

I/1921/2018(15)



भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केंद्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग-II
Power System Planning & Appraisal Division-II

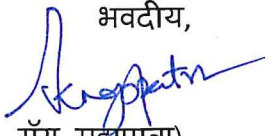
सेवा में

As per list of Addresses

विषय: उत्तर पूर्वी क्षेत्र की विद्युत व्यवस्था योजना पर 7 वीं स्थायी समिति की बैठक के कार्यवृत्त।
Subject: Minutes of the meeting of 7th Standing Committee on Power System Planning of North Eastern Region.

महोदय,

The Minutes of the Meeting (MoM) of 7th Standing Committee on Power System Planning (SCPSP) of North Eastern Region, held on 17.05.2018 at Radisson Blu Hotel, Guwahati (Assam) under the Chairmanship of Member (PS), CEA is enclosed herewith. The same is also available at CEA's website (www.cea.nic.in/reports/committee/scm/ner).

भवदीय,

(एस.के. रॉय महापात्रा),
मुख्य अभियंता (पीएसपीए- II)

File No.CEA-PS-12-16/3/2018-PSPA-II Division

List of Addresses:

1	The Member Secretary, North Eastern Regional Power Committee(NERPC), Meghalaya State Housing Finance Co-Operative Society Ltd. Building Nongrim Hills, Shillong (Meghalaya) – 793003 Fax: 0364 – 2534040/2520030	2	Chief Engineer (PSETD), CEA, Sewa bhawan , R K Puram sector -1, New Delhi- 110066
3	The Director (Projects), Power Grid Corp. of India Ltd., "Saudamini", Plot No. 2, Sector-29, Gurgaon-122001 Fax 0124-2571760/2571932	4	Chairman & Managing Director, POSOCO, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi – 110016. Fax: 011 – 26852747 / 26524525/ 26536901
5	Director (Projects), National Thermal Power Corp. Ltd.(NTPC), NTPC Bhawan,Core-7, Scope Complex, Lodhi Road,New Delhi-110003 Fax 011-24360912	6	COO(CTU-Planning), Power Grid Corporation of India Ltd., "Saudamini" Plot no-2, Sector-29, Gurgoan- 122001, Haryana Fax-11-265600039
7	Shri Bhupender Gupta, Addl. CEO, REC Transmission Projects Company Limited, 12-21,Upper Ground Floor, Antriksh Bhawan, 22 KG Marg, New Delhi-110001	8	The Managing Director, Assam Electricity Grid Corporation Limited, Bijulee Bhawan; Paltan Bazar, Guwahati (Assam) – 781001. Fax: 0361 – 2739513 & 0361 – 2739989
9	The Chairman-cum-Managing Director, Tripura State Electricity Corporation Limited, Bidyut Bhavan, Banamalipur, Agartala, Tripura. Fax: 0381 – 2319427	10	The Chairman-cum-Managing Director, Meghalaya Energy Corporation Limited, Lum Jingshai, Short Round Road, Shillong (Meghalaya) – 793001. Fax: 0364 – 2590355
11	The Managing Director, Manipur State Power Company Ltd. (MSPCL), Electricity Complex, Patta No. 1293 under 87(2), Khwai Bazar, Keishampat, District – Imphal West, Manipur – 795001	12	The Chief Engineer (Power), Vidyut Bhawan, Department of Power, Zero Point Tinali, Itanagar (Arunachal Pradesh) – 791111. Fax: 0360 – 2217302
13	The Chief Engineer, Department of Power, Nagaland, Kohima Fax: 0832 – 2426986/2222354	14	Engineer-in-Chief Power & Electricity Department, Govt. of Mizoram, Tuikhuahtlang, Aizawl (Mizoram) Fax:0389-2320861/2320862
15	The Chairman and Managing Director, N.H.P.C., N.H.P.C Office Complex, Sector-33, Faridabad - 121003 (Haryana)	16	The Chairman and Managing Director, North Eastern Electric Power Corporation Ltd, Brookland Compound, Lower New Colony, Shillong (Meghalaya) – 793003. Fax: 0364 – 2226417

Copy to:

PPS to Member (PS), Central Electricity Authority, Sewa Bhawan, R. K. Puram, New Delhi-110066

**Minutes of the 7th Meeting of Standing Committee on Power System Planning
of North Eastern Region held on 17.05.2018 at Guwahati (Assam)**

1. List of the participants is enclosed at **Annexure-I**.
2. Member (Power System) welcomed the participants and thanked POWERGRID for hosting the meeting in Guwahati. He informed that as per MoP's new order, North Eastern Region Standing Committee on Transmission (NERSCT) shall meet at least once in three months. He requested all participants to actively participate in discussion and to be specific on the issues to resolve all the issues amicably through healthy and result oriented discussions. He requested Chief Engineer, CEA to conduct further proceeding of the meeting.
3. Chief Engineer (PSPA-2) also welcomed the participants to the meeting and stated that NER is the smallest region in terms of energy demand and is rich in Hydro potential, especially Arunachal Pradesh. Presently, the total installed capacity in NER is about 3.9 GW and peak demand is about 2.5 GW. The installed capacity & Peak Demand of NER are likely to increase to 4.9GW and 4.5GW respectively (excluding the export of 500MW to Bangladesh from Tripura through Surajamaninagar - Comilla 400kV D/C line with HVDC back-to-back at Comilla) corresponding to 2021-22 timeframe. Considering the projected demand and inadequate generation addition in the region, NER will remain deficit most of the time for the plan period 2017-2022 and hence power has to be exported from other regions of the country. Under such scenario, the transmission system needs to be planned to meet the expected growth in demand by 2021-22. After a brief introduction of participants, he requested Director (PSPA-2), CEA to take up the agenda items for discussion.
4. **Confirmation of the minutes of 6th Standing Committee Meeting on Power System Planning of North Eastern Region**
 - 4.1 Director (PSPA-2), CEA informed that the minutes of the 6th meeting of the Standing Committee on Power System Planning held on 03.10.2016 at Imphal, Manipur were circulated vide CEA's letter no. 81/4/2016/PSPA-II/ dated 18.01.2017 and no comments have been received from any constituents. She requested constituents to confirm the minutes of the meeting.
 - 4.2 The minutes of the meeting were confirmed.
5. **Constitution of the "North Eastern Region Standing Committee on Transmission" (NERSCT) for planning of transmission System in the Region**
 - 5.1 Director (PSPA-2), CEA stated that the MoP vide letter dated 13th April 2018 (**copy enclosed at Annexure-II**) have reconstituted the "Empowered Committee on Transmission" (ECT), "National Committee on Transmission" (NCT) and Regional Standing Committees on Transmission (SCT) for planning of Transmission System.

