



भारत सरकार Government of India

विद्युत मंत्रालय Ministry of Power

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

North Eastern Regional Power Committee

एन ई आर पी सी कॉम्प्लेक्स, डोंग पारमाओ, लापालाङ, शिल्लोंग-७९३००६, मेघालय

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No. NERPC/OP/Committee/2019/5190-5264

Date: September 30, 2019

To,

1. Hon'ble Chief Minister & In-charge of Power, Govt. of Nagaland, Kohima - 797 001
2. Hon'ble Dy. Chief Minister & In-charge of Power, Govt. of Tripura, Agartala – 799 001
3. Hon'ble Dy. Chief Minister & In-charge of Power, Govt. of Arunachal Pradesh, Itanagar - 791 111
4. Hon'ble Minister of Power, Govt. of Assam, Guwahati - 781 006
5. Hon'ble Minister of Power, Govt. of Manipur, Imphal – 795 001
6. Hon'ble Minister of Power, Govt. of Mizoram, Aizawl - 796 001
7. Member (GO&D), CEA, Sewa Bhavan, R.K. Puram, New Delhi - 110 066
8. Commissioner & Secretary(Power), Govt. of Arunachal Pradesh, Itanagar – 791 111
9. Addl. Chief Secretary (Power), Govt. of Assam, Dispur, Guwahati - 781 006
10. Commissioner & Secretary (Power), Govt. of Manipur, Imphal - 795001
11. Commissioner & Secretary (Power), Govt. of Meghalaya, Shillong - 793001
12. Secretary (Power), Govt. of Mizoram, Aizawl - 796001
13. Principal Secretary (Power), Govt. of Nagaland, Kohima - 797001
14. Principal Secretary (Power), Govt. of Tripura, Agartala - 799001
15. Chairman & Managing Director, Me.ECL, Lumjingshai', S.R. Road, Shillong - 793 001
16. Chairman & Managing Director, TSECL, Agartala - 799001
17. Chairman & Managing Director, NEEPCO Ltd., Lower New Colony, Shillong - 793 003
18. Chairman, APDCL/AEGCL/APGCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
19. Director (Finance), NHPC Ltd., NHPC Complex, Sector-33, Faridabad - 121 003
20. Director (Operation), POWERGRID, Saudamini, Plot No. 2, Sector-29, Gurgaon, Haryana – 122 001
21. Director (Marketing & BD), PTC, NBCC Tower, 15 Bhikaji Cama, Place, New Delhi – 110066
22. Director (Coml.), NTPC Ltd. NTPC Bhawan, Scope Complex, Institutional Area, Lodhi Road – 03
23. Managing Director, OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi - 110019
24. Executive Director (SO), NLDC, B/9, Qutub Institutional Area, Katwaria Sarai, New Delhi – 16
25. CEO, NRVNL, Core 5, 3rd Floor, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi – 03
26. Managing Director, APDCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
27. Managing Director, APGCL, Bijuli Bhavan, Paltan Bazar, Guwahati - 781 001
28. Managing Director, AEGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001

Sub: Minutes of 20th TCC & 20th NER Power Committee Meetings held at Guwahati

Sir/Madam,

Please find enclosed herewith the minutes of 20th TCC & 20th NERPC Meetings held at “Hotel Vivanta by Taj”, Guwahati, Assam on 12th September, 2019 for your kind information and necessary action. The minute is also available on the website of NERPC, www.nerpc.nic.in.

Encl: As above

A. K. Thakur
30/9/2019

(A. K. Thakur)
Member Secretary

Copy to:-

1. PS to Chairman, NERPC and Hon'ble Power Minister, Govt. of Meghalaya, Shillong – 793 001
2. TCC Chairman and CMD, MeECL, Lumjingshai, Shillong – 793 002.

Copy to:

1. □ Director (Distribution), Me. ECL, Lumjingshai, S.R. Road, Shillong – 793 002
2. □ Director (Transmission), Me. PTCL, Lumjingshai, S.R. Road, Shillong – 793 002
3. □ Director (Generation), Me. PTCL, Lumjingshai, S.R. Road, Shillong – 793 002
4. □ Director (Tech.), TSECL, Banamalipur, Agartala -799 001.
5. □ Director (Generation), TPGCL, Banamalipur, Agartala -799 001.
6. □ Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
7. □ Managing Director, MSPDCL, Secure Office Bldg. Complex, South Block, Imphal – 795 001
8. □ Director (Tech.), NEEPCO Ltd., Lower New Colony, Shillong-793 003.
9. □ Regional ED (East –II), NTPC, 3rd Floor, OLIC Bldg., PI No- N.17/2, Nayapalli, Bhubaneswar-12
10. Executive Director, NERTS, PGCIL, Lapalang, Shillong - 793006
11. Executive Director (Comml.), NEEPCO Ltd., Lower New Colony, Shillong-793003.
12. Executive Director (O&M), NEEPCO Ltd., Lower New Colony, Shillong-793003.
13. Executive Director (Comml.), NHPC, NHPC Office Complex, Faridabad-121003.
14. Executive Director (O&M), NHPC, NHPC Office Complex, Faridabad-121003.
15. Executive Director (Marketing), PTC, NBCC Tower, 15 Bhikaji Cama, Place, New Delhi – 110066
16. Executive Director, NERLDC, Lapalang, Lower Nongrah, Shillong - 793006
17. Chief Engineer (GM), CEA, 6th Floor, Sewa Bhawan, R.K.Puram New Delhi-110066.
18. Chief Engineer (NPC), NRPC Complex, Katwaria Sarai, SJSS Marg., New Delhi - 110016
19. Engineer-in-Chief, P&E Dept., Govt. of Mizoram, Aizawl – 796 001
20. Chief Engineer (E Zone), Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111.
21. Chief Engineer (W Zone), Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111.
22. Chief Engineer (TP&MZ), Department of Power, Govt. of Arunachal Pradesh, Itanagar- 1
23. Engineer-in-Chief (Power), Dept. of Power, Govt. of Nagaland, Kohima – 797 001.
24. GM (AM), NERTS, POWERGRID, Lapalang, Shillong – 793006
25. VP (Plant), OTPC, Pallatana, Udaipur, Kakrabon Road, South Tripura – 799116
26. GM (BD), NVVNL, Core 5, 3rd Floor, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi – 03
27. Chief Engineer, Loktak HE Project, NHPC, Komkeirap, Manipur-795124.
28. CGM, AEGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
29. CGM, APGCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
30. CGM, APDCL, Bijuli Bhawan, Paltan Bazar, Guwahati – 781 001
31. CGM (LDC), SLDC Complex AEGCL, Kahelipara, Guwahati-781019.
32. Head of SLDC, Me. ECL, Lumjingshai, S.R. Road, Shillong-793001
33. Head of SLDC, Dept. of Power, Govt. of Arunachal Pradesh, Itanagar-791111
34. Head of SLDC, Dept. of Power, Govt. of Nagaland, Dimapur
35. Head of SLDC, Dept. of Power, Govt. of Manipur, Keishampat, Imphal-795001
36. Head of SLDC, P&E Dept., Govt. of Mizoram, Aizawl-796001
37. Head of SLDC, TSECL, Agartala – 799001

