has been laid.



Total proposal amount INR 65.87Cr.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.03 : DATA CONNECTIVITY UNDER NER-FO AT VARIOUS SUBSTATIONS IN NAGALAND – DoP NAGALAND

Under NER-FO expansion project the stringing of OPGW for the following links have been completed: (i) 132kV Mokokchung(PG) – Mokokchung(NAG), (ii)132kV Dimapur(PG) – Dimapur(NAG), (iii)132kV Wokha – Kohima along with commissioning of all terminal equipments. However, the stations are still reporting via GPRS. Integration and reporting over FO is the need of the hour. Further OPGW stringing for 132kV DHEP-Sanis is yet to be completed.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.04 : STATUS OF IMPORTANT INTRA-INTER STATE CONNECTIVITY IN ARUNACHAL PRADESH – DoP ARUNACHAL PRADESH

1. Status of Chapakhowa—Roing 132 kV D/C Line.
2. Status of Kathalghuri-Namsai 220 kV D/C Systems.
3. 132 kV S/C on D/C Inter-Connectivity Transmission Link between Likhabali and Basar.
4. Providing 132 kV LILO Link of Pare-Chimpu Transmission Line to Naharlagun 132 kV Sub-Station.
5. Providing 132 kV ISTS Inter-Connectivity between Jonai and Niglok.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.05 : IMPLEMENTATION OF AUTOMATED DEMAND MANAGEMENT SYSTEM – MSPCL.

MSPCL has planned a project for system integration of 78 nos. of 33 kV Sub-stations with the Main Control Centre at SLDC, Yurembam with an extensive network of Fibre Optic Cable which includes laying of 1353 km of ADSS and 30 km of OPGW. As advised by the TESSG, PSDF the project is to be staggered in three phases and the Ministry of Power has already conveyed approval to the installation of RTUs in 20 nos. of 33 kV sub-stations for integration with the SLDC in the first phase at Rs. 13.37 crore. The project is to be funded by PSDF (100% Grant) and the first instalment of Rs.1.34 crore was released on 3rd March, 2018.

Meanwhile, MSPCL has successfully completed installation of ADMS pilot project at four Power Substations (Kakwa, Mongsangei, Thoubal & Wangjing), except Site acceptance test & Go live for implementation of AUTOMATED DEMAND MANAGEMENT SCHEME (ADMS).

As an extension for automation of demand management, MSPCL is also planning to implement ADMS in the 19 nos. of 33 kV Sub-stations (Airport, Chingarel, Iroishemba, JNIMS, Kangla, Kangpokpi, Keishampat (Imphal P/H), Khuman Lampak, Lamphel, Leimakhong, Mantripukhri, Mayang Imphal, Napetpalli, Nilakuthi, Sagolmang, Sangaipat, Sangaiprou, Sekmai and Sekmajin) which are already in the list for integration with the SLDC in the first phase.

TCC may kindly deliberate the request of MSPCL and approve the proposal for implementation of ADMS in the above Sub-stations by MSPCL with possible funding from PSDF or other funding Agencies, in the interest of smooth automation of demand management in the state.

***Although the agenda has been put up by MSPCL the same is applicable for other states also for additional scope under ADMS.*

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.06 : REPLACEMENT OF TRANSMISSION ELEMENTS OF PACKAGE MAN-TW06 IN STRINGING OF OPGW UNDER NERPSIP – MSPCL

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.

Since DPRs for stringing of OPGW under NERPSIP project (Tranche-I) & NER Wide Band Expansion Project were prepared at different points of time and initiation of NERPSIP project (tranche-I) was delayed, the works for stringing of OPGW in Table No. 1 which was already included in Tranche-I of NERPSIP overlapped with that for stringing of OPGW under NER Wide Band Expansion Project. The laying of OPGW in the same sections of 132kV lines under NER Wide Band Expansion Project was agreed in the 15th TCC meeting after a thorough deliberation considering the importance of the transmission lines in Table No. 1.

Table No. 1

Sl. No.	Name of Transmission Elements	Length of Line in Km
1	Imphal-Karong 132kV line	60
2	Yurembam-Yaingangpokpi 132kV line	42
3	Yaingangpokpi-Kongba 132kV	32
4	Kongba-Kakching 132kV line	45

In light of the above facts, CEA was requested to allow the change of scope of laying OPGW in the newly constructed sections of 132kV lines in **Table No. 2** under Tranche-I of NERPSIP in lieu of the 132kV lines in **Table No. 1**.

Table No. 2

Sl. No.	Name of Transmission Elements	Length of Line in Km
1	Churachandpur- Thanlon 132kV line	67
2	Thoubal- Moreh 132kV line	72
3	LILO at Elangkhangpokpi on Churachanpur- Kakching	10
4	LILO at Tipaimukh on Jiribam(PG)- Aizawl(PG) 132kV line	14



Subsequently, in the meeting on “Modification/alteration/addition in NER Power System Improvement Project” (NERPSIP) and “Comprehensive Scheme for Arunachal & Sikkim” (CSAS) held at Guwahati on 30th May 2019, the proposal of MSPCL (Manipur) for replacement of transmission elements in Table No. 1 of the package MAN-TW06 by the transmission elements in Table No. 2 was agreed vide Item No. 2.0 Manipur NERPSIP, 2.1 Installation of OPGW on alternate 132kV intra-state line of the Minutes of Meeting.

During the 19th TCC and NER meeting held on 28th and 29th November 2018 at Hotel Radission blu, Guwahati, MSPCL requested PGCIL in the interest of NER Grid Security and smooth power management in Manipur for complete installation of OPGW, in which POWERGRID carried out the works promptly.

While appreciating the OPGW works of POWERGRID in Manipur, it is not understood why POWEGRID is having reservation in implementing the agreed proposal of replacing the said transmission elements in Table No. 1 by the transmission elements in Table No. 2 as the scope of work remains the same with that of the substituted lines except for the change of location work site.

Therefore ,PGCIL is requested to put up the status and timeline for the above said replacement work before the board for deliberation and TCC may kindly discuss the request of MSPCL and advise PGCIL to carry out the OPGW work of replacing transmission element at the earliest for safe and secure intrastate grid operation.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.07 : EARLY APPROVAL OF TESH FOR IMPLEMENTATION OF SAMAST IN MANIPUR – MSPCL.

As on date, approval of TESH (Techno- Economic Sub Group) of PSDF for five states- Manipur, Nagaland, Mizoram, Tripura and Arunachal Pradesh is awaited. And the scheme is under scrutiny of Appraisal & Monitoring Committee at present. All inputs and queries sought by TESH and NERPC pertaining to MSPCL had been compiled with on issues such as BOD approval, Physical and financial milestones, List of interface points, Grid network map along with depiction of interface point,



Details of existing and proposed ABT meter, Details of metering scheme and as of now, there is no pending issues.

Till now, MOP has given approval for Assam and Meghalaya and LOA has been issued.

In this regard, TCC may kindly deliberate the request of MSPCL for speedy approval of TESSG and concurrence of Hon'ble Chairman, NERPC for early implementation of SAMAST in the state.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.08 : DELAY IN COMPLETION OF CONSTRUCTION OF 132/33kV SUB-STATION AT TAMENGLONG AND KANGPOKPI UNDER TRANCHE-1, WORLD BANK FUNDING – MSPCL.

NERPSIP is a Central Sector Project sanctioned on 1/12/2014 at the cost of Rs.8111.33crore for 6 (Six) NE states with 50:50 funding from GOI and the World Bank (WB) for strengthening of intra-state and distribution system above 11 kV with completion time of 48 months from the release of 1st instalment. The sanctioned cost of Manipur is Rs.442.213 crore. GoI entrusted PGCIL as the implementing agency.

Construction of 2 (two) new 132/33 kV substations at (1) Khongjaron, Tamenglong District (4x6.67MVA) (2) Gamphazol, Kangpokpi District(2x20MVA) are two major work components included under Tranche-I of NERPSIP.

Land for the said substations was handed over to the Implementing Agency on 11th May, 2017 and 21st April, 2017 respectively.

The said substations were envisaged to cater to the surging load demand in the two districts. At present, the two districts are facing acute shortage of power infrastructure & capacity constraint and both remain as the most underdeveloped districts of the State.

While many work components of Tranche-I have been completed and some of them have been put to service, work in the said substations haven't progressed as expected despite issuance of work permit more than 3years ago. This has led to



various load management, distribution bottleneck and has hampered downstream evacuation plan in both the districts.

In this regard, NERPC may kindly intervene and call for commitment from PGCIL end, a tentative completion schedule of the said substations at the earliest and avail benefit of the project to the general public.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.09 : OPERATIONALISATION OF KHANDONG-KOPILI-MISA CONNECTIVITY FOR MEGHALAYA – MePTCL.

The operationalisation of 132KV Kopili-Khandong line is crucial for Meghalaya as the evacuation of power to NER from Myntdu-Leshka HEP (3*42MW) project depends on this feeder.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.10 : 100% FUNDING FROM PSDF FOR RELIABLE COMMUNICATIONS SCHEME – MePTCL.

MePTCL recently submitted a proposal amounting to Rs 24.22 Crores to the Government. This is due to the fact that PSDF has sanctioned the earlier DPR at only 50% of the cost. It may be stated that, the proposal for 100% funding is necessary for Meghalaya due to the fact that the OFC infrastructure shall be required mainly for reliability of Meghalaya's transmission system. In view of lack of any substantial commercial uses of the infrastructure in Meghalaya and NER, it is proposed that NERPC take up the matter for the interests of transmission stability.

*** Although the agenda has been put up by MePTCL but it pertains to all NER states.*

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.11 : RENOVATION AND UPGRADATION OF PROTECTION SYSTEM IN ALL THE POWER STATIONS – MePGCL.