5.2 The constitution of the "North Eastern Region Standing Committee on Transmission" (NERSCT) for planning of Transmission System in the Region has been revised as given below:

1. Member (Power System), Central Electricity Authority (CEA) as Chairperson
2. Chief Operating Officer, Central Transmission Utility (POWERGRID) as Member
3. Director (System Operation), Power System Operation Corporation Ltd. as Member
4. Heads of State Transmission Utilities (STUs) of Assam, Meghalaya, Nagaland, Arunachal Pradesh, Tripura, Manipur, Mizoram as Member (STUs to coordinate with their respective Distribution Companies DISCOMs)
5. Member Secretary of North Eastern Region Power Committee as Member
6. Chief Engineer (from Power System Wing), Central Electricity Authority (CEA) as Member Secretary

The Terms of Reference (ToR) of NERSCT are as follows:

- (i) Evolve and finalize system strengthening schemes for removal of operational constraints and transfer of surplus power through inter-regional corridors
- (ii) Examine the proposals for transmission systems for access/ connectivity applications
- (iii) Examine the associated transmission systems with electricity generators
- (iv) Review the up- stream and down -stream network associated with transmission schemes
- (v) Examine and evaluate the inter- state transmission proposals

5.3 Further, Chief Engineer (PSPA-2), CEA informed that as per new notification of committee, STU should nominate their representatives/ member and has to coordinate with respective Discoms for development of intra-state as well as inter-state transmission system in the region.

6. Establishment of Roing (Arunachal Pradesh) – Chapakhowa (Assam) 132kV S/c line on D/c towers

6.1 Director (PSPA-2), 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 under construction by POWERGRID as part of Palatana – Bongaigaon scheme.

She further stated that 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.

- 6.2 NERLDC informed that there is constraint in loading of Tinsukia – Rupai 132kV line that is connected through Assam Gas Based Power Plant (AGBPP). Rupai S/s is further connected to Chapakhowa S/s.
 - 6.3 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 132 kV link is also required for reliable power supply in Arunachal Pradesh.
 - 6.4 Member Secretary, NERPC stated that Namsai is being fed through Roing - Tezu - Namsai 132kV link and there is need for second connectivity with Namsai. Connectivity between AGBPP and Namsai would increase reliability of power supply in Arunachal Pradesh.
 - 6.5 The representative of NEEPCO informed that the availability of space at AGBPP needs to be checked.
 - 6.6 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 132 kV link or other alternative proposals need to be studied in detail.
 - 6.7 **After detailed deliberation following were agreed :**
 - a) **Implementation of Roing (Arunachal Pradesh) – Chapakhowa (Assam) 132kV S/c line on D/c tower as ISTS for system strengthening in NER.**
 - b) **The requirement of AGBPP – Namsai 132kV link or other alternative proposals to be decided in the joint study by CEA, CTU, Assam and Arunachal Pradesh.**
7. **Reconductoring of 132kV Kopili – Khandong Line-1 (PGCIL) with HTLS Conductor instead of ACSR Panther conductor**
 - 7.1 Director (PSPA-2), CEA stated that 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 132kV circuits between Kopili and Khandong HEPs. 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 power flow between Kopili and Khandong in the event of outage of Circuit # 2. Thus, to have (N-1) compliance of transmission link between Kopili and Khandong HEP, the existing ACSR Panther Conductor needs to be replaced with HTLS conductor of ampacity equivalent to ACSR Zebra.

- 7.2 CTU informed that total installed capacity of Kopili HEP and Khandong HEP are 200 MW and 75 MW respectively.
- 7.3 Superintendent Engineer, NERPC informed that the issue was deliberated in 127th OCC Meeting and the requirement of re-conductoring was agreed by the members. The matter was again discussed and approved in the 18th TCC/NERPC meeting held on 10th-11th Oct 2017 and was further recommended for approval of SCM. The other circuit may be replaced by HTLS conductor.
- 7.4 CTU stated that before implementation of re-conductoring of line, the matter needs to be taken up with CERC regarding de-capitalisation of old conductor. In case of re-conductoring of line with HTLS conductor, suitability of terminal / bay equipment need to be checked and upgraded, if required.
- 7.5 **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 of terminal equipment needs to be checked and upgraded, if required.**
8. **Reconductoring of Siliguri – Bongaigaon 400kV D/c Twin Moose line with Twin HTLS conductor**
- 8.1 Director (PSPA-2), CEA stated that presently the installed capacity of NER is about 3900MW (2300MW thermal and 1600MW Hydro+RE) and peak demand is of the order of 2500MW. As per 19th EPS, the peak demand of NER is expected to be about 4500 MW in 2021-22. With the commissioning of 500MW HVDC back-to-back station at North Comilla (Bangladesh) in Dec 2020, the export to Bangladesh would increase from 160 MW to 500 MW through Surajmaninagar (India)-North Comilla (Bangladesh) 400kV D/C line (presently operating at 132kV level). Thus, the total effective peak load requirement of NER including the export to Bangladesh would be about 5000MW. She further informed that by 2021-22, major generations projects likely to be commissioned in NER are Kameng HEP (600MW), Pare HEP (110MW) and Bongaigaon TPS (3rd unit of 250MW) resulting in total installed capacity of about 4900MW [2550 MW thermal and 2350 MW (Hydro+RE)].
- 8.2 The representative of CTU informed that during peak demand and low hydro scenario in NER, there would be an import requirement of about 1700-1800MW on ER-NER corridor. To meet this demand there are two 400kV lines viz. New Siliguri – Bongaigaon 400kV D/c line & Alipurduar – Salakati 400kV D/c (Quad) line and Alipurduar – Bongaigaon 220kV D/c line. The Siliguri – Bongaigaon 400kV D/c line is designed with ACSR Moose conductor with maximum operating temperature of 75°C, thus the thermal capacity of line would be about 875MVA per circuit (about

830MW at 0.95pf). Under N-1-1 condition of the Alipurduar – Bongaigaon 400kV D/c (Quad) line, loading on the remaining twin moose lines would be close to/beyond thermal rating. Moreover, any further reduction in generation in NER during low hydro scenario shall only aggravate the situation under N-1-1.

Hence the Siliguri – Bongaigaon 400kV D/c line may be reconducted 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.

8.3 Further, he stated that system study was carried out considering the increase in load demand of NER without substantial generation addition in NER, generation addition in Bhutan (i.e 720MW from Mangdechhu HEP expected by December 2018) and increase in expected export of power to Bangladesh & Myanmar. It is observed that above mentioned 400kV lines as well as 220kV line are getting overloaded.

8.4 Members agreed to discuss the matter in next standing committee meeting after carrying out detailed system studies considering various possible scenarios.

9. LILO of Kahilipara – Umtru 132kV D/c line at Killing S/s of Meghalaya

9.1 Director (PSPA-2), CEA stated that to relieve the high loading on ICTs at Sarusajai GSS of AEGCL, and also to increase the reliability of power supply in greater Guwahati & its adjoining areas, AEGCL has proposed LILO of Kahilipara - Umtru 132kV D/c lines at Killing GSS of MeECL. This reconfiguration of the network will also enhance the reliability of power supply in Umtru and Byrnihat areas of Meghalaya. Load flow studies was carried out for 2021-22 timeframe and it has been found that power flow on Umtru – Kahilipara 132kV D/c line is about 70MW per circuit towards Kahilipara. Under N-1 condition, the power flow is about 110MW per circuit.

She also stated that with the proposed LILO arrangement, the power flow on Killing – Kahilipara section is about 73MW per circuit and under N-1 the same is about 119MW on the remaining circuit. Thus, the subject proposal of AEGCL would not provide any relief. However, it is observed that with the implementation of proposed 400/220kV substation at Sonapur by AEGCL, loading on Umtru – Kahilipara 132kV D/c line would be reduced to about 30 MW per circuit. She requested AEGCL to inform about the status of implementation of Sonapur S/s.