Special Invitee(s):

38. Chairperson, CEA, Sewa Bhawan, R.K.Puram, New Delhi – 110066
39. Member (Power Systems), CEA, Sewa Bhawan, R.K.Puram, New Delhi – 110066
40. Secretary, North Eastern Council, Nongrim Hills, Shillong – 793 003
41. Member Secretary, ERPC, 14 – Golf Club Road, Tollygunge, Calcutta – 700 033
42. Member Secretary, NRPC, NRPC Complex, 18-A, S.J.S. Marg, Katwaria Sarai, New Delhi – 16
43. Member Secretary, WRPC, MIDC Area, Marol, Andheri (E), Mumbai – 400 093
44. Member Secretary, SRPC, 29 – R.C. Cross Road, Bangalore – 560 009
45. Director, NETC, 1st Floor, Corporation Tower, AMBIS Mall Complex, NH-8, Gurgoan – 122001.

Ashe
30/9/2019

Member Secretary

भारत सरकार **Government of India**

विद्युत मंत्रालय **Ministry of Power**

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



RECORD NOTE OF DISCUSSION

OF

20TH TCC MEETING

&

20TH NERPC MEETING

(UNDER THE AEGIS OF OTPC & NETC)

Venue: Hotel Vivanta by Taj, Guwahati

Date (TCC) : 12th September, 2019

Date (NERPC) : 12th September, 2019

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SUMMARY RECORD OF DISCUSSIONS

20TH TECHNICAL COORDINATION COMMITTEE

&

20TH NORTH EASTERN REGIONAL POWER COMMITTEE MEETINGS

The 20th TCC & 20th NER Power Committee meetings were both held on the 12th September, 2019 at “Hotel Vivanta by Taj”, Guwahati. The meetings were hosted by OTPC & NETC.

The list of participants is enclosed at **Annexure – I & II.**

I : PROCEEDINGS OF THE 20TH TCC MEETING

The meeting started with welcome address by Shri. Satyajit Ganguly, Managing Director of OTPC & NETC. Shri Ganguly welcomed all TCC members and participants to the 20th TCC meeting and wished all the participants a comfortable stay at the venue. Thereafter, Shri E.W. Nongrum, Chairman, TCC addressed the 20th TCC meeting. In his brief speech, Shri Nongrum stated that TCC is an important forum for resolving various issues to make NER a self-reliant in Power sector. He recalled during early years that grid discipline is non-existence as everyone can draw and inject into the grid whatever they wanted. But now with so many regulations being put in place, the strict discipline is being imposed which is good for safe, secure and reliable operation of the grid. He also thanked the role of NERPC especially in successful implementation of ADMS and hopefully the SAMAST project would also be implemented in the region at the earliest.

His speech is placed at **Annexure – III.**

Shri A. K. Thakur, Member Secretary, NERPC welcomed all delegates of the 20th TCC meeting on behalf of NERPC. He expressed his sincere thanks to OTPC & NETC for hosting the 20th TCC & 20th NERPC meetings and for making excellent arrangement and providing a comfortable stay for the delegates.

Thereafter, Chairman, TCC requested Member Secretary, NERPC to take up the agenda items for discussion.

II : PROCEEDINGS OF THE 20TH NERPC MEETING

The 20th NER Power Committee meeting commenced with bouquets presentations to dignitaries followed by ceremonial lighting of lamps by Shri James K Sangma, Hon'ble Power Minister, Meghalaya & Chairman, NERPC, Shri Chowna Mein, Dy. Chief Minister & I/c Power, Govt. of Arunachal Pradesh, Shri T. Ayemi, Hon'ble Adviser (Power), Nagaland, Shri Ram Muivah, Secretary, NEC, Shri Pipersenia, Chairman APDCL/AEGCL/APGCL, Shri A. K. Thakur, Member Secretary, NERPC, Shri E.W. Nongrum, TCC Chairman & CMD, MeECL & Shri Satyajit Ganguly, Managing Director, OTPC & NETC.

Shri S. Ganguly, Managing Director, OTPC & NETC delivered the welcome address. Shri Ganguly extended warm welcome to all the dignitaries, senior officers of Central & State Government departments and utilities, and participants of the 20th NER Power Committee meeting. He highlighted that for the development of the regional power sector, both OTPC and NETC have evolved over the years in providing superior services to the North Eastern region. He mentioned that CEA has acknowledged OTPC as the largest central sector gas based power station for generating maximum number of electricity units in FY 18-19. This has been possible only due to support of beneficiaries, NERPC, NERLDC and all other stakeholders. OTPC has employed prudent O&M practices to improve the machine availability to around 95%, plant availability to around 75% and other operational parameters. NETC has also improved the transmission line availability, which was around 100% last year – A feat any transmission company would vie for.

His speech is placed at **Annexure – IV**.

Shri Ayemi, Hon'ble Adviser Power, Govt. of Nagaland, in his brief address, expressed gratitude to NERPC and NERLDC for providing continued assistance to Nagaland in managing day to day power supply in the state.

He expressed concern about the Deviation Settlement Mechanism (DSM) regulations, made effective under the 4th Amendment regime from January, 2019, which resulted in huge financial burden in the form of DSM payables affecting the financial health of small States, like, Nagaland. He stated that this huge penalty had come at a time

when the SLDC and Remote Terminal units (RTUs) were not in proper place and he thanked Central Electricity Regulatory Commission (CERC) for realizing the problems in 4th Amendment regime and relaxing the DSM regulations to some extent through the latest 5th Amendment. However, the 5th Amendment was made effective only from 3rd June, 2019, thus the financial burden from January, 2019 to 3rd June, 2019 still remain unresolved and this is a big amount for a small state like Nagaland. The State Government has also written to the Chairman, NERPC to take up the matter with the Ministry of power and Central Electricity Regulatory Commission (CERC) requesting them to make the 5th Amendment effective from 1st January, 2019.