The existing switchgear equipment of the Power Stations (not covered in the PSDF scheme) has been giving operational problem frequently and as such affecting our generation to a great extent and thus create system instability in the grid. Replacement of old switchgear equipments, protection system & control cables, establishment of reliable communication and providing carrier inter-trip facility for maintaining stable generation, improvement of DC system for effective tripping, and improvement of Earthing system are required as the stations are located in a rocky area including gravelling of switchyard.

Therefore, it is proposed to include the above envisaged works in the scope of R&U schemes (under Phase-II) through PSDF.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.12 : RESTORATION OF ASSETS DAMAGED AT KOPILI HEP DUE TO FAILURE OF PENSTOCK – NERTS.

Two numbers penstocks of Kopili HEP failed on 07/10/2019, submerging powerhouse and switchyard for about a week affecting project work under NERSS-III as well. Under NERSS-III, 01 no 220kV AIS bay, 06 nos 132kV GIS bays, 01 no 160MVA 220/132kV & one no. 5MVA 132/33kV ICTs is being commissioned at Kopili substation by POWERGRID. The executing agency i.e. M/s GE T&D has visited Kopili site and tested all GIS bays including ICT etc. and assessed scope of restoration. Based on same assessment, Rs.6.33 Crore (apx.) is additionally required for repair/ replacement & restoration. The cost implication & recovery process is to be discussed for approval. Restoration schedule by M/s GE is Dec'2021.

TCC Deliberation :

NERPC Deliberation :



ITEM NO. A.13 : ACUTE ROW CONSTRAINTS FACED BY POWERGRID IN ASSAM AND SOME OTHER PARTS OF NER FOR MAINTENANCE OF TRANSMISSION LINES – NERTS.

During maintenance of EHV transmission lines by NERTS in different states of NER, there have been multiple instances of ROW which has inordinately delayed restoration/maintenance/project work. During 19th & 20th NERPC Meeting held at Guwahati, the issue of acute ROW problem faced by NERTS for maintaining 800 kV HVDC, BNC-AGRA Line, 400 kV D/C Bongaigaon – Balipara – III & IV, 400 kV D/C Silchar – PK Bari – I & II Line was discussed in details. Matter is being followed up with administration for solution from time to time. Some of the incidents are cited below:

a) Severe ROW problem has been faced during laying of OPGW in +/- 800kV HVDC B'Chariali-Agra- II line in Baksa and Udalguri district of Assam. It may be noted that recently NERTS had successfully carried out installation/ stringing of pending OPGW over HVDC Link (BNC-Alipurduar: NER part- apx.26km) which was possible only with the help of administration & police force/security.

b) However due to acute ROW issue stringing of approx. 5 km of earth wire in +/- 800kV HVDC B'Chariali – Agra – I line in Baksa and Udalguri district of Assam could not yet been completed.

c) Also severe ROW problem has been faced during Shut Down related maintenance activities in 400kV Silchar-PKBari Transmission Line (Presently Charged at 132kV) in the district of Hailakandi and Karimganj of Assam. It is to be mentioned here that in cases, the local people does not allow NERTS to climb the tower for maintenance of lines, clearing of vegetation's, cutting of jungles below the conductor etc. which results in difficulty in maintaining the same.

d) Right of Way Issues in Execution of Diversion Works of 132 kV S/C Nirjuli-Ranganadi Transmission Line for Facilitating Harmoti-Nagarlogun Broad Gauge Line: .The diversion works of 132 kV S/C Nirjuli-Ranganadi Transmission Line for Facilitating Harmoti-Naharlogun Broad Gauge Line was held up due to acute Right of Way (ROW) issues involving 03 nos. of locations in Ambabasti Village,



Papum Pare district since April,2017. POWERGRID has been pursuing for resolution of the issue with state administration at various levels. Same was also discussed in 20th NERPC/TCC meeting.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.14 : MOBILE SUBSTATION FOR EMERGENCY RESTORATION OF EHV SYSTEM IN NER – NERTS.
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In NER, it has been experienced that there are outages of substation/Generating Station/EHV element /s due to natural calamities. Recent such example is outage of generating station namely Kopili HEP, NEEPCO due to fresh flood/failure of penstock. Further, for restoration of EHV systems in time, insurmountable constraints are faced by utilities like tough terrain, poor response from vendors for supply & services in NER especially in remote locations within stipulated period.

Hence it is proposed that mobile substation may be kept as regional spare for the region where the affected station (suffering outage) in part can be bypassed under urgency and Incoming & Outgoing TLs be directly connected/terminated to TL Towers through the mobile station solution) till the main station is restored to its shape. The Mobile substation with bay modules will have the following facilities for emergency restoration of bays:

- a) 1 no. 220kV Bay with all EHV equipment & protection system
- b) 1no. 132kV Bay with all EHV equipment & protection system

Tentative Cost estimate is Rs.8.42 Crore (apx) excluding F&I and taxes & duties.

The procurement cost (including F&I and Taxes & duties) shall be shared by NER Constituents. Also the maintenance cost/ AMC shall be shared by NER Constituents. Further in case of utilization by any one utility, the entire cost (i.e Transportation and other related expenses such as calling of service engineer etc.) shall be borne by the concerned utilizing utility.

NORTH EASTERN REGIONAL POWER COMMITTEE



The matter was discussed in 174th OCC meeting on 19th January,2021 wherein members agreed in-principle subject to TCC/RPC approval.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.15 : OFFER OF POWER ALLOCATED FROM OTPC-PALATANA TO BENEFICIARY STATES – OTPC.

As per allocation order of Ministry of Power, Govt. of India, 13.5% of Palatana power is allocated to OTPC for bilateral sale. OTPC wants to offer this quantum of power on RTC basis to the existing beneficiaries of Palatana at CERC determined tariff.

Placed to the TCC and RPC Board for kind consideration.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.16 : ROADMAP AND IMPLEMENTATION OF CABIL REPORT RECOMMENDATIONS– NERLDC.

In the 20th TCC meeting, all constituent states noted the road map given by CABIL report and stated that they will try to adhere to the timeline given. It was agreed to follow-up in next TCC meeting.

Step	Activity	Action by	Target (days)	Status
1	Workshops in each SLDC on the report of the sub group	SLDC/ RLDC	15 Zero date: DEC,18	All states completed by RLDC
2	Publication of draft Regulations for Fees & Charges of Load Despatch Centre in line with Model F&C Regulation	ERC	30 (DEC'18)	Regulation is not in place for Arunachal, Assam and Tripura
3	Interactive session with Stakeholders to emphasize the need for Institution building/strengthening of LDCs and elaborate on the principles of LDC fees and charge regulations	ERC	45 (JAN'19)	



4	Notification of Regulations for Fees and Charges of Load Despatch Centre after public hearing.	ERC	90 (FEB'19)	
5	Registration of Users of LDC	LDC	100 (MAR'19)	
6	Separation of financial accounts for LDCs and Identification of Assets and Liabilities of LDCs	STU	120 (MAR'19)	
7	Preparation of organization Chart for LDC and Identification of Human Resources for LDCs. Identification of list of Certified Operators	STU	130 (APR'19)	
8	Creation of separate Bank Account for LDC and a separate Bank Accounts for Regulatory Pool funds to be managed by LDCs	LDC	150 (MAY'19)	Assam has opened separate bank account in the name of CGM, SLDC.
9	Preparation of CAPEX plan for up gradation of SCADA, IT and civil infrastructure of LDCs	LDC	150 (MAY'19)	
10	Preparation of plan for application software relevant for the respective LDC	LDC	180 (JUN'19)	
11	Preparation of plan for capacity building of HR personnel in LDC to ensure minimum 7 man-days of training to every employee of LDC	LDC	180 (JUN'19)	
12	Submission of Petition for approval of Fees and Charges of Load Despatch Centre in respective ERC	LDC	210 (JUL'19)	
13	Approval of Fees and Charges for Control period	ERC	300 (OCT'19)	
14	Commencement of billing of LDC fees and charges	LDC	330 (NOV'19)	
15	1 st Review of progress in the activities for F&C utilization	ERC	365 (DEC'19)	



TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.17 : EARLY INSTALLATION OF TLSAs IN 400kV SILCHAR-AZARA S/C AND 400kV SILCHAR-BYRNIHAT S/C – NERLDC.

In the CEA Meeting with NERPC,CTU,NLDC,NERLDC chaired by Chief Engineer (PSPA-II) held on 18.08.2020,it was decided that the transmission licensee (NETC) would survey and identify the locations which require installation of Transmission Line Surge Arresters (TLSA) and install TLSA on selected towers of aforesaid lines to reduce the trippings due to lightning/backlash. These lines pass through the high lightning prone area near Byrnihat. The same was also highlighted in the 2nd Meeting of NERPC(TP)/3rd Meeting of NERSCT. 400kV lines are very critical in evacuation of power from Palatana GBPP.

In the 168th OCCM, NERLDC recommended to install the TLSA in these lines before the onset of the monsoon season. The quarter-wise percentage of trippings due to lightning during 2019 & 2020 is as below:

Year	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
2019	6%	28%	9%	3%
2020	2%	20%	19%	-

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.18 : READINESS OF DOWNSTREAM OF NEW KOHIMA SUB-STATION – NERLDC.

During the 5th SCM of NER held at Imphal on 8-08-2015, the following elements have been approved:

- a) Imphal-New Kohima 400 kV D/C line (under TBCB)



- b) 2 no. 400 kV line bays and 1x125 MVAR bus reactor (2nd) at Imphal (PG) (by POWERGRID)
- c) Establishment of 2x500 MVA 400/220 kV S/s at New Kohima along with 4 no. 400 kV line bays, 2x125 MVAR bus reactor and 4 no. 220 kV line bays (under TBCB).
- d) *New Kohima (400/220 kV TBCB) – New Kohima (220/132kV - Nagaland) 220 kV D/c line with high capacity / HTLS conductor equivalent to twin moose (by Nagaland)*

Note: Nagaland may plan and inform the utilisation of remaining 2 no. 220 kV bays at New Kohima 400/220 kV substation.