9.2 The representative of AEGCL stated that Kahilipara – Umtru 132kV D/c line is very old line and is the only source from Meghalaya. Loading on ICTs at Sarusajai GSS of AEGCL is increasing day by day. The commissioning of Sonapur substation is expected by 2021-22.

Superintendent Engineer, NERPC stated that the commissioning of Sonapur substation is getting delayed and hence LILO of Kahilipara – Umtru 132kV D/c line

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at Killing S/s of Meghalaya would help in meeting the increase in load demand of Guwahati City, which is around 18 km from Killing S/s.

9.3 After the detail deliberation, members agreed to carry out joint study with Assam, Meghalaya, CEA, and CTU to explore other alternative(s).

10. Implementation of 132kV line bay at Palatana generation switchyard

10.1 Director (PSPA-2), CEA stated that Palatana – Surajmaninagar 400kV D/c line (presently operating at 132 kV) has been commissioned as part of Palatana-Bongaigaon Transmission System. At present, 2 nos. 132kV line bays are available at Palatana end. Palatana – Udaipur 132kV S/c line of Tripura has been terminated in one bay and one ckt. of Palatana – Surajmaninagar D/c line is terminated in the other bay. Other ckt. of Palatana – Surajmaninagar D/c line is yet to be connected at Palatana end.

Further, she informed that in a meeting held on 18-07-2017 under the Chairmanship of Member (Power System) CEA, it was decided that Palatana – Udaipur 132kV line would be disconnected from Palatana end for termination of 2nd circuit of Surajmaninagar – Palatana D/C line in order to avoid unnecessary investment for construction of 3rd 132kV line bay at Palatana as 132kV line bays would be available as spare after operation of Palatana – Surajmaninagar line at 400kV.

10.2 The representative of CTU stated that for last two years, the power is being transferred / exported to Bangladesh through one ckt of Palatana – Surajmaninagar 400kV D/c line (presently operating at 132kV). For reliable export/ transfer of power to Bangladesh, the second ckt of the above line should be connected at Palatana end.

10.3 Member Secretary (NERPC) stated that the matter was also deliberated in the 18th TCC/NERPC meetings held on 10th-11th Oct 2017, wherein Tripura had requested for deferment of the decision regarding opening of Palatana – Udaipur line till April 2018, NERPC had reconsidered the request of Tripura for retaining the Palatana – Udaipur 132kV link till April 2018. Now, Tripura may clearly indicate the time line for opening of above line.

10.4 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.

10.5 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.

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

10.7 After detail deliberations, following were agreed:

- a) 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.

11. Reviewing of “Transmission system for Phase-1 generation projects in Arunachal Pradesh” Scheme:

11.1 Director (PSPA-2), CEA stated that the following transmission system for Phase-1 hydro generation project in Arunachal Pradesh was discussed and finalised in the 3rd Standing Committee Meeting on Power System Planning of NER held on 21-12-2018 as well as 35th meeting of Empowered Committee on Transmission held on 14-09-2015.

- a) Dinchang- Rangia / Rowta Pooling Point 400 kV D/C line (with Quad Moose ACSR conductor),
- b) LILO of both ckts of Balipara- Bongaigaon 400 kV D/C line (with Twin Moose ACSR conductor) at Rangia/ Rowta,
- c) Establishment of 7x166 MVA, 400/220 kV Pooling station (GIS) at Dinchang
- d) Establishment of 2x500 MVA, 400/220 kV Pooling station at Rangia/ Rowta in Upper Assam

11.2 RECPTCL was the BPC for this scheme. Further, she stated that keeping in view the progress of Gongri HEP (144MW) of Dirang Energy Pvt. Ltd., in the 35th Empowered Committee Meeting on Transmission, it was decided that the above transmission system would be taken up for implementation after considerable progress is made at site by the generation project developer.

Accordingly, two visits were made by CEA, POWERGRID and RECTPCL (BPC) to Gongri HEP site on Jan 2016 and March 2017 to assess the actual progress of the projects. As per the reports submitted by the team, the construction work had started in only one project i.e. Gongri HEP (of Dirang Energy Pvt. Ltd.) and no development were observed in the remaining three projects of Sew Nafra Power Corporation Ltd, Adishankar Khuitam Power Pvt. Ltd, and KSK Dibbin Power Pvt. Ltd. The commissioning of Gongri HEP is uncertain due to non-availability of funds.

11.3 Subsequently, in the 37th meeting of Empowered Committee on Transmission held on 20-09-2017, it was decided that *“The scheme would be taken up for implementation after ascertaining the progress of hydro projects by CEA”*.

11.4 Further, Director (PSPA-2), CEA emphasized that considering very slow progress of Phase-1 Hydro generation projects in Arunachal Pradesh, the Dinchang - Rangia / Rowta Pooling station 400kV D/c line (with Quad Moose ACSR conductor) and 400/220kV pooling station (GIS) at Dinchang can be deleted from the “Transmission system for Phase-1 generation projects in Arunachal Pradesh” Scheme and modified scheme inter alia Rangia 400/220kV S/s could be implemented as a system strengthening scheme.

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- 11.5** The representative of AEGCL stated that in 4th, 5th and 6th Standing Committee meeting of NER, Assam had proposed for establishment of 2x500MVA, 400/220kV substation at Rangia / Rowta with LILO of Balipara - Bongaigaon 400kV D/c line (with Twin Moose ACSR conductor) at Rangia / Rowta Pooling station considering the load growth in Kamrup, Nalbari & Darrang district. Six (6) nos. of 220 kV bays are required at 400/220kV Rangia substation to feed its upcoming new 220kV substations of AEGCL viz. Rangia (AEGCL), Amingaon (AEGCL) and Rowta (AEGCL).
- 11.6** The representative of CTU stated that 400 kV S/s at Rangia is required in Assam and it could be implemented preferably as ISTS considering pooling of hydro generation from Bhutan, Inter-state generation, particularly hydro generations from Arunachal Pradesh. The substation at Rangia should be implemented as GIS station.
- 11.7** Further, he stated that if Rangia S/s would be implemented as an Intra State Scheme by AEGCL, then adequate space provision should be made for additional transformation capacity and terminations of 220kV and 400kV ISTS lines in future. AEGCL agreed for the same.
- 11.8** The representative of AEGCL stated that in the 6th NER-SCM, AEGCL had reiterated that the Rangia 400/220kV substation is required to feed its upcoming new 220kV substations of AEGCL viz. Rangia (AEGCL), Amingaon (AEGCL) and Rowta (AEGCL). The implementation of Rangia 400/220kV substation is linked with Hydro generation projects in Arunachal Pradesh. However, the implementation of Hydro projects is uncertain. He, therefore, insisted for implementation of Rangia 400/220kV substation as Intra-State system strengthening scheme, independent of the development of hydro projects in Arunachal Pradesh.
- 11.9 After detail deliberation, following was agreed:**
- (a) **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**
- (b) **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.**

- (c) 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, 2x125MVAR 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 finalised by Assam.
 - (viii) Space provision for future ISTS: 2x500MVA, 400/220kV transformer along with associated bays at 220kV and 400kV levels.

12. Strengthening of transmission system in Assam including formation of second 400kV node in ER-NER corridor

12.1 Director (PSPA-2), CEA stated that at present NER grid is connected to rest of national grid at Bongaigaon S/s. 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.