He requested the august forum to look into the matter seriously and also requested the Chairman, NERPC to place this important issue on record and for kind personal intervention to resolve the issue with the Ministry of Power and Central Electricity Regulatory Commission (CERC).

Full text of the speech of Hon'ble Adviser (Power), Govt. of Nagaland is placed at **Annexure – V**.

Shri Chowna Mein, Dy. Chief Minister & I/c Power, Govt. of Arunachal Pradesh, in his brief address, expressed gratitude to NERPC and stated that this is his first opportunity to be in this August forum. He also thanked OTPC (ONGC Tripura Power Corporation) and NETC (North Eastern Transmission Corporation) for their magnanimity of hosting this event.

He mentioned that SAMAST, the 'Scheduling, Accounting, Monitoring And Settlement of Transaction' of electricity is an important system and mandated under central Regulation. Unfortunately, it is learned that the Scheme for Arunachal Pradesh, Mizoram and Nagaland have not been sanctioned by CEA (Central Electricity Authority)/NLDC (National Load Dispatch Centre) despite the DPRs prepared under supervision and guidance of NERPC and NERLDC. The DPRs were also submitted at the same time with those other constituent States whose schemes have been sanctioned. The matter seems to be of serious nature as it appears that only States with smaller system have been isolated and left aside. I request and appeal all the members to support us in this endeavour. He requested NERPC Secretariat to take up the issue with CEA/NLDC.

Further, he mentioned that Arunachal Pradesh is unable to lay OPGW (Optical Fibre Ground Wire) over its existing transmission system under 'Reliable Communication System Program' to be funded from PSDF (Power System Development Fund) because of the funding norms of 50:50 ratios on estimated cost. He therefore, appealed all the members of this forum to come together to strongly urge upon and persuade the Ministry of Power, GoI, to change the funding pattern under PSDF from 50:50 pattern to 90:10; if not 100%.

He also stated that 220KV Tinsukia-Namsai and 132 KV Roing-Chapakhowa transmission lines have found a place in the agenda of this meeting for approval. He requested the forum to approve the proposal as it will benefit other constituent States also, especially the State of Assam. Arunachal being a Hydro Rich State, such smaller interconnections between States would be indispensable at the time of Grid contingencies and shutdown planning.

Full text of the speech of Hon'ble Dy. Chief Minister, Govt. of Arunachal Pradesh is placed at **Annexure – VI**.

Shri James K Sangma, Hon'ble Power Minister, Meghalaya & Chairman, NERPC addressed the 20th NER Power Committee. He stated that the Reliable Communication is very important to operate the grid smoothly and hoped that Govt. of India will assist in granting 100% funding in line with other projects. He mentioned that Sikkim, being a beneficiary and member of NEC/DoNER, should be considered for inclusion as a member of NERPC Forum for the benefits of NER. Further, he mentioned that power purchase cost of Bongaigoan Thermal Power Plant (BgTPP) of NTPC is so expensive that there are very less options but to surrender the allocated share of power. He mentioned that Govt. of Meghalaya has requested many times to Ministry of Power, Govt. of India to deallocate the share from BgTPP but till date no communication has been received and the State is ending up getting bills after bills for fixed charges.

He expressed concern over the recent order of the MoP regarding opening and maintaining of Letter of Credit (LC) as payment security mechanism under PPA by DISCOMs for sustenance of generating companies, that as most of the NER States

are in deep financial crisis, compliance of the said order at this juncture would be difficult and this will further deteriorate the financial health of DISCOMs.

Full text of the speech of Hon'ble Power Minister, Meghalaya & Chairman, NERPC is placed at **Annexure – VII**.

Shri A. K. Thakur, Member Secretary, NERPC welcomed all participants and expressed gratitude for participation in the meeting. He mentioned that during the last one year many developments have taken place in the power sector in the region. He mentioned that TCC/NERPC Meetings should be held regularly to address the issues of the region. He requested that the trend should continue. His speech is placed at **Annexure – VIII**.

After this Chairman, NERPC requested Member Secretary, NERPC to take up the agenda for discussion.

The meeting concluded with the vote of thanks from NERPC Secretariat side by Shri B. Lyngkhai, Director (C&O) and from OTPC/NETC side by Shri Aroop Sarmah, General Manager (Coml.).

**RECORD NOTES OF DISCUSSION
OF
20TH TCC & 20TH NERPC MEETINGS**

**III : CONFIRMATION OF THE MINUTES OF 19TH TCC MEETING & 19TH
NERPC MEETING**

The minutes of the 19th TCC & 19th North Eastern Regional Power Committee (NER Power Committee) meetings held on 28th & 29th November, 2018, respectively at Guwahati were circulated vide letter no. NERPC/OP/Committee/2019/6242-6315 dated 14th January, 2019.

Comments received from POWERGRID

“In Item No.B.09: REPLACEMENT OF OBSOLETE RTUs IN NERTS –POWERGRID, it was recorded as "TCC noted & recommended for approval with revised cost of Rs.9 Crore. TCC recommended for NERPC approval"(P.19).

Correction proposed TCC noted in line with recommendation of 148th OCC & recommended for approval of RPC with revised cost of Rs.9Crore & RPC noted and approved the recommendation of TCC."

Deliberation of the TCC

TCC confirmed the minutes of 19th TCC meeting.

Deliberation of the RPC

The RPC confirmed the minutes of 19th NERPC meeting.

Presentation by NERLDC in 20th TCC meeting: NERLDC made a presentation covering following aspects (**Copy attached at Annexure - XIII**):

1. NER power Scenario overview: Less reliance on inter-Regional import, stagnant growth in NER.
2. Market participation by NER States: States are active in market, Meghalaya, Manipur and Assam being aggressive in both buy and sale.
3. SPS-2, 3 in NER: Southern part of NER Grid having connectivity with rest of grid through single tower 400 KV D/C, reliance is on SPS for secure operation. Bangladesh SPS implementation is extremely crucial. Installation of capacitor by TSECL is also overdue and needs to be expedited.
4. Tripping of transmission lines: Over 1000 trippings in a year a matter of serious concern. Blackout in State capitals Kohima, Itanagar also frequent.
5. Root cause analysis of tripping: Submission of Disturbance recorder (DR) is key for analysis and taking remedial measures. DR not being sent by most States. Action taken by Manipur SLDC in sending DR was highlighted. Mizoram, Nagaland, Ar. Pradesh to start sending DR within Sept'19.
6. Criticality in intra-State system of Assam in Bongaigaon area: Overloading in 220 KV Salakati-Bongaigaon(AEGCL) during peak load hours was creating constraint. Quick commissioning of LILO of 400 KV Balipara-Bongaigaon D/C at Rangia would be the solution.
7. Future Load Generation in NER: Projected import in and around 1700 MW by 2021-22. Needs of appropriate strengthening of transmission system.
8. Telemetry status: Percentage availability poor in most States. Needs to be improved in time bound manner.
9. Knowledge sharing and hand holding by NERLDC to continue.