“It is to be noted that the point d is yet to be implemented by Nagaland, as a result of which no power flow will occur in 2x500 MVA 400/220 kV ICTs at New Kohima. The entire cost of the ICTs will have to be borne by Nagaland and the YTC of Rs. **17.98** Crores/Annum has been submitted by Kohima Mariani Transmission Limited for 400/200 kV, 2 x 500 MVA Substation at New Kohima.

Implementation of point **d** needs to be expedited by Nagaland.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.19 : INSTALLATION OF 80MVAR BUS REACTOR AT RANGANADI – NERPC.

In the 1st NERPCTP meeting held on 08th November,2019 approval was given for installation of 420kV 80MVAR Bus Reactor at Ranganadi using GIS bays. The time frame was 18 months.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.20 : UPGRADATION OF IMPORTANT 132kV LINKS IN TRIPURA – NERPC.

In the 2nd NERPCTP meeting held on 25th September,2020 the LILO of 132kV Surjamaninagar – Budhjungnagar Ckt#II & 132kV PKBari - Ambassa at 400/132kV



Surjamaninagar (ISTS) and 400/132kV PKBari (ISTS) respectively was approved with upgradation of the lines to HTLS conductor.

In 173rd OCCM TSECL informed that the LILO works with HTLS have been completed, however the line upgradation with HTLS has not been completed.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.21 : PAINTING WORK TO RESTRICT THE CORROSION FOR THE SAFETY & ENHANCEMENT OF LIFE OF THE TOWERS IN 400kV SILCHAR – BYRNIHAT/AZARA LINE TRAVERSING THROUGH HIGHLY POLLUTED AREA NEAR BYRNIHAT - NETC

A portion of 400 kV D/C Silchar- Byrnihat/ Azara line is passing through highly polluted terrain near Byrnihat. The pollution level has increased in the Byrnihat area due to its industrialisation. Because of such pollution, number of porcelain insulators installed in this section during the construction time got damaged due to lightning flashovers because of dust deposition on the insulators, which were later replaced with Polymer insulator.

Now again, due to this heavy pollution in this area, quite a no. of towers has also got rusted, out of which altogether 6 (Six) no. of towers viz. tower no. 548, 554, 580, 581, 582& 583 are severely affected and suffered intensive corrosion. (*Photographs enclosed for ready reference*). Due to this pollution in the area, several towers of other Transmission lines have also suffered severe corrosion. The industrial pollution causing corrosion would weaken the strength of towers and if such type of corrosion continues, there is an apprehension that a few of the towers may collapse in near future due to damage of stub & lattice members.

Therefore, for the safety & enhancement of tower's life and minimise the impact of further corrosion, NETC has taken up high tech painting of these six towers with zinc rich **anticorrosive** galvanized paint along with application of **rust converter** and **acid resistant** coating. For this work NETC has engaged a highly experienced agency for completing the work prior to heavy wind /storm period (April & May) as well as ensuing rainy season.



It is mentioned here that, the total cost of subject painting work including supply & execution would come to around Rs. 100 lakhs. As this is a very heavy amount for a small organization like NETC, the matter was taken up in the 174th OCC Meeting with a request for booking of such heavy expenditure through PoC mechanism. After detailed deliberation, the forum, considering the future implication of such nature of damage, had suggested/advised NETC to take up the matter in the next TCC/RPC meeting for inclusion of the cost as requested for.

TCC Deliberation :

NERPC Deliberation :

2. CATEGORY - B : ITEMS FOR APPROVAL

ITEM NO. B.01 : 132kV S/C LILO CONNECTIVITY TO 132kV KARIMGANJ SUB-STATION FROM 132kV BADARPUR-KUMARGHAT - ASSAM

Request for approval of 132KV S/C LILO connectivity to 132kv Karimganj S/S from 132kv S/C Badarpur – Kumarghat line of PGCIL, which passes by at a distance of 3 km from Karimganj Substation.

A vast area of Southern Assam comprising the Karimganj District including the district HQ has been facing drastic load restriction on account of very unstable power supply received via a substantially long 33kv feeder from Panchgram S/S - so much so, even the supply to the basic amenities like hospitals etc gets frequently disrupted giving rise to widespread public resentment combined with socio-political overtone. As such a 132kv S/S at Karimganj S/S with S/C connectivity from the existing Hailakandi S/S was planned. Towards this venture, the S/S at Karimganj has already been constructed and is ready to be loaded. But the associated S/C line from Hailakandi could not be completed due to unavoidable circumstances. As an urgent remedial measure AEGCL put forwarded an agenda before the NERPC - OCC meeting to allow AEGCL for availing a LILO connectivity from 132kv S/C Badarpur –



Kumarghat line of PGCIL to Karimganj S/S. It is pertinent to note that this line passes by at a distance of only 3 KM from Karimganj S/S. The 165th OCC meeting held on 14th February, 2020 deliberated on the issue (copy of the minutes enclosed) and allowed AEGCL to proceed ahead with the LILO works the meeting further directed AEGCL to obtain post facto approval of the LILO from SCM. Accordingly, AEGCL carried out the survey for the LILO connectivity and prepared the BoQ etc and work has been allotted to a contracting firm. The firm has already started the work for early completion of the scheme. Hence, the approval for the said LILO is urgently needed.

Submitted for approval of TCC/NERPC Members.

TCC Deliberation :

NERPC Deliberation :

**ITEM NO. B.02 : REVISED PROPOSAL IN RESPECT OF 220kV MARIANI –
NEW MARIANI CONNECTIVITY - ASSAM**

The earlier proposal at Clause 18.6 of the Minutes of 6th Standing Committee Meeting held on 03/10/2018 for connectivity on 220kv New Mariani – Mariani needs to be revisited on account of the following reasons :

The Survey carried out for the implementation of the said scheme has revealed that there is not only an acute RoW issue but also there will be need for sprawling “line crossing gantries” necessitating the acquisition of a huge plot of private agricultural land. It may be mentioned that the entry points of 2 no of 400kv circuits and 6 no. of 220kv ckts are all located at the same place. This has further complicated the issue as there will not be sufficient ground clearance (underneath the 220kv New Mariani – Mokokchung line) for entry of the 220kv Mariani line to New Mariani sub-station. Also in view of the approval of Khumtai sub-station, and also due to the same difficulties of entry point issues, the implementation of LILO of 220kv Samaguri – Mariani S/C line at New Mariani will be highly difficult If this proposal is insisted for implementation, then there will be huge cost involvement on the part of AEGCL and the process itself will be highly time consuming resulting in unnecessary delay in the commissioning of associated schemes of PGCIL.



Such a proposition may not be prudent. After joint inspection of the site by AEGCL & PGCIL officials, it is now proposed by AEGCL to amend the proposal as hereunder.

- (1) 400kv D/C line from MISA to be terminated at New Mariani 400kv Bus.
- (2) 220kv Mariani - Kathalguri S/C line will remain as it is.
- (3) There will be 220kv New Mariani - Kathalguri S/C line
- (4) New connectivity between New Mariani and Mariani shall be established through 220kv S/C Mariani - New Mariani line.
- (5) Eariler proposal for 220kv LILO connectivity of 220kv Samaguri - Mariani S/C line at New Mariani needs to be dropped.

Submitted for approval of TCC/NERPC Members.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.03 : RE-CONDUCTORING OF THE 132kV LINE FROM KHLIEHRIAT TO PANCHGRAM BY HTLS CONDUCTOR – MePTCL.

The 132 kV Khliehriat (Meghalaya) - Panchgram (Assam) S/c line is an ISTS line (approx. 90 km) owned by respective state utilities on each side, and the line was commissioned in 1983 (more than 35 years in operation). Presently, the loading of the line (ACSR Panther conductor) is restricted to 50MW only. MePTCL proposed for up-gradation of 132 kV Khliehriat- Panchgram line with HTLS conductor by MePTCL.

AEGCL has confirmed that about 20km portion of the 132 kV Khliehriat-Panchgram line lies in Assam and AEGCL don't have any issue in re-conductoring of this line by MePTCL. Further, AEGCL requested MePTCL to maintain the Assam portion of line as well alongwith the maintenance of the line which lies in Meghalaya.



In the 1st NERPCTP meeting the proposal of reconductoring of 132kV Khliehriat-Panchgram line with HTLS conductor alongwith uprating of requisite bay equipments by MePTCL was approved.

Submitted for approval of TCC/NERPC Members.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.04 : CAPITALIZATION OF 1X80MVAR 400kV BUS REACTOR IN EXISTING GIS BAY AT MISA UNDER NERSS-II(PART-B) WITH DoCO- 23.06.2020, SCHEDULE AUG'20 – NERTS.

Under Misa GIS Substation (Extension), 01 No. 420kV 80MVAR 3-Ph Bus Reactor has been proposed with commissioning schedule of November 2020.

As discussed in 169th OCCM, 420kV 80MVAR Bus Reactor has been installed and charged at 400kV Misa S/Sn as part of Misa-Mariani line upgradation in June'20. The 220kV line is yet to be upgraded. NERLDC informed that after detailed studies it has been found that the 400kV Bus voltage at Misa substation was 424kV in Lean Hydro and 421kV in Peak Hydro season without Bus Reactor. With commissioning of 80MVAR Bus Reactor at Misa, there is 8kV reduction in both the cases catering to better grid security.

Submitted for approval of TCC/NERPC Members.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.05 : RE-INSTATEMENT OF 5MVA 3-PHASE 132/33kV POWER TRANSFORMER AT KUMARGHAT SUSTATION- NERTS.