12.2 NERPC stated that 2nd 400kV node in NER grid for connectivity with ER grid is necessary.

12.3 The representative of AEGCL stated that Bornagar is about 80 km away from Rangia S/s and demand in that area is very less. Hence it should be executed as a switching station and AEGCL is interested to implement the Bornagar S/s as an intra-state scheme.

12.4 The representative of CTU stated that Bornagar would be a switching station and is expected to be connected with Katihar in Bihar and Parbotipur in Bangladesh in future. It should be implemented as ISTS instead of an Intra-state scheme as international interconnections are planned from Bornagar S/s.

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- 12.5** The representative of DoP, Ar. Pradesh stated that second feed in NER would increase the reliability and stability of power supply of this region.
- 12.6** Chief Engineer (PSPA-II), stated that Bornagar-Alipurduar 400kV D/C line will become the 2nd AC link with ER and would improve the reliability of power supply to NER.
- 12.7 After detailed deliberations, following were agreed to be implemented as an ISTS scheme:**
- a) **Construction of 400kV Bornagar switching station**
 - b) **LILO of Bongaigaon-Balipara 400kV D/C line (with Quad Moose ACSR conductor) at Bornagar**
 - c) **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)**
 - d) **2x125 MVAR, 420kV Bus Reactor at Bornagar**

13. Alternative Transmission Line for Evacuation of Power from 60MW Tuirial HEP of NEEPCO

- 13.1** Director (PSPA-2), CEA stated that Tuirial HEP with installed capacity of 60MW was commissioned on 01.12.2017 and 100% power is allocated to Mizoram. In the 3rd SCM of NER held on 21-12-2011, following transmission system was decided keeping in view ISGS nature of project:
- (a) Tuirial-Kolasib 132kV S/C line (implemented by P&E Dept., Govt .of Mizoram)
 - (b) LILO of Jiribam-Aizwal 132kV S/c line at Tuirial HEP (to be implemented by POWERGRID)
- 13.2** CEA in its letter dated 10-04-2013 had mentioned that since entire power of Tuirial HEP is allocated to Mizoram, the generation project is intra-state in nature and accordingly, evacuation system cannot be implemented as ISTS. Accordingly, following transmission system was indicated for power evacuation from Tuirial HEP:
- (a) Tuirial-Kolasib 132kV S/C line (implemented by P&E Dept., Govt .of Mizoram)
 - (b) Tuirial-Sihhmui 132kV D/c line (to be implemented by NEEPCO/ P&E Dept., Govt .of Mizoram)
- 13.3** Presently, the power is being evacuated by Tuirial-Kolasib 132kV S/C line. The 2nd transmission line is required for reliable evacuation of power meeting N-1 criteria. The representative of NEEPCO informed that in the meeting held on 17-02-2017 between NEEPCO & Secretary, Power & Electricity Department, Govt. of Mizoram, it was decided to explore the possibility of LILO of Jiribam – Aizawl (Luangmual) 132kV S/C line at Tuirial HEP for reliable evacuation of power and

the line would be constructed by Mizoram. He further stated that two additional 132 kV line bays in accordance with above concept has already been constructed and commissioned at Tuirial switchyard.

- 13.4** The representative of Mizoram stated that LILO of Jiribam – Aizawl (Luangmual) 132kV S/C line at Tuirial HEP is not feasible due to very difficult terrain and Mizoram don't have fund to construct the 2nd ckt for evacuation of power from Tuirial HEP.
- 13.5** The representative of NERTS informed that presently maximum tripping happens in Jiribam - Aizawl 132kV line. Due to frequent tripping of above line and very difficult terrain, the above LILO arrangement is not advisable for safety & security of the grid.
- 13.6** NERPC stated that Mizoram is the beneficiary of Tuirial HEP, for reliable evacuation of power. Mizoram should plan for 2nd connectivity. Mizoram and NEEPCO would jointly explore the alternatives for 2nd connectivity for evacuation of power from Tuirial HEP.
- 13.7** After detailed deliberation, it was agreed that due to problems associated with LILO of Jiribam – Luangmual 132kV line at Tuirial HEP, Mizoram and NEEPCO would jointly explore the possibility of 2nd connectivity for reliable evacuation of power from Tuirial HEP and the matter would be taken up for discussion in the next Standing Committee Meeting.

14. Proposal for Connection of Upcoming Dikshi HEP (24MW) in West Kameng District of Arunachal Pradesh

- 14.1** Director (PSPA-2), CEA stated that Dikshi HEP (24MW) located near Rupa of West Kameng District is being developed by M/s Devi Energies Pvt. Ltd. on BOOT basis and project is in advance stage of construction now. Govt. of Ar. Pradesh is actively considering signing of PPA with the developer. However, no transmission line either of the state or of any other entity exists in the proximity of this project to facilitate power evacuation.
- 14.2** Further, he stated that since Dikshi HEP is on the verge of commissioning, it is proposed to connect Dikshi HEP with 132kV Balipara-Khupi line of NEEPCO through a LILO arrangement at a place called Nechipu, which is about 32km away from Dikshi HEP.
- 14.3** The representative of NEEPCO informed that due to some problem, the commissioning of Dikshi HEP would be delayed and expected date of commissioning is March 2019 and above LILO arrangement is necessary for evacuation of power from Dikshi HEP.
- 14.4** The representative of CTU informed that the additional transmission system works i.e. Khupi-Bomdila-Tawang 132kV S/C line on D/C towers and Bomdila-Kalaktang 132kV S/C line on D/C towers along with sub-stations at Bomdila, Tawang and Kalaktang have been requested by Ar. Pradesh for implementation under

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Comprehensive Scheme for strengthening of T&D system in Ar. Pradesh. The scheme is being consideration for inclusion under the comprehensive scheme. However, approval of MoP is required. Further, due to hilly terrain, these lines and substations would take time for implementation.

- 14.5** Chief Engineer (DoP), Arunachal Pradesh stated that Nechiphu is the nearest point suitable for transfer of power from Dikshi HEP in Arunachal Pradesh.
- 14.6** Member (PS) advised to discuss the matter in a separate meeting at CEA.
- 14.7** **Members agreed to discuss the matter in a separate meeting in CEA along with Arunachal Pradesh, NEEPCO, CTU (POWERGRID) to decide about the power evacuation arrangement for Dikshi HEP (24MW).**

15. Handing over of 132kV Balipara-Khupi-Kimi S/C line by NEEPCO to POWERGRID

- 15.1** Superintendent Engineer, NERPC stated that Balipara-Khupi-Kimi 132kV S/C transmission line and its associated substations were constructed by NEEPCO through POWERGRID on deposit work basis for drawing construction power for Kameng HEP in Ar. Pradesh.

The details of the asset constructed are as follows:

A) Transmission Line:

- a) Balipara - Khupi 132kV S/C line.
- b) Khupi- Kimi 132kV S/C line

B) Substation at Balipara:

- a) 2x50 MVA, 220/132 kV transformer at Balipara with associated bays.
- b) one 132kV line bay for the line to Khupi.
- c) one 132kV bay for bus transfer.

C) 132/33 kV substation at Khupi

- a) 2 Nos. of 132kV line bays: one bay for the line to Balipara and one bay for the line to Kimi.
- b) 4x5 MVA, single phase, 132/33 kV transformer with associated bays.
- c) one 132kV bay for bus transfer.
- d) one 33kV line bay at Khupi (for operating Khupi-Kimi portion at 33kV)

- 15.2** Representative of NEEPCO stated that NEEPCO Board have decided to hand over the asset to POWERGRID and have communicated POWERGRID vide their letter dated 28/07/2018.