CATEGORY – A : ITEMS DISCUSSED AND APPROVED BY THE COMMITTEE

ITEM NO. A.01 : ACUTE RIGHT OF WAY CONSTRAINTS IN EXECUTION OF RAILWAY DIVERSION WORK OF 132KV NIRJULI - RANGANADI TL - POWERGRID

The issue of RoW constraints encountered by POWERGRID in Railways diversion work of 132KV Nirjuli -Ranganadi TL in Arunachal Pradesh was discussed in details during 19th TCC & 19th NERPC meeting held at Guwahati on 28th & 29th Nov., 2018.

As decided during the meeting, POWERGRID has already taken up the matter with Commissioner (Power), Govt. of Arunachal Pradesh & it is understood that necessary instruction has been passed on to the district Administration for early resolution of the RoW constraints.

It is pertinent to mention here that due to acute RoW issue the original route involving 3 locations was changed to another route involving 4 locations as per the advice of DC. However, as on date, POWERGRID is yet to receive clearance from AP Administration for RoW in the revised route which falls in Ambabasti village under Papumpare District. This is severely affecting the diversion work of the line as well as OPGW link establishment between Nirjuli, Lekhi (DoP, A.P.) & Ranganadi HEP under Microwave vacation project.

Deliberation of the TCC

Executive Director (ED), NERTS informed that 2nos. 400kV towers in place of 3nos. 132kV towers are agreeable as per request by Ar. Pradesh. However, RoW still persists in these locations where tower foundation cannot be done.

SE, DoP, Ar. Pradesh informed that the matter has been taken up by Government of Arunachal Pradesh.

After detailed deliberation, the TCC decided to refer the matter to RPC for further deliberation regarding RoW of 132kV Nirjuli – Ranganadi TL.

TCC noted and referred for discussion to RPC.

Deliberation of the RPC

Commissioner (Power), Govt. of Arunachal Pradesh informed that landowner has not agreed on decided compensation. Government has decided to acquire the land and handover to POWERGRID for the project.

ED, NERTS, however, stated that land acquisition by Govt., might create a bad precedence and this will hamper the future projects, rather, he opined that Government can frame guidelines for RoW issues / compensation in respect to transmission line construction. His view was also supported by ED, NERLDC.

Dy. Chief Minister, Govt. of Arunachal Pradesh also expressed reservation on land acquisition by Ar. Pradesh and stated that either way a bad precedence would be created in case of land acquisition or higher compensation.

Chairman, APDCL/AEGCL/APGCL stated that Government can always go ahead as per guidelines for construction of transmission lines and it is not enforcement. Further, he mentioned that unless some tough measures are taken by the respective Govts., it would be very difficult to complete any project on time for the development of the State.

Dy. Chief Minister, Govt. of Arunachal Pradesh informed that they would explore various options to resolve the issue and would intimate accordingly.

Chairman, NERPC concluded that since the Govt. of Ar. Pradesh has requested some more time to resolve the issue, the matter will be reviewed accordingly.

The RPC noted as above.

ITEM NO. A.02 : ACUTE RIGHT OF WAY CONSTRAINTS FACED BY POWERGRID IN ASSAM FOR MAINTENANCE OF TRANSMISSION LINES - POWERGRID

During 19th TCC & 19th NERPC Meeting held on 28th and 29th November, 2019 at Guwahati, the issue of acute ROW problem faced by POWERGRID for maintaining 800kV 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.

Till now, there is no improvement in ROW issues. It is to be mentioned here that ± 800kV HVDC Line is passing through three region viz., NER, ER & NR and so, if any one Region takes shutdown; other two Regions get opportunity shutdowns for maintenance of the line. Thus, there are many opportunity shutdowns available in this line but unfortunately, NER is not able to avail such opportunity shutdowns, apart from its own approved shutdown due to persisting ROW issues. The matter needs to be resolved on priority by escalating at highest administrative authority so that such important lines can be made defect free by carrying out regular maintenance by POWERGRID.

Deliberation of the TCC

ED, NERTS informed that despite support of administration, POWERGRID is not able to carry out line maintenance / patrolling in some of the areas due to severe / strong opposition by people. Further, he mentioned that OPGW for remaining of 21 KM on ± 800kV HVDC BNC- Agra could not be completed which was supposed to create a telecommunication highways from NR to NER.

ED, LD&C informed that ROW issue is also affecting OPGW NER FO/MW vacation projects (In Manipur, Nagaland & Central sector lines).

After detailed deliberation, TCC decided to refer the matter to RPC for further deliberation regarding maintenance of transmission lines in Assam by POWERGRID.

The matter was referred for discussion to RPC.

Deliberation of the RPC

Chairman, APDCL/AEGCL/APGCL asked PGCIL to approach Chief Secretary, Govt. of Assam to resolve the issue.

ED, NERTS mentioned that they have approached the Chief Secretary of Assam and briefed him on the issue.

Chairman, NERPC concluded that he will write to Hon'ble Chief Minister of Assam on the above issue.

The RPC noted as above.

ITEM NO. A.03 : SURVEY AND INVESTIGATION OF HYDRO PROJECT AT TUYUNGBI AND MAKLANG RIVER CONFLUENCE AT KHONGLO, KAMJONG DISTRICT, MANIPUR LOCATED ON NH-102 A - NEC

One of the new mandates of NEC is to carry out Survey and Investigation of Hydro projects in NER. In a preliminary survey, it has been found that Hydro project at Tuyungbi and Maklang river Confluence at Khonglo, Kamjong District, Manipur located on NH-102 A is one of the potential hydro projects in NER that can generate power at a minimal cost.

The Tuyungbi and Maklang river Confluence is near Khonglo village in Kamjong District, Manipur located on NH-102 A about 80kms from Imphal and about 120 kms from Kamjong District headquarter. The advantage of Tuyungbi and Maklang river Confluence is its location in a very narrow gorge and there is hardly any flat land on Maklang river except a few hectares of paddy field in the upstream of the Tuyungbi river. Hence, land compensation will be minimal. The volume of water on Maklang river is considerable throughout the year and it can easily generate between 40-50 MW.