There was tripping of 5MVA, 3-Phase- 132/33kV Power Transformer (Bharat Bijlee Make) at 132kV Kumarghat S/S on 14.02.2020 due to operation of Buchholz protection. On analysis, it was found that same was due to poor value of degree of polarization w.r.t insulation level of paper over windings due to ageing of the transformer. OEM intimated that there is no more support for repair or rectification as the power transformer was manufactured apx.39yrs ago. Hence it is proposed to



procure a new 5 MVA transformer in the ongoing project NERSS VIII. The tentative cost of Transformer is Rs 1.31 Cr (Excluding F&I and Taxes & Duties).

Submitted for approval of TCC/NERPC Members.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.06 : APPROVAL OF SCHEMES APPROVED IN THE 1ST AND 2ND NERPCTP - NERTS
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Number of ISTS schemes were agreed for implementation in the 1st meeting of North Eastern Regional Power Committee (Transmission Planning) held on 08.11.2019 at Shillong. Subsequently, the same were approved in the 3rd meeting of NCT held on 26th-28th May 2020. Thereafter, MoP vide Office Memorandum dated 25.09.2020 has approved implementation of some of those schemes under RTM by POWERGRID, while some other has been approved for implementation through TBCB route. Such schemes requiring approval of TCC & NERPC are given below:

A. By POWERGRID under RTM

(i) North Eastern Region Strengthening Scheme – XI (NERSS-XI)

i. Extension at Imphal (POWERGRID) S/s

- Installation of 420kV, 2x63MVAR switchable line reactors, one in each circuit of Silchar (POWERGRID) – Imphal (POWERGRID) 400kV D/c line at Imphal end.

ii. Augmentation of transformation capacity at Salakati (POWERGRID) S/s

- Installation of 3rd 220/132kV, 1x100MVA ICT along with associated bays

(ii) North Eastern Region Strengthening Scheme – XII (NERSS-XII)

- i. Re-conductoring of Siliguri – Bongaigaon 400kV D/c line with Twin HTLS conductor (Ampacity of single HTLS shall be 1596A – equivalent to Twin ACSR Moose cond. for 45°C ambient and 85°C maximum



- conductor temperature) along with upgradation of 2 nos. of 400kV bays each at Siliguri & Bongaigaon substation
- ii. Re-conductoring of Alipurduar – Salakati 220kV D/c line with Single HTLS conductor (Ampacity of single HTLS shall be 1596A – equivalent to Twin ACSR Moose cond. for 45°C ambient and 85°C maximum conductor temperature) along with upgradation of 2 nos. of 220kV bays each at Alipurduar & Salakati substation
 - iii. Re-conductoring of BTPS – Salakati 220kV D/c line with Single HTLS conductor (Ampacity of single HTLS shall be 1596A – equivalent to Twin ACSR Moose cond. for 45°C ambient and 85°C maximum conductor temperature) along with upgradation of 2 nos. of 220kV bays each at BTPS & Salakati substation
 - iv. Re-conductoring of Dimapur – Imphal 132kV S/c line with Single HTLS conductor and strengthening of tower, wherever required (Ampacity of single HTLS shall be 798A – equivalent to Single ACSR Moose cond. for 45°C ambient and 85°C maximum conductor temperature) along with upgradation of associated bays along with upgradation of 1 no. of 132kV bay each at Dimapur & Imphal* substation
**Conversion of 132kV level of 400/132/33kV Imphal S/s is also being taken up in NERSS-XIII. Accordingly, upgradation at Imphal may be carried out considering the same*
 - v. Re-conductoring of Loktak – Jiribam 132kV S/c line with Single HTLS conductor and strengthening of tower, wherever required (Ampacity of single HTLS shall be 798A – equivalent to Single ACSR Moose cond. for 45°C ambient and 85°C maximum conductor temperature) along with upgradation of 1 no. of 132kV bay each at Loktak & Jiribam substation

Subsequently, due to the technical difficulties (mainly associated with limitation in existing tower) in achieving the approved current rating through HTLS and considering power flow requirement as per studies, it was agreed in a meeting taken by CEA on 21-12-2020 that the following ampacity (**mentioned in column E below**) of HTLS conductors for above lines in NER meets the technical requirement:



Sl. No.	Name of transmission line	Ampacity of existing ACSR sub-conductor (A)	Ampacity of Single HTLS Conductor as per MoP order dated 25.09.2020 (A)	Ampacity of single HTLS sub-conductor agreed considering technical constraints and system requirement (A)
(A)	(B)	(C)	(D)	(E)
1	400kV D/C Siliguri-Bongaigaon line (Twin ACSR Moose)	707	1596	1400
2	220kV D/C Alipurduar-Salakati line (Single ACSR Zebra)	451	1596	1100
3	220kV D/C BPTS-Salakati line (Single ACSR Zebra)	451	1596	1100
4	132kV S/C Dimapur-Imphal line (Single ACSR Panther)	93	798	450
5	132kV S/C Loktak-Jiribam line (Single ACSR Panther)	185	798	600

(iii) North Eastern Region Strengthening Scheme – XIII (NERSS-XIII)

i. Conversion of 132kV bus at Nirjuli (POWERGRID) S/s

- Conversion of 132kV level of 132/33kV Nirjuli (POWERGRID) S/s to Double Main Bus Scheme through GIS.

ii. Conversion of 132kV bus at Imphal (POWERGRID) S/s

- Conversion of old (more than 25 years) 132kV bus section of 400/132/33kV Imphal (POWERGRID) S/s to Double Main Bus Scheme through GIS and new 132kV bus section to Double Main Bus Scheme through AIS

(iv) North Eastern Region Strengthening Scheme – XIV (NERSS-XIV)

- LILO of Palatana – Surajmaninagar (ISTS) 400kV D/c line at 400/132kV Surajmaninagar (TSECL) S/s
- 4 nos. of 400kV line bays at Surajmaninagar (TSECL) S/s for termination of above LILO

B. TBCB

(i) Establishment of new 220/132kV substation at Nangalbibra

- Establishment of new 220/132kV, 2x160MVA substation at Nangalbibra



- ii. Bongaigaon (POWERGRID) – Nangalbibra 400kV D/c line (initially operated at 220kV) alongwith associated bays at both ends
- iii. Hasthingmari (Assam) – Ampati (Meghalaya) 132kV D/c line alongwith associated bays at both ends

Note:

- (i) POWERGRID to provide space for extension at Bongaigaon (POWERGRID) S/s: 2 No. of 220kV line bays for termination of Bongaigaon (POWERGRID) – Nangalbibra 400kV D/c line (initially operated at 220kV)
- (ii) AEGCL/Assam to provide space for extension at Hatsinghmari (Assam) S/s: 2 No. of 132kV line bays for termination of Hatsinghmari (Assam) – Ampati (Meghalaya) 132kV D/c line.
- (iii) MePTCL/Meghalaya to provide space for extension at Ampati (Meghalaya) S/s: 2 No. of 132kV line bays for termination of Hatsinghmari (Assam) – Ampati (Meghalaya) 132kV D/c line.

1.1. Further, following ISTS schemes were approved in the 2nd meeting of North Eastern Regional Power Committee (Transmission Planning) held on 25.09.2020 through Video Conference. Such schemes requiring approval of TCC & NERPC are given below:

(i) North Eastern Region Strengthening Scheme – XV (NERSS-XV)

- i. Upgradation of existing 132kV Namsai (POWERGRID) S/s to 220kV (with 220kV side as GIS) with installation of 2x160MVA, 220/132kV ICTs alongwith associated bays and space for 4 no. future line bays
- ii. Installation of 1x31.5MVA, 245kV bus Reactor alongwith associated GIS bay at Namsai (POWERGRID) S/s
- iii. Kathalguri (NEEPCO) – Namsai (POWERGRID) 220kV D/c line along with associated GIS line bays at both ends

(ii) Modification in already approved North Eastern Region Strengthening Scheme – IX (NERSS-IX)

- i. Construction of 2 no. 132kV **GIS** bays at Nirjuli S/s for termination of LILO of one circuit of Pare HEP - North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra).

(iii) Shifting of Surajmaninagar (TSECL) – Comilla (Bangladesh) 400kV cross border link to Surajmaninagar (ISTS)

- i. Shifting of Surajmaninagar (TSECL) – Comilla (Bangladesh) 400kV D/c (operated at 132kV) line to Surajmaninagar (ISTS) and operation as Surajmaninagar (ISTS) – Comilla (Bangladesh) 400kV D/c (operated at 132kV) line
- ii. 2 no. 132kV line bays at Surajmaninagar (ISTS) 400/132kV S/s for termination of Surajmaninagar (ISTS) – Comilla (Bangladesh) 400kV D/c (operated at 132kV) line



Note: Shifting will be carried out after expiry of present contract (i.e. March 2021) of export of 160MW from Tripura to Bangladesh.

Submitted for approval of TCC/NERPC Members.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.07 : APPROVAL OF SCHEMES APPROVED IN THE 1ST NERPCTP - NERPC

Scheme for relieving congestion in Agia Substation of Assam was approved in the 1st NERPCTP. The same is put up for TCC/RPC approval.