- 15.3** The representative of POWERGRID stated that in case this line is to be handed over to POWERGRID, the line status is to be changed to ISTS category and permission of respective RPC, SCM on Power System Planning as well as CERC is required. This was communicated to NEEPCO vide letter dated 01/09/2017.

15.4 Further, representative of POWERGRID stated that since the transmission system assets have been created exclusively for the benefit of Ar. Pradesh, hence the assets should be handed over to Ar. Pradesh.

15.5 Members agreed for handing over the assets mentioned above to Ar. Pradesh and modality of transfer may be decided in a separate meeting in CEA with POWERGRID, Ar. Pradesh and NEEPCO.

16. Installation of 80MVAR Bus reactor at Ranganadi

16.1 Director (PSPA-2), CEA stated that 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.

16.2 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.

16.3 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.

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

16.5 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.

16.6 Director (PSPA-II) stated that installation of 1x 80MVAR, 420kV Bus Reactor at Ranganadi **was agreed as a technical requirement**. NEEPCO may recover the tariff from beneficiary (ies) as per CERC regulations after installation of Reactors at Ranganadi.

16.7 After detailed deliberations, it was agreed to install 1x80MVAR, 400kV Bus reactor along with associated GIS Bay by NEEPCO at Ranganadi.

17. Strengthening of Khandong bus

17.1 Director (PSPA-2), CEA stated that NEEPCO is in the process of R&M of the 2x25MW Khandong power station as it would complete its useful service life in April, 2019. Khandong switchyard is having Double Bus & transfer facility at 132kV 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.

17.2 The representative of CTU stated that the matter is not part of transmission planning.

17.3 **Members opined that the matter is a design related issue and therefore NEEPCO may consult CPRI / CEA / any other agency for technical consultancy.**

18. 500MW HVDC back-to-back station at North Comilla (Bangladesh) for transfer of power through Surjamaninagar – North Comilla link

18.1 Director (PSPA-2), CEA informed 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.

18.2 Further, she stated 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 2 nos. of 400kV line bays at Surajmaninagar S/s (ISTS) for termination of Surajmaninagar –North Comilla 400 kV D/c line.

18.3 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.

18.4 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:

- 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 .
- 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.*

19. Modification in scheme - Additional ± 800 kV HVDC Corridor in the chicken neck area under North East – Northern/Western Interconnector Project

19.1 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.

19.2 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.

19.3 After detailed deliberations, following were agreed:

- a) **The erection of towers at seven locations in the chicken neck area would be deleted from the scope of works covered under “Additional ± 800 kV HVDC Corridor in the chicken neck area under North East – Northern/Western Interconnector Project” scheme.**
- b) **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.**

20. Downstream system development by STUs from the various commissioned and on-going ISTS substations

20.1 The representative of CTU stated that POWERGRID is implementing 132kV switching station at Melriat along with (a) Silchar – Melriat 400kV D/c line (initially to be operated at 132kV) (b) Melriat – Sihhmui 132kV D/c line and (c) LILO of Aizawl – Zemabawk at Melriat under Palatana-Bongaigaon scheme. The line mentioned at (a) is expected to be completed by June 2018 and the elements at (b) & (c) are ready for commissioning. However, the downstream network at Sihhmui (Mizoram) S/s which includes installation of 132/33kV ICTs and 33kV lines are not ready. He requested Mizoram to update the expected commissioning schedule of downstream network at its Sihhmui S/s so as enable utilisation of under construction ISTS system.

20.2 Mizoram stated that all work including erection of transformers at Sihhmui S/s has been completed and Sihhmui S/s is ready for commissioning. Due to shortage of O&M staff in P & E, Mizoram, it could not be energized and operated.

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

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Sl. No.	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	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	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 I PPs in Arunachal Pradesh
					Rangia (TBCB) - Amingaon (AEGCL)	2	Assam to update	
					Rangia (TBCB) - Rowta (AEGCL)	2	Assam to update	

20.4 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.

20.5 Assam informed that the Mariani -New Mariani (POWERGRID) 220kV D/C line would be available in matching time frame of the substation upgradation.

20.6 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.

- 2 nos. of 132kV line bays at both Surajmaninagar and P.K. Bari S/s – **Deleted**
- 2 nos. of additional 132kV line bays at both Surajmaninagar and P.K. Bari substations for future usage of TSECL- **Provision of space for 2Nos. future bays.**
- 2 nos. of 220kV bays at New Kohima 400/220 kV S/S- **Deleted**
- 2 nos. of 220 kV future bays at New Kohima- **Provision of space for 2Nos. future bays.**
- 220kV line bays from four to six on request of Assam at Rangia / Rowta 400/220kV S/s-**Addition of 2Nos. 220kV bays**
- 2 nos. of 220kV bays at Bongaigaon substation may be deleted (viz. from four to two bays).- **Deleted**

- 20.7** The representative of 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.
- 20.8** He 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.
- 20.9** Member (PS) stated that for funding for these lines, Tripura may submit the proposal to MoP with intimation to CEA.
- 20.10** Representative from Nagaland was not present. The status of bays at New Kohima could not be discussed.
- 20.11** Chief Engineer (PSPA-II) 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 utilised.
- 20.12** After detailed deliberations, following were agreed:
- a) **NERPC will take up the matter in respect of commissioning and operation of Sihhmui S/s of Mizoram.**
 - b) **Mariani-New Mariani (POWERGRID) 220kV D/c line would be available in matching time frame of the substation upgradation.**
 - c) **Following bays would be modified at different substation of NER as per the requisition of the states.**
 - 2 nos. of 132kV line bays at both Surajmaninagar and P.K. Bari S/s – **Deleted**
 - 2 nos. of additional 132kV line bays at both Surajmaninagar and P.K. Bari substations for future usage of TSECL- **Provision of space for 2Nos. Future bays.**
 - 2 nos. of 220kV bays at New Kohima 400/220 kV S/S- **Deleted**
 - 2 nos. of 220 kV future bays at New Kohima- **Provision of space for 2Nos. Future bays.**
 - .220kV line bays from four to six on request of Assam at Rangia / Rowta 400/220kV S/s- **Addition of 2Nos. 220kV bays**
 - 2 nos. of 220kV bays at Bongaigaon substation may be deleted (viz. from four to two bays).- **Deleted**

d) 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.

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

Sl. No.	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- Pavoi	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- S alakati	2	Under Const. by POWERGRID	NERSS-III (Exp. Comm. Sept 2018)
3	Surajmani-nagar	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: As decided in item no. 11, Rangia 400/220kV S/s would be implemented by AEGCL (Assam) as an intra-state scheme.