It is requested that the above proposal may be included as one of the agenda in the next Board meeting of NERPC on 12th September, 2019 at Guwahati for Survey and Investigation by NEC.

Deliberation of TCC

Managing Director, MSPCL stated that as per general guidelines, survey & investigation could be carried out by State Government with funding from NEC.

Deliberation of RPC

Secretary, NEC stated that survey & investigation can be carried out by all NER States not only in Manipur with funding from NEC. He requested all NER States to approach NEC in this regards.

The RPC noted as above.

CATEGORY – B : ITEMS FOR APPROVAL

B.01 : CONVERSION OF 132KV BADARPUR, 132KV KHLIEHRIAT, 132/33KV NIRJULI AND 132KV IMPHAL STATION FROM SINGLE MAIN TRANSFER SCHEME TO DOUBLE MAIN TRANSFER SCHEME ON COMPLETION OF 25 YEARS AGE - POWERGRID

During 16th NERPC and 6th SCM Meeting, approval was accorded for up-gradation of Bus Bar Scheme from Single Main Transfer to Double Main for 132kV Haflong, 132kV Jiribam, 132kV Kumarghat and 132kV Aizawl Sub Stations on completion of 25 Years age considering the fact that Single Main and Transfer Scheme offers minimum reliability. Due to space constraint the conversion / up-gradation was approved on GIS from AIS.

Now the existing Bus Bar arrangement of 132kV Badarpur, 132kV Khliehriat, 132/33kV Nirjuli and 132kV Imphal Stations is also Single Main and Transfer Scheme. These stations are going to complete 25 Years of age during current tariff block 2019-24. Hence, in line with earlier approval of 132kV Haflong, 132kV Jiribam, 132kV Kumarghat and 132kV Aizawl Sub Station, it is proposed to convert the existing Single Main Transfer Scheme of 132kV Badarpur, 132kV Khliehriat 132/33kV Nirjuli and 132kV Imphal Station to Double Main and Transfer on completion of 25 Years. Further, the 132kV Badarpur Sub Station is located near a cement factory and there are frequent deposits on the exposed AIS equipment which is creating difficulties in maintenance. Hence, it is proposed to upgrade Bus Scheme on GIS. However, for the other stations viz. 132kV Khliehriat, 132/33kV Nirjuli and 132kV Imphal Sub Station upgradation is proposed preferably by Bus Sectionalisation on AIS depending on layout or alternatively on GIS if layout does not permit Bus Sectionalisation. The tentative expenditure (considering each station to be Rs. 30.00 Crores) is Rs. 120.00 Crores.

During 155th OCC Meeting the issue was discussed and the forum agreed to the upgradation and recommended for approval of NERPC & NERSCT.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC recommended for in-principle approval of RPC and refer to NERSCT.

Deliberation of the RPC

The RPC approved in-principle and referred to NERSCT.

**B.02 : FINAL REVISED PROJECT COST FOR INSTALLATION OF 20 MVAR
220 KV LINE REACTOR AT KATHALGURI - POWERGRID**

During 152nd OCC Meeting, POWERGRID informed that the 20 MVAR, 220 kV Line Reactor at Kathalguri was put in to service on 21.03.2017. The Reactor was installed by POWERGRID as deposit work of NEEPCO with original estimated cost of Rs 4.44 Crore which was approved during 11th TCC & 11th NERPC Meeting held on 5th & 6th May, 2011 with condition that, revised cost, if any, may be put up to RPC again to get it approved.

The final Project Cost of Rs 5.73 Crore was put up for kind information of NEEPCO and the Forum during 152nd OCC Meeting.

During deliberation in 152nd OCC Meeting the forum recommended for TCC/RPC approval of final cost.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

**B.03 : SCHEMES AGREED IN 1ST NERSCT MEETING HELD ON 29-11-2018
AT GUWAHATI - POWERGRID/CTU**

The following agenda items were approved in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

- a. Establishment of Roing – Chapakhowa 132kV D/c and Tinsukia – Namsai 220kV D/c lines (item no:02)

- b. Implementation of 132kV line bay at Palatana generation switchyard (item no: 05)

Placed for approval of TCC/NERPC.

Deliberation of the TCC

SE, DoP Ar. Pradesh stated that establishment of 132kV D/C Roing – Chapakhowa has already been agreed in 1st NERSCT, he requested TCC to approve the same for speedy establishment of the project.

Regarding establishment of 220kV D/V Tinsukia – Namsai T/L he mentioned that this is the additional interlinking transmission line required for eastern Arunachal Pradesh. Further, he mentioned that during the joint study meeting of CEA on 5th August, 2019, Kathalguri – Namsai has been agreed instead of Tinsukia – Namsai as Assam informed that there was space constraint in Tinsukia. The same has been noted and conveyed by CEA vide their MOM No. CEA-PS-12-16/3/2018-PSPA-II dated 11.09.2019.

NEEPCO again informed of shortage of space at Kathalguri switchyard. The forum suggested that GIS may be adopted.

After detailed deliberations, TCC gave in-principle approval for:

- a. 132kV D/C Roing – Chapakhowa
- b. 220kV D/C Kathalguri – Namsai subject to NERSCT approval.

TCC noted and recommended for approval of RPC & NERSCT.

Deliberation of the RPC

The RPC approved in-principle and referred to NERSCT.

B.04 : VSAT LINKS FOR ROING TEZU NAMSAI- POWERGRID

In line with discussion in 9th, 13th & 14th NETeST, implementation of VSAT scheme was proposed as redundancy to future FO system for remote stations namely 132kV Roing-Tezu-Namsai. This was proposed keeping in view poor network availability, no PLCC link with existing wide band & urgency of station-telemetry requirement w.r.t these stations. VSAT scheme was recommended in sub-committee with Demo in one

site. Based on the discussion in NETeST, NERTS had taken up the issue with M/s NELCO for optimized bandwidth and demo in one of the sites. Earlier cost quoted was appx. Rs.5.00 Cr with 2MBPs/data or voice, however, the revised cost after optimization of band width is Rs.85, 00,000.00 +GST (apx) for Supply, installation & 7(6+1) years AMC, with 128kpbs/data or voice & minimum 95% availability). The same is proposed to be invested by POWERGRID and be recovered on cost plus basis on POC Mechanism. As per recommendation of 13th & 14th NETeST, demo for one site is completed by M/s NELCO. Based on demo performance by party, order will be placed by POWERGRID to respective party at the earliest possible.