A. Under ISTS

a) Establishment of new 220/132kV, 2x160MVA substation at Nangalbibra

220kV:

- ICTs: 220/132kV, 2x160MVA
- ICT bays: 2 no.
- Line bays: 2 no. [for termination of Bongaigaon (POWERGRID) – Nangalbibra 400kV D/c line (initially operated at 220kV) – under this scheme]
- Bus Reactors: 2x31.5MVAR
- Bus reactor bays: 2 no.
- Space for future line bays: 6 no. [2 no. for termination of Mawngap (Meghalaya) – Nangalbibra (Meghalaya) 220kV D/c line of MePTCL and 4 no. for future lines]

132kV:

- ICT bays: 2 no.
- Line bays: 2 no. [for termination of Nangalbibra – existing Nangalbibra (MePTCL) 132kV D/c (Single Moose) line of MePTCL]



- Space for future line bays: 6 no. (for future lines)

Additional space for future expansion:

Space for future ICTs:

- 220/132kV, 1x200MVA (along with associated bays at both levels)
- 400/220kV, 3x500MVA (along with associated bays at both levels)

Space for 400kV upgradation:

- Line bays along with space for switchable line reactor: 8 no. [2 no. for 400kV operation of Bongaigaon (POWERGRID) – Nangalbibra 400kV D/c line (initially operated at 220kV) and 6 no. for other lines]
 - Bus reactor: 420kV, 3x125MVAr
 - Bus reactor bays: 3 no.
- b) Extension at Bongaigaon (POWERGRID) S/s: 2 no. 220kV line bays for termination of Bongaigaon (POWERGRID) – Nangalbibra 400kV D/c line (initially operated at 220kV)
- c) Extension at Hatsinghmari (Assam) S/s: 2 no. 132kV line bays for termination of Hatsinghmari (Assam) – Ampati (Meghalaya) 132kV D/c line
- d) Extension at Ampati (Meghalaya) S/s: 2 no. 132kV line bays for termination of Hatsinghmari (Assam) – Ampati (Meghalaya) 132kV D/c line
- e) Bongaigaon (POWERGRID) – Nangalbibra 400kV D/c line (initially operated at 220kV)
- f) Hatsinghmari (Assam) – Ampati (Meghalaya) 132kV D/c line

B. By MePTCL, Meghalaya under intra-state scheme: to be implemented in matching timeframe of above ISTS scheme

- a) Mawngap (Meghalaya) – Nangalbibra (Meghalaya) 220kV D/c line alongwith 220kV line bays at both ends
- b) Nangalbibra (ISTS) – existing Nangalbibra (MePTCL) 132kV D/c (Single Moose) line (2 no. 132kV line bays at Nangalbibra (MePTCL) is to be



implemented by MePTCL, however, 2 no. 132kV line bays at Nangalbibra (ISTS) is under the scope of ISTS)

As part of additional compensation in Southern NER grid at Silchar, the following was approved in the 1st NERPCTP meeting:

Installation of 63MVAR switchable line reactor in Silchar(POWERGRID) - Imphal (POWERGRID) 400kV D/c line at Imphal end – under ISTS. Tentative Cost of the work would be about Rs. 15 crore.

The same is put up for TCC/RPC approval.

**

Reconductoring of Dimapur-Imphal and Loktak-Jiribam 132kV S/c lines with HTLS (*ampacity of single HTLS shall be 798A, which is equivalent to Single ACSR Moose conductor for 45°C ambient and 85°C maximum conductor temperature*) along with upgradation of terminal equipment and strengthening of tower, wherever required were agreed to be carried out under ISTS was approved in the 1st NERPCTP meeting. The same is put up for TCC/RPC approval.

**

Alternative transmission line for evacuation of power from Tuirial HEP of NEEPCO was approved in the 1st NERPCTP meeting:

132kV Tuirial (HEP) - Kolasib Ckt # II line by P&E Dept., Govt. of Mizoram under intra-state transmission system

**

Additional transmission system for Dikshi HEP in West Kameng, Arunachal Pradesh was approved in the 1st NERPCTP meeting. The same is put up for TCC/RPC approval.

1 No. 10MVA 132/33kV transformer is to be installed at Tenga S/s by March, 2020 under intra-state transmission system by Arunachal Pradesh.

**

Reconductoring of 132kV Khliehriat- Panchgram line with HTLS conductor alongwith uprating of requisite bay equipments by MePTCL was approved in the 1st NERPCTP meeting. The same is put up for TCC/RPC approval.



**

Reconductoring of Umiam Stage-I - Umiam Stage-III 132 kV D/c line with HTLS conductor alongwith uprating of requisite bay equipments by MePTCL was approved in the 2nd NERPCTP meeting. The same is put up for TCC/RPC approval.

**

Modifications in Intra-state transmission system of Assam was approved in the 1st NERPCTP meeting as attached at **Annexure-B.07**. The same is put up for TCC/RPC approval.

**

The following intra-state transmission system for Assam considering load forecast for year 2030 was approved in the 1st NERPCTP meeting. The same is put up for TCC/RPC approval.

Two no. of 400kV substations along with associated transmission lines with implementation by AEGCL under intra-state transmission scheme by 2022:

- (i) Upgradation of existing 220/132kV substation to 400/220kV GIS substation at Khumtai
 - a. 400/220kV, 2x500 MVA ICT
 - b. 220/132kV, 2x160 MVA ICT (already under implementation)
 - c. 420kV, 2x80 MVAR Bus Reactor
 - d. Biswanath Chariali (POWERGRID) – Khumtai 400kV D/C (Twin Moose) line
 - e. 2 nos. of 400kV GIS line bays at Biswanath Chariali (POWERGRID) for termination of Biswanath Chariali (POWERGRID) – Khumtai 400kV D/C (Twin Moose) line
- (ii) Establishment of new 400/220/132 kV AIS at Gogamukh
 - a. 400/220kV, 2x500 MVA ICT
 - b. 220/132kV, 2x160 MVA ICT
 - c. 420kV, 2x80 MVAR Bus Reactor



- d. 2x63 MVAR Line reactors at Gogamukh end in Biswanath Chariali – Gogamukh 400kV D/c line
- e. Biswanath Chariali (POWERGRID) – Gogamukh 400kV D/c (Twin Moose) line
- f. 2 nos. of 400kV GIS line bays at Biswanath Chariali (POWERGRID) for termination of Biswanath Chariali (POWERGRID) – Gogamukh 400kV D/c (Twin Moose) line
- g. Bihpuria – Gogamukh 220kV D/c line (Sonabil – Bihpuria 220kV D/c line along with 220kV S/s at Bihpuria is already under implementation by AEGCL)
- h. North Lakhimpur – Dhemaji 132kV S/c line along with its LILO at Gogamukh

Note: Space provision may be made for installation of ICTs & Reactors and also for termination of additional 400kV, 220kV & 132kV lines in future.

**

Installation of 3rd ICT of 220/132kV 1x100MVA at Salakati under ISTS was approved in the 1st NERPCTP meeting to satisfy N-1 criterion. The same is put up for TCC/RPC approval.

**

Modification in scope of establishment of 400/220kV New Kohima Sub-station under NERSS-VI was approved in the 1st NERPCTP. The same is put up for TCC/RPC approval.

A 7x167 MVA, 400/220 kV GIS substation at New Kohima in place of conventional substation would be established under ISTS.

**

Shifting of Palatana – Surajmaninagar (TSECL) 400kV D/c line (operated at 132kV) to the 400/132kV ISTS S/s at Surajmaninagar – implementation by POWERGRID (by



July 2020) as already allocated to them by MoP, GoI was approved in the 1st NERPCTP meeting. The same is put up for TCC/RPC approval.

**

Reconductoring of inter-regional transmission lines were approved in the 1st NERPCTP. The same is put up for TCC/RPC approval.

- a) Reconductoring of Siliguri – Bongaigaon 400kV D/c line with Twin HTLS conductor (*ampacity of single HTLS shall be 1596A, which is equivalent to Twin ACSR Moose conductor for 45°C ambient and 85°C maximum conductor temperature*) along with requisite modifications in line bay equipment at both ends – under ISTS. The reconductoring will be carried out in accordance with outage permission from ERPC/NERPC/NLDC.

- b) Reconductoring of the Alipurduar – Salakati (Bongaigaon) 220kV D/c line with single HTLS (*ampacity of single HTLS shall be 1596A, which is equivalent to Twin ACSR Moose conductor for 45°C ambient and 85°C maximum conductor temperature*) along with requisite modifications in line bay equipment at both ends – under ISTS

**

LILO of Alipurduar – Salakati (Bongaigaon) 220kV D/c is proposed at Gossaigaon under intra state system strengthening by Assam was approved in the 1st NERPCTP. The same is put up for TCC/RPC approval.

**

Conversion of remaining two 420kV, 63 MVAR line reactors at Biswanath Chariali end (of Lower Subansiri – Biswanath Chariali 400kV 2xD/c lines) as bus reactors through suitable modifications in existing 400kV line bays like installation/provision of NGR by-pass scheme, controlled switching device etc. under ISTS was approved in the 1st NERPCTP meeting. The same is put up for TCC/RPC approval.

**



Conversion of 132kV Badarpur, 132kV Khliehriat, 132/33kV Nirjuli and 132kV Imphal substations from single main transfer scheme to double main transfer scheme on completion of 25 years age was approved in the 1st NERPCTP meeting. The same is put up for TCC/RPC approval.

Reconductoring of BTPS- Salakati 220kV D/c line with HTLS conductor (*ampacity of single HTLS shall be 1596A, which is equivalent to Twin ACSR Moose conductor for 45°C ambient and 85°C maximum conductor temperature*) along with requisite modification in bay equipment at both ends under ISTS, was approved in the 1st NERPCTP. The same is put up for TCC/RPC approval.

ITEM NO. B.08 : APPROVAL OF SCHEMES APPROVED IN THE 2nd NERPCTP - NERPC

In the 2nd NERPCTP meeting held on 25th September'20 over Video-Conferencing the Interconnection of 132kV Stations in Upper Assam with neighbouring stations in Arunachal Pradesh was discussed and the following were approved. The same is put up for TCC/RPC approval.