21. Proposed scheme for relieved congestion in Agia sus-station of Assam

- 21.1** The representative of AEGCL informed that load in 220kV substation at Agia has increased due to additional loading of about 50MW on Agia (Assam) - Mendipather (Meghalaya) 132kV line. However, AEGCL has no tariff benefit due to PoC Mechanism. Further he stated that for reducing loading on lines connected with Agia (Assam) substation and enhancing the reliability of power supply in the western parts of Meghalaya, a 220kV substation either in West Garo Hills district or in the East Garo Hills district of Meghalaya is required and 220kV substation should be connected to Bongaigaon (PG) GSS.
- 21.2** Superintendent Engineer, NERPC stated that 220kV connectivity with Bongaigaon (PG) GSS would provide relief to Agia S/s of Assam.
- 21.3** The representative of CTU informed that earlier implementation of 220kV bays at Bongaigaon substation was taken up by POWERGRID. However, in the 6th SCM held on 03-10-2016, deletion of above 220kV bays was agreed as Assam as well as Meghalaya could not utilise these bays. However, space for bays at Bongaigoan S/s is still available.

21.4 He further stated that in absence of detail proposal and system studies, it is difficult to resolve the issue at Agia S/s.

21.5 Chief Engineer (PSPA-2) suggested to carryout joint system study with Assam, Meghalaya, CEA and CTU.

21.6 After detailed deliberations, members agreed for carrying out joint system study with Assam, Meghalaya, CEA and CTU.

22. Implementation of Additional 132 kV transmission system proposed by Arunachal Pradesh under Comprehensive Scheme of Arunachal Pradesh

22.1 Director (PSPA-II), CEA stated that the following additional proposal of Ar. Pradesh for implementation under Comprehensive Scheme of Arunachal Pradesh was 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

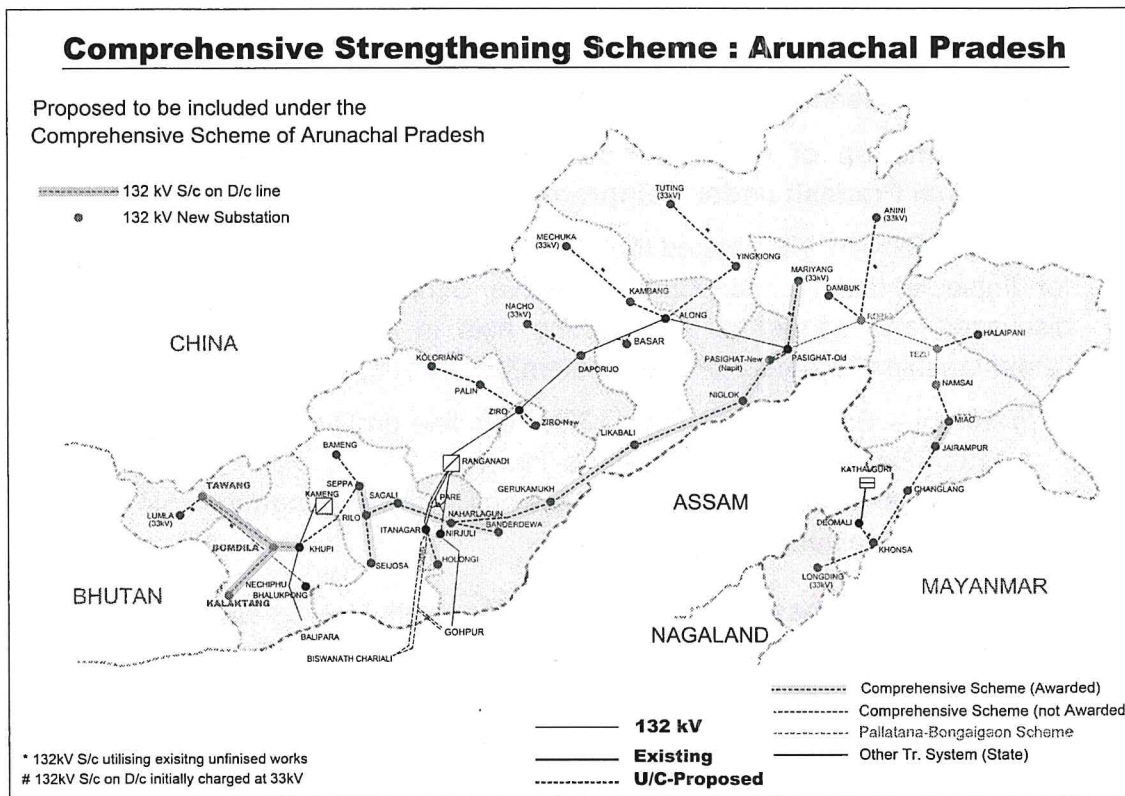
(ii) Bomdila – Kalaktang 132kV S/c line on D/c tower alongwith 4x5MVA 132/33kV S/s at Kalaktang

22.2 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..

22.3 Members agreed for implementation of following additional 132 kV scheme under the on-going Comprehensive Scheme of Arunachal Pradesh :

(a) Khupi – Bomdila – Tawang 132kV S/c line on D/c towers alongwith 7x5MVA, 132/33kV substation each at Bomdila & Tawang

(b) Bomdila – Kalaktang 132kV S/c line on D/c towers alongwith 4x5MVA 132/33kV S/s at Kalaktang



23. North East – Northern / Western Interconnector-I Project

23.1 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 Biswanath Chariyali – 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 Biswanath Chariyali 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, 2x80MVA bus reactor at Biswanath Chariyali
- (xi) 420kV, 1x80MVA 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, 1x80MVA bus reactor at Balipara
- (vi) 1x63MVA 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) 1x63MVA 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** have been commissioned. Under **Part-B**, all other elements except Kameng – Balipara 400kV D/c line (and associated bays) have been commissioned. The transmission line and Kameng HEP project of NEEPCO are expected to be commissioned shortly in matching time-frame. **Part-C** inter alia includes immediate evacuation line for Lower Subansiri HEP (2000MW) of NHPC viz. Lower Subansiri – Biswanath Chariyali 400kV 2xD/c line with twin lapwing

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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 4x63MVA 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 63MVA 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 2x63MVA 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.

- 23.2** 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 50MVA line reactors at Agra end of Agra – Sikar 400kV D/c line with 80MVA line reactors as part of North East – Northern / Western Interconnector-I Project. The same has been commissioned.
- 23.3** In view of the above, POWERGRID requested that Part-C of the project except the 2x63MVA 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”.
- 23.4 Director (PSPA-2) stated that POWERGRID has requested for the revised name and following scope of works of two scheme:**
- (a) North East – Northern / Western Interconnector-I Project**
- **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 Biswanath Chariyali end and of 40km length at Agra end.)*
- (ii) Balipara – Biswanath 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, 2x80MVA bus reactor at Biswanath Chariyali
- (xi) 420kV, 1x80MVA 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, 1x80MVA bus reactor at Balipara
- (vi) 1x63MVA fixed line reactor at both ends on each circuits of Balipara – Bongaigaon 400kV D/c line (total 4 no. of reactors)
- (vii) Installation of 2x63MVA switchable line reactor of Biswanath Chariyali end of Lower Subansiri – Biswanath Chariyali 400kV 2xD/c line as bus reactor at Biswanath Chariyali S/s
- (viii) Replacement of 50MVA line reactors at Agra end of Agra – Sikar 400kV D/c line with 80MVA line reactors (total 2 reactors)

(b) 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) Installation of new 2x63MVA switchable line reactor at Biswanath Chariyali end on each circuits of Lower Subansiri – Biswanath Chariyali 400kV 1st D/c line.
- (iv) The existing 2x63MVA switchable line reactors installed as bus reactors at Biswanath Chariyali end (under the North East – Northern / Western Interconnector-I Project) are to be reinstalled as switchable line reactors in the Lower Subansiri – Biswanath Chariyali 400kV 2nd D/c line.