Deliberation of the TCC

POWERGRID stated that for the project the cost implication is very low and situation demands immediate execution. Under such circumstance onetime cost recovery from NER States would be better proposition. NERLDC also emphasized the requirement of early implementation of the scheme. After detail deliberation, constituents agreed for one-time recovery of cost from NER states for implementation of the scheme.

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.05 : IMPLEMENTATION OF SPS FOR TRANSFER OF 160 MW POWER TO BANGLADESH LINK AND MODIFICATIONS SUGGESTED FOR OTHER SPSs IN NER-NERPC

Four SPS schemes have been agreed pertaining to Bangladesh as below:

SN	Contingency	SPS Action
1	Outage of one ICT out of 400/132 kV, 2x125 MVA ICTs at Palatana	Limit transfer to 100 MW on Cross-Border link, followed by shifting of 60 MW load from Indian Grid to Bangladesh Grid.
2	Outage of 400 kV Palatana – Surajmani Nagar line (Charged at 132 kV)	Tripping of cross border link followed by shifting of entire 160 MW load from India Grid to Bangladesh Grid.

3	Outage of one circuit of 400 kV Surajmani Nagar - South Comilla line (Charged at 132 kV)	Limit transfer to 130 MW on Cross-Border link, followed by shifting of 30 MW load from Indian Grid to Bangladesh Grid.
4	Outage of both 400/132 kV, 2x125 MVA ICT I & II at Palatana	Tripping of cross border link followed by shifting of entire 160 MW load from India Grid to Bangladesh Grid.

NERPC vide letter dated 30.08.2019 has requested Member (PS), CEA for implementation of the above SPSs.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.06 : PALATANA-BONGAIGAON TRANSMISSION SYSTEM, NETC: PERMANENT PROTECTION WORK TAKEN UP IN 9 NOS. VULNERABLE LOCATIONS OF 400 KV D/C PALATANA-SILCHAR LINE- INCLUSION OF COST IN TARIFF THEREOF - NETC

Palatana-Silchar 400 kV D/C transmission line is passing through 73 KMs of hilly Reserve Forest stretch in the state of Tripura. During construction, hill cutting was minimized by using uneven leg extensions for better stability. In the year 2018, the State of Tripura experienced unprecedented heavy monsoon with incessant rains in the month of June. The intensity of rain was so severe that within a time span of 7 – 10 days the free flowing rain water caused very heavy landslides in the entire hilly stretch of Tripura resulting severe erosion in the subject transmission line corridor.

Due to such natural calamity, 9 (nine) tower locations of this transmission line were badly affected which was beyond the control of NETC. Immediately, temporary measures were taken to provide minimum protection in those vulnerable locations by POWERGRID (the PMC of NETC). These protection measures taken were temporary in

nature and only for protecting the locations during that difficult time. Subsequently, the matter regarding taking up of the permanent protections in these vulnerable locations was initiated jointly by POWERGRID & NETC. Simultaneously, NETC being a very small Entity, the matter was put up in the 152nd OCC Meeting with a request for booking of such heavy expenditure through PoC mechanism. After detailed deliberation the forum suggested/advised NETC to take up the work immediately considering any additional endangered locations and subsequently to submit petition to CERC for inclusion of the cost in tariff.

Subsequently, action taken by POWERGRID/NETC to provide permanent protection e.g.: RRM wall etc., in all these 9 (Nine) tower locations at a cost of Rs.283.29 lakhs. This matter was also taken up in 38th Commercial Sub-Committee meeting and all the members were apprised about the cost and for inclusion of the same in tariff. The committee appreciated the importance of permanent protection to the vulnerable locations which was instrumental in ensuring the stability of the Palatana-Silchar-Bongaigaon corridor thereby ensuring the transfer of Scheduled power at competitive rate to all the NER beneficiaries of OTPC Palatana.

For consideration of NETC petition by CERC for the subject work, clearances of TCC & RPC are invariably required. Hence, this proposal is submitted to TCC Forum for kind deliberation and approval.

The details of locations with location wise expenditure incurred are as below:

Location wise estimated expenditure:

Locn. 211	: Rs.27.39Lakhs
Locn. 218	: Rs.15.26Lakhs
Locn. 264 & 267	: Rs.48.72Lakhs
Locn. 271	: Rs. 89.52 Lakhs
Locn. 279	: Rs.60.47 Lakhs
Locn. 364	: Rs.26.66 Lakhs
Locn. 428	: Rs. 7.12 Lakhs
Locn. 145 (addl. Locn)	: Rs. 8.14 Lakhs
Total	: Rs. 283.29 Lakhs (Say Rs 2.83 Crores)

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.07 : TRANSFER OF OWNERSHIP OF TWO 220KV BAYS AT MARIANI GSS OF AEGCL FROM PGCIL TO AEGCL - AEGCL

Consequent upon the LILO connection of 400kv (charged at 220kv) Misa line & 220kV Kathalguri line at PGCIL's New Mariani S/S, the present connection of AEGCL's 220kV Mariani S/S with these two lines will cease to exist. This will render five nos. of double circuit towers (designed for 400kv) of PGCIL redundant. AEGCL intends to utilize these towers for connecting its Mariani GSS with New Mariani GSS of PGCIL to reinforce the reliability and security of 220kv system at our Mariani GSS. The 18th TCC & 18th NERPC Meeting on 10th & 11th October, 2017, deliberated on this issue and necessary approval was accorded for utilization of the five redundant towers by AEGCL. However, the two 220kv bays at Mariani GSS of AEGCL (presently utilized for Misa & Kathalguri connection) will also become redundant. These bays are currently owned and maintained by PGCIL. AEGCL, therefore, intends to utilize these two bays for connection of the proposed double circuit link from Mariani (AEGCL) to New Mariani (PGCIL). The modus operandi for such utilization of these two bays may be sorted out through discussion and on mutually agreeable terms between AEGCL and PGCIL.

The issue was discussed in 153rd OCC Meeting and the forum agreed in-principle to allow utilization of the two 220kv bays at Mariani GSS of AEGCL (presently utilized for Misa & Kathalguri connection) by AEGCL in line with 5 nos. of 400kV towers already approved in 18th NERPC with a condition that that in case of any financial implications as per CERC direction will have to be borne by AEGCL and Assam agreed for the same.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC gave approval with depreciated cost to be borne by AEGCL in line with 153rd OCC.