Following transmission system to be

implemented as North Eastern Region Strengthening Scheme-XV (NERSS-XV) under ISTS:

(a) Upgradation of existing 132kV Namsai (POWERGRID) S/s to 220kV (with 220kV side as GIS)

220kV:

- ICTs: 220/132kV, 2x160MVA
- ICT bay: 2 no.
- Bus reactor: 220kV, 1x31.5MVA
- Bus reactor bay: 1 no.
- Line bays: 2 no. [for termination of Kathalguri (NEEPCO) – Namsai (POWERGRID) 220kV D/c line]



- Space for future line bays: 4 no.

132kV:

ICT bays: 2 no.

- Space for future line bays: 4 no.

(b) Kathalguri (NEEPCO) – Namsai (POWERGRID) 220kV D/c line

(c) Extension at Kathalguri (NEEPCO) switchyard: 2 nos. of GIS line bays for termination of Kathalguri (NEEPCO) – Namsai (POWERGRID) 220kV D/c line

(d) Estimate Cost of the Project : Rs. 130 Crores

(e) Expected completion schedule : 36 months from Date of Allocation from MoP

**

One no. of 125MVAR, 400kV Bus-reactor at Subansiri Lower HE Project by NHPC was approved in the 2nd NERPCTP. The same is put up for TCC/RPC approval.

**

Modification in NERSS-IX: 2 no. 132kV **GIS** bays at Nirjuli S/s for termination of LILO of one circuit of Pare HEP - North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra) was approved in 2nd NERPCTP meeting. The same is put up for TCC/RPC approval.

**

ITEM NO. B.09 : DETAILS OF SEMs, DCDs/CMRIs PROCURED/TO BE PROCURED UNDER PoC MECHANISM - NERTS

It was decided in the 168th OCCM held on 20.07.2020 as well as in the 39th CCM held on 28.08.2020, that from FY 2017-18 onwards, the entire cost of SEMs, laptop, DCDs and associated items along with O&M costs are to be booked under PoC mechanism. The summary of the said procurement is given hereunder:-

Description	SEMs (Nos.)	DCDs/ CMRIs (Nos.)
Already received & Under process of installation/ handing over	100	20
Procurement order placed through quantity variation clause under existing	50	10

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LoA		
Under Procurement process	125	15
Total	275	45

Tentative cost involvement for above said procurement will be about Rs. 1.05 Cr.

Submitted for approval of TCC/NERPC members.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. B.10 : IMPLEMENTATION OF SINGLE PHASE AUTO-RECLOSURE IN 132kV RANGIA-MOTONGA AND 132kV GELEPHU-SALAKATI - NERTS

As per the discussions in the 5th Operational Coordination Meeting between India and Bhutan, Bhutan informed that gang operated circuit breaker at Gelephu station has been replaced with independent pole CB for the 132 kV Salakati – Gelephu line and single-phase auto recloser can be operationalized at any time. Bhutan requested India to replace 3 phase gang operated CB mechanism with single phase CBs at Salakati end. In 132 kV Rangia – Motonga line Single Phase Auto Recloser (SPAR) is ready at Bhutan (Motonga) end but not ready at India end due to the same reason.

In 164th OCC held on 21st January, 2020 it was decided that 3 phase GO CB at Salakati and Rangia is to be converted to Single Pole CB. The forum requested NERTS to prepare the proposal and place it for ratification in the next TCC/RPC with the expenditure being shared under PoC mechanism.

Tentative cost including Supply Installation and Commissioning is INR 50 Lakhs(approx.) but excluding taxes.

Submitted for approval of TCC/NERPC Members.

TCC Deliberation :

NERPC Deliberation :



3. CATEGORY - C : COMMERCIAL ISSUES
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ITEM NO. C.01 : OUTSTANDING DUES - NERTS

A. The total outstanding dues of NER beneficiaries as on **30.12.2020** is detailed below. Please note that these figures includes both PoC as well as non-PoC outstanding amounts.

State/DIC	Total Outstanding (Cr)	Outstanding more than 45 days (Cr)	Average billing (FY 2020-21) (Cr)
APDCL (Assam)	108.30	44.18	55.77
MeECL (Meghalaya)	93.95	84.21	7.96
MSPDCL (Manipur)	27.41	20.94	5.48
Mizoram	19.05	13.96	4.09
MSPCL (Manipur)	2.39	2.30	0.10
Ar. Pradesh	4.02	-	2.89
Total	255.12	165.59	76.29

Concerned DICs with >45 days outstanding dues, viz. MeECL, APDCL, MSPDCL, Mizoram & MSPCL may be requested to clear the outstanding dues immediately.

B. Consultancy Service to the Government of Arunachal Pradesh for the Execution of a) Ziro-Daporijo-Along Transmission System, b) Kathalguri-Deomali Transmission System – Release of Overdue Fund Rs.3.434 cr by DoP,AP to POWERGRID Under Consultancy Agreement dated 14.03.2000

DoP, Govt. Arunachal Pradesh is requested to release the outstanding fund of Rs. 3.434 Cr without any further delay

Members may update the status.

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ITEM NO. C.02 : MAINTAINING LETTER OF CREDIT BY NER DICs - NERTS

All NER DICs have been maintaining requisite amount of LC, with the exception of MSPDCL (Manipur). The details of LC requirement of MSPDCL (Manipur) is given as hereunder-

(All Figures in INR Lakh)

Sl. No.	Beneficiary	Required LC Amount	Validity of existing LC	Total LC Amount maintained/ to be maintained including enhanced value		
				Existing	Enhancement Required	Total
1	MSPDCL (Manipur)	502.51	27.03.2021	236.79	265.72	502.51

MSPDCL (Manipur) may be requested upon for enhancement of LC to requisite amount at the earliest as this is a long pending issue.

Members may update the status.

ITEM NO. C.03 : OUTSTANDING DUES - NEEPCO

Outstanding dues of beneficiaries payable to NEEPCO as on 18.01.2021 are as follows:

S.No.	State (UT)	Name of Beneficiary	Outstanding Principal already due (> 45 days)	Late Payment Surcharge (LPS) Due	Total Due (Inclusive of LPS)
1	ASSAM	APDCL	0.00	172.31	172.31
2	MIZORAM	Power & Electricity Dept, Mizoram	168.32	14.53	182.85
3	MANIPUR	MSPDCL, Manipur	3590.17	107.38	3697.55
4	TRIPURA	TSECL	10710.44	2624.42	13334.86
5	Ar. PRADESH	Dept. of Power, Ar. Pradesh	0.00	7.76	7.76
6	NAGALAND	Dept. of Power, Nagaland	0.00	0.00	0.00
7	MEGHALAYA	MePDCL,	35819.23	34219.40	70038.63

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		Meghalaya			
		Grand Total	50288.16	37145.79	87433.95

The above statement reflects an alarming situation. Yet, it has to be appreciated that some states are paying regularly and some are trying hard to clear the dues.

Due to accrual of such outstanding dues, NEEPCO is facing difficulty to meet its day to day expenditure including fuel costs required for operating its thermal power stations. In the interest of extending better service to its beneficiaries, NEEPCO earnestly requests all the beneficiaries to make the payment on regular basis.

Members may update the status.

ITEM NO. C.04 : OUTSTANDING DUES - OTPC

The current total outstanding dues of OTPC against the NER beneficiary states (as on 13-01-2021) are as under:

(Amount in Rs Crores)

Sl.No.	Beneficiary	Outstanding Dues (>45 Days)	Total Outstanding
1	Arunachal Pradesh	0	3.77
2	Assam	0	85.81
3	Manipur	26.79	42.50
4	Meghalaya	153	166.21
5	Mizoram	2.70	6.30
6	Nagaland	0	4.95
7	Tripura	6.29	74.34
	Total	188.78	383.89

The total outstanding dues as on 13-01-2021 are Rs 383.89 Crores out of which outstanding beyond 45 days is Rs 188.78 Crores. The outstanding dues of Meghalaya and Manipur have accumulated to concerning levels. Assam and Tripura are also requested to expedite the payments to avoid spillage over 45 days. 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 and Manipur are hence requested to clear at least the outstanding dues over 45 days, at the earliest. The forum is also requested to impress the urgency of



the liquidation of pending amount upon Meghalaya as the dues have not been liquidated despite continued requests.

Members may update the status.

ITEM NO. C.05 : STATUS OF PAYMENT SECURITY MECHANISM OF THE BENEFICIARIES - OTPC

Sl .No.	Beneficiary	Letter of Credit (LC) required as per PPA (Rs Crore)	LC amount status (Rs Crore)	Valid Upto	Remarks
1	Arunachal Pradesh	11.62	11.62	31 st March,2021	LC is in place
2	Assam	44.53	44.53	27 th April,2021	LC is in place
3	Manipur	8.7	3.7 5	27 th March,2021 12 th Feb,2021	LC is in place
4	Meghalaya	17.22	To be provided	NA	Meghalaya may reinstate the LC at an early date
5	Mizoram	9.6	9.6	6 th May,2021	LC is in place
6	Nagaland	9.46	9.46	20 th March,2021	LC is in place
7	Tripura	30.93	30.93	19 th March,2021	LC is in place.

Meghalaya state is scheduling power by paying on day ahead basis. As, Ministry of Power (MoP) has issued directions to NLDC/RLDC mandating the presence of LC for dispatch of power.

Members may update the status.

ITEM NO. C.06 : LIQUIDATION OF OUTSTANDING DUES BY MeECL, MEGHALAYA AND MSPDCL, MANIPUR - NTPC

Sl.No	Beneficiaries	Principal Amount (in Rs Cr)	Late Payment Surcharge	Total Outstanding in Cr. as on 20.01.2021	Outstanding more than 45 days as on 20.01.2021

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1	MeECL	377.05	152.88	529.93	510.70
2	MSPDCL	68	2	70.00	58

Meghalaya and Manipur are requested to make the payment at the earliest.