23.5 Members agreed for above revised name and scope of works of two schemes as mentioned at (a) and (b) at para 23.4 above.

24. Strengthening of Southern Part of NER Grid

24.1 Superintending Engineer, NERPC stated that major loads in Southern part of NER grid, which includes power systems of South Assam, Tripura (including radial load to Bangladesh), Mizoram & Manipur, are fed through 400/132 kV substation at Silchar (PG) and about 36% of the installed generation capacity of NER (3732 MW) is present in Southern part of NER Grid (Total: 1339 MW; Palatana: 726 MW; AGTCCPP: 130 MW; Loktak: 105 MW; Monarchak:101 MW; Tuirial:30 MW; Tripura:185 MW, Mizoram: 52 MW). Major upcoming corridors are planned or under operation/execution connects load centres in Southern part of NER Grid like Silchar – Misa 400kV D/C, Silchar – Melriat 400kV D/C (to be operated at 132kV), Silchar – Palatana 400kV D/C, Silchar – Byrnihat – Bongaigaon, Silchar – Azara – Bongaigaon 400 kV, Silchar – Imphal 400 kV D/C and Silchar – P.K.Bari 400kV D/C. In case of any major fault at 400/132 kV Silchar Sub-station, Southern Part of NER Grid will be severely affected. He proposed interconnection of substations at Imphal, Melriat and Palatana at 400kV to avoid such situation.

24.2 This proposal has been already agreed in 18th TCC / NERPC forum.

24.3 The representative of CTU stated that Silchar S/s is an important S/s in NER and is directly connected with Manipur, Mizoram and Tripura. In case of major fault, complete breakdown would be there in Southern Part of NER Grid. However, instead of constructing a new line, the option of bypassing of bus at Silchar substation by using tie breaker of two 400kV D/c lines in same diameter viz. Silchar-Imphal and Silchar-P.K.Bari so as to form Imphal-P.K.Bari may be explored to resolve the major contingency in southern part of NER Grid to some extent.

24.4 Member Secretary, NERPC emphasized that implementation of Imphal - Melriat - Palatana 400kV D/C links, would enhance the reliability of power supply in southern part of NER region.

24.5 Chief Engineer (PSPA-II), CEA stated that to improve the reliability and strengthen the southern part of NER, detailed study is required.

24.6 After detailed deliberations, members agreed for carrying out joint system study for NER states with CEA, CTU and states of NER for enhancing the reliability of Southern Part of NER Grid.

25. Power Supply from Roing Grid Sub Station to Chapakhowa Sub Division of Assam

25.1 Superintending Engineer, NERPC stated that Power Supply to Chapakhowa Sub-Division (Sadiya area) under Tinsukia Electrical Circle is provided from 132/33kV Rupai Sub-Substation through a 33KV 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.

25.2 There is a proposal for installation of one 132/33kV 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 33kV line is proposed to buy 5 MW of power from Arunachal Pradesh utilizing the facility of 132/33kV Roing sub-station of POWERGRID.

25.3 Chief Engineer (PSPA-II) suggested that NERPC may resolve the issue in OCC/NERPC forum.

25.4 Members agreed that the matter may be discussed and resolved in OCC/NERPC forum.

26. Modifications in the NERSS-II (Part B) and NERSS-V schemes

26.1 Member Secretary, NERPC stated that during 6th Standing Committee Meeting of NER & 36th Empowered Committee Meeting, the following elements has 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 AGTCC (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:

Sl. No.	Old Provision	Modifications / changes (approved in 37 th ECM)
1	Establishment of 400/132kV, 2x315MVA transformer at	Establishment of 400/132kV, 7x105MVA Single Phase transformers (including one

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	Surajmaninagar substation	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 400/132kV, 2x315MVA 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] Space for 132kV future line bays: 4 no.	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)

26.2 Members agreed for the above modification under NERSS-II (Part B) and NERSS-V schemes.

27. Utilization of spare 132kV bays available at 400/132kV Silchar Substation

27.1 Superintending Engineer, NERPC stated that operation of Silchar - Melriat 400kV D/C (presently operating at 132kV level – **400kV operation yet to be planned**), Silchar- P.K. Bari 400kV D/C (presently operating at 132kV level) and Silchar - Imphal 400kV D/C (presently operating at 132kV level) lines at it is rated voltage (i.e. 400kV) would result in availability of 4 nos. of spare 132kV bays at Silchar S/s. In view of above NER constituents may plan for utilization of above bays.

27.2 The representative of CTU suggested that the matter may be discussed during the joint system study meeting of NER.

27.3 Members agreed for discussion on utilisation of 4 nos. of line bays likely to be available at Silchar S/s in the joint system study meeting of NER.

- 28. For additional connectivity for Ranganadi and Kameng HEPs at 400kV level**
- 28.1** Member Secretary, NERPC stated at present power from Ranganadi & Kameng HEPs is being evacuated over one 400kV D/C line each connected with Biswanath Chariali and Balipara respectively. Being hilly terrain, outage of tower would bottle up the generation and hence additional connectivity for evacuation of generation from above HEPs may be planned.
- 28.2** Members decided to discuss the proposal during the joint system study meeting.
- 29. Reconductoring of Dimapur – Imphal 132 kV line and Leimatak (Loktak) – Jiribam 132kV line using HTLS conductor**
- 29.1** Director (PSPA-II) CEA stated that Manipur have proposed for reconductoring of Dimapur – Imphal 132kV line and Leimatak (Loktak) – Jiribam 132kV line using HTLS conductor. The fault in Imphal switchyard creates problem in meeting load in Imphal area. He stated that implementation of Imphal to Kohima 400kV line will take time due to ROW issues.
- 29.2** The representative of CTU stated that Imphal 400 kV S/s is being implemented by POWERGRID under NERSS-IV scheme. The scheduled date of commissioning of scheme is Sept 2018. No such requirement of reconductoring of above lines was proposed / raised earlier in the standing committee meeting. The requirement of reconductoring can be studied.
- 29.3** NERPC stated that after commissioning of 400kV Imphal S/s, problem would be resolved. However, reconductoring of these lines would require long shutdown of the line.
- 29.4** Members agreed to study the requirement of reconductoring of Dimapur - Imphal 132 kV line and Leimatak (Loktak) - Jiribam 132 line.
- 30. Allotment of two numbers of 400kV line bays at Biswanath Chariali HVDC Station for Assam**
- 30.1** Director (PSPA-II) CEA stated that AEGCL has proposed for allotment of two numbers of 400kV line bays at Biswanath Chariali HVDC Station for Assam.
- 30.2** The representative of CTU stated that Assam has proposed to form a 400kV ring and extend the 400kV connectivity upto Mariani via AGBPP as given below:
- i) Bihpuria 400/220kV Substation: Biswanath Chariali (HVDC) – Bihpuria S/C line, and Bihpuria – Khumtai S/C line.
 - ii) Khumtai 400/220kV Substation: Biswanath Chariali (HVDC) – Khumtai S/C line and Khumtai – Bihpuria S/C line.

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- iii) Margherita Generation: Margherita – Khumtai , 400kV D/C line & Margherita – AGBPP-Mariani 400kV D/C line.