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.08 : RECONDUCTORING OF SILIGURI-BONGAIGAON 400KV D/C TWIN MOOSE LINE WITH TWIN HTLS CONDUCTOR & LILO OF 220KV D/C ALIPURDUAR – BONGAIGOAN - NERPC

The following agenda items were approved in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

- (i) Implementation of LILO of both circuit of 220kV D/c Alipurduar – Bongaigaon line at new substation at Agamoni 220/132kV, 2x160MVA along with bus split arrangement at both 220kV and 132kV levels at Agamoni S/S so that one section (with first 220/132kV, 160MVA ICT) is fed from Alipurduar (Gossaigaon132kV may be fed from this section) and the other section (with second 220/132kV, 160MVA ICT) is fed from Bongaigaon (Gauripur 132kV may be fed from this section) by AEGCL as intra-state scheme.
- (ii) Reconductoring of Siliguri – Bongaigaon 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 with implementation of Bornagar – Parbotipur (Bangladesh) – Katihar 765kV (initially to be operated at 400kV) D/C cross border line.

Placed for approval of TCC/NERPC.

Deliberation of the TCC:

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.09 : LILO OF KAHILIPARA – UMTRU 132KV D/C LINE AT KILLING (BYRNIHAT) S/S OF MEGHALAYA & RECONDUTORING OF UMTRU – KAHILIPARA AND UMTRU – SARUSAJAI 132KV D/C LINE - NERPC

The following agenda items were approved in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

- (i) LILO of Kahilipara - Umtru 132kV D/c lines at Killing S/S of MePTCL by MePTCL as intra-state scheme of Meghalaya.
- (ii) Recondutoring of Umtru – Kahilipara and Umtru – Sarusajai 132kV D/c line with HTLS conductor by AEGCL and MePTCL as intra-state scheme in respective territory along with required strengthening of bay equipment and towers.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.10 : HANDING OVER OF BALIPARA-KHUPI-KIMI 132KV S/C LINE ALONG WITH 132KV SUBSTATIONS - NERPC

The following agenda item was approved in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

NEEPCO may hand over the following transmission assets associated with Balipara-Khupi-Kimi 132kV S/c line mentioned below to DoP, Arunachal Pradesh on mutually agreed terms:

SN	Description
1	<p><u>Transmission Lines:</u></p> <ul style="list-style-type: none"> (i) Balipara- Khuppi 132 KV S/c or D/c line (68 km) (ii) Khuppi- Kimi (Kameng HEP) 132 KV S/c line (8 km)-(presently charged at 33kV)

2	<p><u>Extension works at 220KV/132 KV Sub Station at Balipara:</u></p> <p>(i) 50MVA 220/132 KV Transformer - 1 no.</p> <p>(ii) One 132 KV Line bay for Khuppi -Balipara 132 kV S/c line</p>
3	<p><u>132/33 KV Sub-Station at Khuppi</u></p> <p>(a) 132 KV Switchyard:</p> <p>(i) One 132 KV bay for Khuppi -Balipara 132 kV S/c line</p> <p>(ii) 132KV Transformer bay</p> <p>(iii) 132KV Bus transfer bay (under S/D)</p> <p>(iv) One 132KV bay (under S/D) for Khuppi –Kimi 33 kV line</p> <p>(b) 33 KV switchyard:</p> <p>(i) One 33KV line bay for Khuppi –Kimi 33 kV line</p> <p>(ii) One 33KV bay for Khuppi –Tenga 33 kV line</p> <p>(iii) 33KV bay for DoP</p> <p>(c) Power transformers:</p> <p>(i) 5MVA 132/33KV Transformers- 4 nos. (including one spare transformer unit)</p> <p>(d) Distribution transformers:</p> <p>(i) 630 KVA, 33/0.4 KV-2 nos. (One for S/S, One for NEEPCO colony at Khuppi)</p> <p>(e) 132/ 33 KV Sub-station Control Room with all control equipment, battery & batter chargers etc.</p>
4	<p><u>Associated LT Distribution Systems</u></p> <p>(i) Khuppi-Tenga 33 KV Line (5 km)</p> <p>(ii) (ii) Tenga-Bichom 33 KV Line (16 km)</p>

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.11 : INTRA-STATE TRANSMISSION SYSTEM STRENGTHENING AT VARIOUS VOLTAGE LEVELS IN ASSAM - NERPC

The following agenda item was approved in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

AEGCL stated that as per the vision of Govt. of India “24x7 Power for all” and Planning for 2017-22 period, 24 nos. of new substations and associated transmission lines, capacity augmentation of transformers (total capacity addition 828 MVA), Re-conductoring by HTLS (total 186ckm), Bay extension (29 nos.), Conversion of one no. AIS to GIS (132/33KV Gohpur S/s) and Replacement of Existing Ground Wire of the transmission lines with OPGW (615km) are proposed under “Enhancement of Intra State Transmission System” in Assam. AEGCL further, stated that they are availing funding from ADB and entire system is expected to be completed progressively by Dec. 2022. Further, Chief Engineer (PSPA-II), CEA stated that the detailed proposal of Assam was studied during the joint system study meeting on 12-11-2018 and following comments/suggestion were made on the proposed transmission system of AEGCL:

(a) Ghungur 132/11kV sub-station:

Due to 400kV operation of Silchar-PK Bari and Silchar-Imphal, it is expected that 4 no. 132kV line bays shall be vacant at Silchar (POWERGRID) 400/132kV S/s. Accordingly, it was suggested that Ghungur S/s may be connected through Ghungur – Silchar 132kV S/c line instead of Ghungur – Srikona 132kV S/c line. Moreover, it has been observed that Silchar – Srikona 132kV D/c line was overloaded under N-1 contingency. Connection of Ghungur to Silchar would avoid additional loading on already critically loaded Silchar-Srikona 132kV D/c line. Connectivity to ISTS point shall also improve reliability of power supply in the area.

AEGCL agreed to connect Ghungur 132kV substation to Silchar (POWERGRID) S/s utilizing the vacant 132kV line bays at Silchar

(b) Rowta 220/132kV:

It has been proposed to connect Rowta new substation to Rangia (existing) 220kV S/s. It was suggested that Rowta 220kV S/s may be connected to the proposed Rangia

400/220kV, 2x500MVA S/s (proposed under this scheme itself).

AEGCL agreed to connect the new 220kV substation at Rowta with their proposed Rangia 400/220kV, 2x500MVA S/s.

(c) Rangia 400/220kV:

- a. It has been proposed by AEGCL to establish Rangia through LILO of one circuit of Balipara – Bongaigaon 400kV D/c (Twin Moose) line. However, in the 7th SCM of NER it was agreed that Rangia S/s may be established through LILO of both circuits of Balipara – Bongaigaon 400kV D/c (Twin Moose) line. Thus, AEGCL may consider LILO of both circuits as agreed in the 7th SCM of NER.