Members may update the status.

ITEM NO. C.07 : OPENING OF LETTER OF CREDIT - NTPC

As per MOP-GOI order No. 23/22/2019-R&R, dated 28th June 2019 regarding Opening and Maintaining of adequate Letter of Credit (LC) as Payment Security Mechanism under Power Purchase Agreements by Distribution Licensees. The following beneficiaries don't have the LC of required amount

Sl.No	Beneficiaries	LC Required As per PPA (Cr.)	Remarks
1	MeECL, Meghalaya	18.26	LC Expired on 21.01.2021. No LC
2	MSPDCL, Manipur	13.32	Partially opened for Rs 3.79 Cr

Members may update the status.

ITEM NO. C.08 : DEVIATION CHARGES OUTSTANDING OF MANIPUR - NERLDC

NERPC has issued weekly DSM statements upto Week-36 (30-11-2020 to 06-12-2020) of FY 2020-21.

Manipur is the major defaulter with O/s Payable to Pool ₹ **4.54 Crores** [O/s greater than 90 Days is ₹ **3.47 Crores**]. Clearance of o/s payable had been regularly followed up and also raised in OCCM & CCM several times. As recorded in 39th CCM Minutes, Manipur/MSPDCL was supposed to clear their o/s by end of September 2020 whereas only ₹ **1.5 Crores** was paid on 10-12-2020. Manipur is therefore requested to expedite the process of clearing their outstanding dues. As per CERC guidelines, Manipur may be barred from Short-term market upon non-clearance of dues.

Manipur may update the status.

ITEM NO. C.09 : SIGNING OF RECONCILIATION STATEMENTS - NERLDC

It has been observed that after several reminders also few constituents do not sign on the Reconciliation statements prepared by NERLDC. In case of both DSM & Reactive Reconciliations, Tripura has not reconciled for long period. Therefore, NERLDC is proposing that Reconciliation statements will be treated as Deemed reconciled in



future if not signed by Constituents within 30 days of issuance of statements by NERLDC.

Members may update the status.

ITEM NO. C.10 : ACCOUNTING OF ENERGY EXCHANGE BETWEEN ASSAM, ARUNACHAL PRADESH AND NAGALAND THROUGH 33kV AND 11kV FEEDERS - NERLDC

Ar. Pradesh & Nagaland draws power from Assam via few 11kV & 33kV feeders. But Interface meters (SEM) are not in place in those energy exchange locations as per the metering regulations. These energy exchanges are accounted based on monthly JMR (Joint Meter Reading) received from Assam by converting the net energy into time block wise energy for settlement through DSM mechanism.

Such adjustment in accounting is not desirable. SEMs are to be installed in these interchange points or alternately these energy exchanges should be settled bilaterally in between Assam & Ar. Pradesh as well as Assam & Nagaland.

Members may update the status.

4. CATEGORY - D : ITEMS FOR INFORMATION

ITEM NO. D.01 : COMMISSIONING OF 400kV SUBSTATION AT THOUBAL-MSPCL

In the 2nd NERPCTP meeting held on 25-09-2020, CEA stated that in accordance with ToR-I of the committee i.e. quarterly review of the transmission system (at Agenda-6), a meeting was held through video conferencing on 17.08.2020 to discuss the issues raised by POSOCO regarding noncompliance of N-1 reliability requirement in a few areas/substations in the North Eastern Region Grid, Manipur was requested to provide status regarding commissioning of Imphal (POWERGRID) – Thoubal 400kV D/c line along with charging of 400/132kV ICTs at Thoubal in the next meeting of NERPCTP.

Now, 400kV Thoubal S/S is completed in all respects. Pre-commissioning test of 400kV Thoubal line from PGCI, Yurembam is going on. After thorough verification of all the technical parameters and pre-commissioning test, MSPCL is planning to commission the 400kV Sub-station at Thoubal in March, 2021.

For Kind information



ITEM NO. D.02 : BUS REACTOR AT BYRNIHAT - MePTCL

The 63 MVAR Bus Reactor at Byrnihat is under prolonged outage. Bus Reactor at Byrnihat may mitigate the high voltage problem. In 161st OCC Meeting, MePTCL informed that DPR for 80 MVAR Bus Reactor at Byrnihat was submitted to NLDC/NPC and agreed as per 166th OCC Meeting. Tendering is in progress.

For Kind information

ITEM NO. D.03 : STATUS OF PSDF FUNDED PROJECTS IN NER - NERPC

State	R&U scheme	ADMS	Capacitor Installation	SAMAST**	Line Differential Protection
Ar. Pradesh	Package-I (Diagnostic tools) Utilization certificate to be sent immediately. P-II (for PLCC & communication) LOA issued. Requisition for 30% to be sent immediately. P-III (Substation equipment) NIT by Dec'20 Station-wise status to be updated	60% disbursement by Dec'20. Requisition for 3 rd tranche sent.	-	TESG approval awaited	-
Nagaland	All completed except for PLCC package. Delayed due to COVID situation Station-wise status to be updated.	Second tranche of disbursed. Requisition to be sent for 3 rd installment.	-	TESG approval awaited	Lines identified. Under DPR preparation stage.

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Mizoram	Completed. 10% remaining claim to be submitted ASAP.	Final 10% requisition submitted.	To reply to TESG queries.	TESG approval awaited.	Lines identified for installation of DPR viz. 132kV Aizawl - Luangmual and 132kV Kawmzawl - Khawiva.
Manipur	Package-II: completed Package-I: WIP Delayed due to COVID situation Station-wise status to be updated.	60% disbursed. Final 10% requisition to be sent immediately	LOA issued. Requisition to be sent for first tranche.	TESG approval awaited.	Lines identified. LDP for 132kV Imphal-Imphal and 132kV Jiribm-Jiribam proposed. Under DPR preparation stage.
	33kV System Integration with SLDC	In tendering stage			
	Reliable Communications for grid connectivity	In tendering stage			
Tripura	Work completed. 10% remaining claim to be sent ASAP. Station wise status to be updated.	Requisition to be sent for 20% & 60% immediately	Study results to be submitted alongwith DPR	TESG approval awaited.	Only single line 132kV 79Tilla to Budhjangnagar. DPR to be prepared.
Assam	LOA issued. WIP, delayed due to COVID situation Station-wise status to be submitted.	Requisition sent for 60% on 09 th Dec'20.	-	LoA issued.	Lines identified. Under DPR preparation stage.

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Meghalaya	MePTCL Completed in all respects. MePGCL – 10% claim to be submitted ASAP.	Final tranche of 10% disbursed. Project complete in all respects.	-	LoA issued.	WIP. Delayed due to COVID situation
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For Kind information

ITEM NO. D.04 : STATUS OF ULDC PROJECTS IN NER - NERTS

Project	Scope	Current Status
NER Microwave Replacement	1188Km (30 Links)	29 Links commissioned. Commissioning of 1 link (Aizwal – Zimbawak) by 31.01.2021.
NER Fiber Optic Expansion	1960Km (47 Links)	1073Km OPGW stringing completed. 24 links commissioned. 339Km OPGW stringing comprising 23 links are pending for commissioning. Links are expected to be commissioned by June'21.
FO Expansion (Add.)	889Km	Out of 889Km, 505Km OPGW has been supplied at site and 5km stringing have been completed.
Reliable Communication	2054Km	NIT done on 12.02.20 and OBD done on 20.07.20. Package annulled as bidders who had participated required registration as per recent GoI guidelines regarding bidders sharing land border with India. Retendering planned in Jan'21.
NER UNMS	02 Control Centres	NER UNMS project was approved in 20th NERPC dated on 12th Sep 2019. DPR of the subject project has been prepared. Cost estimate is Rs.109.74 Cr. excluding AMC cost which is estimated as Rs. 5.63 Cr per annum. AMC period considered is 7 years. AMC have provision of 24x7 manning for maintaining the system with availability of engineers from contractor on round the clock

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		basis at Regional and National UNMS. For State Sector manpower is for general shift and on call basis as per requirement. Requirement of annual cyber security audit is also part of AMC. NIT for UNMS of NER was done on 26.10.20 and OBD is scheduled on 09.02.21.
Replacement of RTUs	14 nos	NIT planned in Jan'21.

For Kind information

ITEM NO. D.05 : TELEMETRY STATISTICS FOR NER CONSTITUENTS - NERLDC

Telemetry Statistics for NER constituents (Average availability of data for the Month of Nov'20)

Utility	Analog Percentage	Digital Percentage	Total Percentage
PGCIL	92	94	94
NEEPCO	89	90	90
NTPC	96	92	94
NHPC	100	97	97
OTPC	97	99	99
Arunachal Pradesh	9	9	9
Assam	51	51	53
Manipur	59	53	53
Meghalaya	73	48	58
Mizoram	27	10	12
Nagaland	17	37	29
Tripura	41	42	42
NER	58	60	60