30.3 He suggested that joint study may be carried out to evaluate the proposal of AEGCL.

30.4 After detailed deliberation, members agreed for carrying out joint system study by CEA, CTU and Assam.

The meeting ended with thanks to the Chair.

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No.15/3/2017-Trans
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi

Dated, the 13th April, 2018

OFFICE ORDER

Subject: - Constitution of the "North Eastern Region Standing Committee on Transmission" (NERSCT) for planning of Transmission System in the Region: regarding.

The undersigned is directed to state that "North Eastern Region Standing Committee on Transmission" (NERSCT) has been constituted having following composition:

1	Member(Power System), Central Electricity Authority (CEA)	Chairperson
2	Chief Operating Officer, Central Transmission Utility (POWERGRID)	Member
3	Director(System Operation), Power System Operation Corporation Ltd.	Member
4	Heads of State Transmission Utilities (STUs) of Assam, Meghalaya, Nagaland, Arunachal Pradesh, Tripura, Manipur, Mizoram #	Member
5	Member Secretary of North Eastern Region Power Committee	Member
6	Chief Engineer(from Power System Wing), Central Electricity Authority *	Member Secretary

STUs to coordinate with their respective Distribution Companies (DISCOMs).

* To be nominated by the Central Electricity Authority.

2. Terms of Reference (ToR) of the Committee are to:

- (i) Evolve and finalize System Strengthening Schemes for removal of operational constraints and transfer of surplus power through inter-Regional corridors.
- (ii) Examine the proposals for transmission System for Access/ Connectivity Applications.
- (iii) Examine the Associated Transmission System with Electricity Generators.
- (iv) Review the up-stream and down-stream network associated with Transmission schemes.
- (v) Examine and evaluate the intra-State transmission proposals.

3. The NERSCT shall meet at least once in three months.

4. Accordingly, the Guidelines for Encouraging Competition in Development of Transmission Projects shall be amended through Gazette Notification and shall be communicated separately.

5. This issues with the approval of the Minister of State (Independent Charge) for Power and New & Renewable Energy.


(Bihari Lal) 13/4/18

Under Secretary to the Govt. of India
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Email: transdesk-mop@nic.in

To

1. All members of the NERSCT.
2. Chairperson, CEA, New Delhi.
3. CMDs of all CPSUs under the Ministry of Power, Govt. of India.
4. Heads of all autonomous bodies under the Ministry of Power, Govt. of India.
5. Finance/ Budget Section, Ministry of Power.
6. Power/ Energy Secretaries of all States/UTs.
7. Chief Executives of all State Transmission Utilities (STUs).

Copy to: PS to MoSP(IC)/ PPS to Secretary(Power)/ all Joint Secretaries/ Directors/ Dy. Secretaries, Ministry of Power.

Dated, the 13th April, 2018

OFFICE ORDER

Subject: - Constitution of the "National Committee on Transmission" (NCT) in accordance with the Guidelines for Encouraging Competition in Development of Transmission Projects: regarding.

The undersigned is directed to state that a "National Committee on Transmission" (NCT) has been constituted having following composition:

1	Chairperson, Central Electricity Authority (CEA)	Chairman
2	Member(Power System), CEA	Member
3	Member(Economic & Commercial), CEA	Member
4	Director(Trans), M/o Power, Govt. of India	Member
5	Chief Operating Officer, Central Transmission Utility (POWERGRID)	Member
6	Advisor, NITI Aayog #	Member
7	Two experts from Power Sector *	Members
8	Chief Engineer(from Power System Wing), CEA #	Member Secretary

To be nominated by NITI Aayog/ CEA.

* To be nominated by the Ministry of Power, Govt. of India from time to time, for a maximum period of two years from the date of their nomination.

2. Terms of Reference (ToR) of the Committee are to:

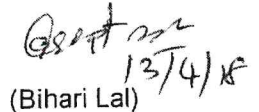
- (i) Formulate the transmission schemes based on transmission projects agreed in the Regional Standing Committees on Transmission (RSCTs).
- (ii) Examine the cost of the Schemes.
- (iii) Recommend the mode of implementation of transmission schemes i.e. Tariff Based Competitive Bidding (TBCB)/ Regulated Tariff Mechanism (RTM), as per the existing Tariff Policy.
- (iv) Form the Bid Evaluation Committee (BEC) for a TBCB Project. #
- (v) Recommend the urgency of projects for RTM.

The Formation of BEC will be done as per the Guidelines prepared by the Ministry of Power.

3. The NCT shall meet as and when required but at least once in every six months.

4. Accordingly, the Guidelines for Encouraging Competition in Development of Transmission Projects shall be amended through Gazette Notification and shall be communicated separately.

5. This issues with the approval of the Minister of State (Independent Charge) for Power and New & Renewable Energy.


13/4/18

(Bihari Lal)

Under Secretary to the Govt. of India

Telefax: 23325242

Email: transdesk-mop@nic.in

To

1. All members of NCT.
2. CMDs of all CPSUs under the Ministry of Power, Govt. of India.
3. Heads of all autonomous bodies under the Ministry of Power, Govt. of India.
4. Finance/ Budget Section, Ministry of Power.
5. Power/ Energy Secretaries of all States/UTs.
6. Chief Executives of all State Power Transmission Utilities.

Copy to: PS to MoSP(IC)/ PPS to Secretary(Power)/ all Joint Secretaries/ Directors/ Dy. Secretaries, Ministry of Power.

Dated, the 13th April, 2018

OFFICE ORDER

Subject: - Constitution of a new "Empowered Committee on Transmission" (ECT) in accordance with the Guidelines for Encouraging Competition in Development of Transmission Projects: regarding.

In supersession of this Ministry's Office Order No. 15/3/2010-Trans dated 4.3.2015, the undersigned is directed to state that the existing Empowered Committee headed by Member(PS), CEA shall cease to exist with immediate effect and a new Empowered Committee on Transmission (ECT) has been constituted having following composition:

1	Secretary(Power), Govt. of India	Chairman
2	Chairperson, Central Electricity Authority (CEA)	Member
3	Member(Power System), CEA	Member
4	CTU/ Chairman & Managing Director, POWERGRID	Member
5	Joint Secretary(Trans), M/o Power, Govt. of India	Member Secretary

2. Terms of Reference (ToR) of the Committee are to:
 - (i) Consider the recommendations of National Committee on Transmission (NCT).
 - (ii) Allot the projects under Tariff Based Competitive Bidding (TBCB) to the Bid Process Coordinators (BPCs).
3. The ECT shall meet as and when required but at least once in every six months.
4. Accordingly, the Guidelines for Encouraging Competition in Development of Transmission Projects shall be amended through Gazette Notification and shall be communicated separately.
5. This issues with the approval of the Minister of State (Independent Charge) for Power and New & Renewable Energy.

B. Lal
13/4/18

(Bihari Lal)

Under Secretary to the Govt. of India
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To

1. All members of the ECT.
2. CMDs of all CPSUs under the Ministry of Power, Govt. of India.
3. Heads of all autonomous bodies under the Ministry of Power, Govt. of India.
4. Finance/ Budget Section, Ministry of Power.
5. Power/ Energy Secretaries of all States/UTs.
6. Chief Executives of all State Power Transmission Utilities.

Copy to: PS to MoSP(IC)/ PPS to Secretary(Power)/ all Joint Secretaries/ Directors/
Dy. Secretaries, Ministry of Power.