For Kind information



ANNEXURES

1. AGOMONI SUBSTATION :

Sl No.	As per Approved DPR (CEA letter No. CEA-PS-12-16/13/2018-PSPA-II Division dtd 11.01.2019)			Revised Proposal			Justification for the change proposal
	Scope of work	Route Length (KM)	Type of Conductor	Scope of work	Route Length (KM)	Type of Conductor	
3	Establishment of new 220/132 kV (2 X 160 MVA) and 132/33 kV (2 X 50 MVA) GIS Substation at Agamoni			Establishment of new 220/132 kV (2 X 160 MVA) AIS at Gossaigaon instead of Agomoni			i. <u>Availability of Land:</u> At 132/33kV, 2x16MVA Gossaigaon Grid substation of AEGCL, about 0.33 acre (1338 sq metre) of AEGCL's owned unutilised land is available where the new 220/132kV Gossaigaon GIS is proposed to be constructed. ii. <u>Reduction in Route Length:</u> The route length of LILO of both ckt of Alipurduar (PGCIL) - Bongaigaon (PGCIL) D/C line at Agomoni (AEGCL- New) is reduced to 3KM from 25KM , which minimises not only the cost of construction of 220kV LILO but also ROW issues. iii. <u>Necessity of 132kV Substation at Agomoni:</u> The 33kV feeders of APDCL (Distribution Company of Assam) are required for catering the demand at surroundings localities
	220 kV:			220 kV:			
	LILO of both ckt of Alipurduar(PGCIL) - Bongaigaon (PGCIL) D/C line at Agamoni (AEGCL- New)	25 KM	ACSR Zebra	LILO of both ckt of Alipurduar (PGCIL) - Bongaigaon (PGCIL) 220kV D/C line at Gossaigaon (AEGCL- New) with HTLS conductor (<i>ampacity of single HTLS shall be 1596A, which is equivalent to Twin ACSR Moose conductor for 45°C ambient and 85°C maximum conductor temperature</i>)	3 KM	ACSR Zebra	
	132 kV:			132 kV:			
	LILO of Gossaigaon - Gauripur S/C (AEGCL- Existing) Line at Agamoni (AEGCL- New)	10 KM	HTLS	Establishment of new 132/33 kV (2 X 50 MVA) AIS Substation at Agamoni			
	Load	16 MW	Load	LILO of Gossaigaon - Gauripur D/C (AEGCL-	10 KM	HTLS	

				Existing) Line at Agamoni (AEGCL- New)			of Agomoni. However, the GIS is converted to AIS as there is sufficient land available for 132kV AIS at Agomoni.
				Load	16 MW	Load	

2. GHUNGUR (Silchar-2) GIS :

Sl No.	As per Approved DPR (CEA letter No. CEA-PS-12-16/13/2018-PSPA-II Division dtd 11.01.2019)			Revised Proposal			Justification for the change proposal
	Scope of work	Route Length (KM)	Type of Conductor	Scope of work	Route Length (KM)	Type of Conductor	
9	Establishment of new 132/11 kV (2 X 31.5 MVA) GIS Substation at Ghungur (Silchar-2)			Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Ghungur (Silchar-2)			i. <u>Suitability in Power Evacuation at 33kV Level:</u> APDCL has requested AEGCL to change downstream voltage level from 11kV to 33kV, which APDCL will be more suitable in evacuating power from the proposed substation. 33kV sub-transmission line from this proposed substation to various load centres of rural areas will reduce the transmission losses to a great extent.
	132 kV:			132 kV:			
	Ghungur (AEGCL- New) - Silchar (PGCIL)- S/C Line	10 km	XLPE Armoured AI Cable	Ghungur (AEGCL- New) - Silchar (PGCIL)- D/C Line	10 km	XLPE Armoured AI Cable	
	Load	20 MW		Load	20 MW		

3. ZOO ROAD GIS :

Sl No.	As per Approved DPR (CEA letter No. CEA-PS-12-16/13/2018-PSPA-II Division dtd 11.01.2019)			Revised Proposal			Justification for the change proposal
	Scope of work	Route Length	Type of Conductor	Scope of work	Route Length	Type of Conductor	

		(KM)			(KM)	
11	Establishment of new 132/11 kV (2 X 31.5 MVA) GIS Substation at Zoo Road			Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Zoo Road		
	132 kV:			132 kV:		
	Zoo Road (AEGCL-New) – Gauhati Medical College(GMC) (AEGCL-Existing) S/C Line	8 KM	XLPE Armoured AI Cable	Zoo Road (AEGCL-New) – Gauhati Medical College(GMC) (AEGCL-Existing) S/C Line	8 KM	XLPE Armoured AI Cable
	Load	25 MW		Load	25 MW	
i. <u>Availability of Land:</u> The land of proposed new 132kV Zoo Road GIS is provided by APDCL free of cost inside their campus of existing 2x10MVA, 33/11kV Zoo Road Substation ii. <u>Suitability in Power Evacuation at 33kV Level:</u> APDCL has requested AEGCL to change downstream voltage level from 11kV to 33kV, which APDCL will be more suitable in evacuating power from the proposed substation.						

4. CHHAYGAON GIS :

Sl No.	As per Approved DPR (CEA letter No. CEA-PS-12-16/13/2018-PSPA-II Division dtd 11.01.2019)			Revised Proposal			Justification for the change proposal
	Scope of work	Route Length (KM)	Type of Conductor	Scope of work	Route Length (KM)	Type of Conductor	
12	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Chhaygaon			Establishment of new 220/33 kV (2 X 100 MVA) GIS Substation at Chhaygaon			i. <u>Availability of Land:</u> The land for construction of new Chhaygaon GIS is finalised at Industrial Growth Centre(IGC), Chhaygaon by AIIDC (Assam Industrial Infrastructure Development Corporation) under Industry Deptt of Govt of Assam. The land is provided by AIIDC in the interest of reliable power supply to their existing and upcoming small scale industries. ii. <u>Catering of Future Load Growth with minimum ROW:</u>
	132 kV:			132 kV:			
	Chhaygaon (AEGCL-New) - Boko (AEGCL-Existing) D/C Line	20 KM	AAAC Panther	LILo of 220kV Agia - Azara line at Chhaygaon	3 KM	AAAC Zebra	
	Load	28 MW	Load	Load	28 MW		

							<p>The location is a load centre for many upcoming industries of AIIDC. Setting up of 220/33kV GIS inside AIIDC campus , will minimise RoW issues of drawing 33kV lines from a grid substation located at a far distance.</p> <p>iii. <u>Reduction of Route Length:</u> The proposed 132 kV D/C transmission line of route length of 20km from 220kV Boko substation to feed 132kV Chhaygaon substation as approved in the DPR is replaced by LILO of 220kV Mirza(Azara) – Boko line at 220kV Chhaygaon GIS. This reduces not only the RoW issues of 132kV DC line but also the cost of construction.</p> <p>iv. <u>Non-availability of Space for Bay at Boko GSS:</u> In addition to the above, the survey has revealed that sufficient space is not available for construction of the earlier proposed feeder bays at Boko GSS.</p>
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5. NAGAON-2 GIS :

Sl No.	As per Approved DPR (CEA letter No. CEA-PS-12-16/13/2018-PSPA-II Division dtd 11.01.2019)		Revised Proposal			Justification for the change proposal
	Scope of work	Route Length (KM)	Type of Conductor	Scope of work	Route Length (KM)	

17	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Nagaon-2			Establishment of new 220/33 kV (2 X 100 MVA) GIS Substation at Nagaon-2			<p>i. <u>Availability of Land:</u> The land for construction of new Nagaon - 2 GIS is finalised at Laogaon at Northern part of Nagaon town. The land is provided by APDCL.</p> <p>ii. <u>Reduction of Route Length:</u> The LILO of one circuit of 220kV Samaguri – Jawaharnagar line to this proposed Nagaon -2 GIS is found to be the most suitable instead of 132 kV DC line from 220kV Samaguri substation of route length 41kms. The route of of 220kV LILO is 1km only</p> <p>iii. <u>Minimization of RoW issues:</u> It will also minimise RoW issues of crossing National Highways, Railways and densely populated villages near Nagaon town.</p> <p>iv. <u>Non-availability of Space for Bay at Samaguri GSS:</u> In addition to the above, the survey has revealed that sufficient space is not available for construction of the earlier proposed feeder bays at Samaguri GSS.</p>
	132 kV:			220 kV:			
	132kV Samaguri (AEGCL-Existing) – Nagaon-2 (AEGCL-New) D/C Line	41 km	AAAC Panther	LILO of one circuit of Samaguri (AEGCL-Existing) –Jawaharnagar (AEGCL-Existing) 220kV D/C Line at Nagaon-2 (AEGCL-New)	1 km	AAAC Zebra	
	Load	25 MW		Load	25 MW		

6. Bay Extension of 132 bays at Samaguri (2 bays) & Boko (2 bays):

As per Approved DPR		Revised Proposal		Justification for the change proposal
Scope of work	No. of Bays	Scope of work	No. of Bays	

Two nos. of 132kV Line Bays for Boko- Chayygaon D/C Line & Two nos. of 132kV Line Bays for Samaguri-Nagaon-2 D/C Line	4	Two nos. of 132kV Line Bays for Boko- Chayygaon D/C Line & Two nos. of 132kV Line Bays for Samaguri-Nagaon-2 D/C Line	0	This is due to change in location of LILO point as described in SI Nos. 4, 5 as mentioned above
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7. MORIGAON Substation :

SI No.	As per Approved DPR (CEA letter No. CEA-PS-12-16/13/2018-PSPA-II Division dtd 11.01.2019)			Revised Proposal			Justification for the change proposal
	Scope of work	Route Length (KM)	Type of Conductor	Scope of work	Route Length (KM)	Type of Conductor	
16	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Morigaon			Establishment of new 132/33 kV (2 X 50 MVA) AIS Substation at Morigaon			i. <u>Availability of Land:</u> The land identified for construction of new Morigaon Substation is at a remote location. Thus there is sufficient land available for construction of 132/33kV AIS instead of GIS. ii. <u>Ease in Operations and Maintenance in AIS at Remote Substations:</u> In case of substations at remote locations, AIS is more suitable from operations and maintenance point of view as the power restoration works in case of outages can be done easily with the existing manpower that is more acquainted with AIS system.
	132 kV:			132 kV:			
	132kV Baghjap(AEGCL-Existing) – Morigaon(AEGCL-New) D/C Line	20 KM	AAAC Panther	132kV Baghjap(AEGCL-Existing) – Morigaon(AEGCL-New) D/C Line	20 KM	AAAC Panther	
	Load	15 MW		Load	15 MW		