AEGCL agreed to the proposal.

- b. Similarly, at 220kV level in the 7th SCM of NER, it was agreed that both circuit of Rangia – Amingaon 220kV D/c line may be LILOed at Rangia 400/220kV S/s. However, AEGCL has proposed LILO of one circuit of Rangia – Amingaon 220kV D/c line. Thus, AEGCL may consider LILO of both circuits as agreed in the 7th SCM of NER.

AEGCL agreed to the proposal.

- c. As mentioned above, Rowta 220kV may be connected to Rangia400/220kV S/s instead of existing Rangia 220kV S/s.

AEGCL agreed to connect the new 220kV substation at Rowta with their proposed Rangia 400/220kV, 2x500MVA S/s.

Members agreed to the proposal of proposal of AEGCL for “Enhancement of Intra State Transmission System” in Assam State to be implemented as intra-state scheme by AEGCL with modifications mentioned at para 16.2 of 1st NERSCT. And, accordingly, the intra-state strengthening system in Assam, as agreed, is given at **Annexure – B.11**.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.12 : MODIFICATION IN INSTALLATION SCHEME OF 100 MVAR (4X25MVAR THREE PHASE) REACTOR AT 33KV LEVEL AT MISA (POWERGRID) S/S - NERPC

The following agenda item was approved in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

Modification of connectivity of 100MVAR (4x25MVAR three phase) reactor at 33kV level at Misa (POWERGRID) S/s with tertiary of two nos. of 400/220kV ICTs to ensure availability of reactors in the event of outage of any ICTs at Misa (POWERGRID) S/s, as part of ongoing works under NERSS-IV Scheme.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.13 : 400/220KV, 500MVA SPARE ICT AND 420KV, 125MVAR SPARE BUS REACTOR IN NER - NERPC

The following agenda item was discussed in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

SE, NERPC stated that installation of 400/220kV, 500MVA ICTs and 420kV, 125MVAR bus reactors have been planned for first time in NER system and are already under implementation. Accordingly, a spare 400/220kV, 500MVA ICT and spare 420kV, 125MVAR reactors are required to take care of contingency of failure of such ICTs/reactors. He added that in the 19th TCC and 19th NERPC meetings it has been agreed to have one spare ICT of 400/220kV, 500MVA and one spare reactor of 420kV, 125MVAR in the region.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.14 : CONNECTION OF DIKSHI HEP (24MW) IN WEST KAMENG, ARUNACHALPRADESH- NERPC

The following agenda item was discussed in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

- i. Power from Dikshi HEP (24MW) may be evacuated through below mentioned transmission system:

Transmission element

- a) 132kV S/C Dikshi switchyard to Tenga switching station - 10.5 Kms
- b) 132kV D/C Tenga switching station to Nechipu LILo connection (on Balipara-Khupi 132kV line) - 21.5 km

Substations

- c) 132 kV Tenga switching station with 4 no. of bays

Placed for approval of TCC/NERPC.

Deliberation of the TCC

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.15 : AVAILABILITY OF SPARE 132KV BAYS AT 400KV/132KV SILCHAR SS - POWERGRID

Further, due to shifting of various 400kV lines (being operated at 132kV) at Silchar at its rated voltage, 132kV bays became spare. The list is as under:

Sl. No.	ISTS S/s	Voltage ratio, Trans. Cap	Voltage level (kV)	no. of spare Bays	Lines emanating from S/s	No. of circuit	Status of Lines	Remarks
1	Silchar	400/132kV, 2x200MVA +1x315MVA	132	4	Silchar - Ghungur	1	Dec'21	Available since Jan'19 after Upgradation of Silchar - Imphal 400kV D/c line
					Silchar - Udarbond	1		
					To be identified	2	-	Available by Jul '20 after Upgradation of Silchar - P.K.Bari D/c line

Deliberation of the TCC

AGM, TSECL informed that 400kV (charged at 132kV) Silchar –P.K. Bari will be extended to Masuli. So, TSECL may be allowed to utilize the 2 bays at P.K. Bari.

AEGCL also expressed requirement for two bays at Silchar for Ghungur/Udarbond
AEGCL & TSECL to write letter to NERTS for the 2 bays.

TCC noted and requested constituents to give requisition for remaining 2 (two) bays at Silchar and communicate to NERPC at the earliest. Recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

B.16 : ESTABLISHMENT OF STATE-OF-THE-ART UNIFIED CENTRALIZED NETWORK MANAGEMENT SYSTEM U-NMS FOR ISTS AND STATE UTILITY COMMUNICATION NETWORK - POWERGRID

Project for establishment of State-of-the-Art Unified Centralized Network Management System U-NMS for ISTS and State Utility Communication Network was discussed in 14th NETeST Committee meeting of North Eastern Region held on 11.07.19.

1. MS, NERPC briefed the Committee about the CERC notified Communication Regulation which envisages Centralized Supervision System for ISTS Communication. As per the regulation clause no 7.2 (vii): “CTU shall be the Nodal Agency for supervision of communication system in respect of inter-State communication system and will implement centralized supervision for quick fault detection and restoration.”
2. NETeST Committee Members deliberated the U-NMS proposal and MS, NERPC asked the State utilities to give inputs on the proposal to POWERGRID-NERTS till end of Jul’19. However, no input has been received till date.
3. In line with regulation, provisions of Centralized NMS and Centralized Monitoring by integrating its NMS with other users NMS, has been kept in the documents of Technical Standard & Manual of Communication Planning Criteria being finalized by CEA. In addition to this guideline on availability of Communication System for ISTS has been submitted to CERC by CEA for which centralized NMS/OSS is considered essential.
4. Proposed U-NMS shall acquire data directly from existing NMS and also from nodes not integrated with existing NMS for all ISTS and all other Utility communication links. The U-NMS will acquire information of communication network of ISTS, State Utility and cross border communication system. The U-NMS application shall facilitate for controlling, managing, operation, fault detection, restoration, and maintenance of ISTS and State communication system.
5. U-NMS configuration proposed at Regional and National levels shall provide graphical representation of topology of nodes and links, discovery of Network Elements and sub-systems, Facility of end to end provisioning of bandwidth centrally, Fast fault resolution and reduced restoration times, Proactive maintenance and Customer support and working out channel availability etc., apart from analytics for predictive maintenance etc.
6. U-NMS Project is conceived to facilitate Centralized Supervision for ISTS Communication in compliance to CERC Regulation for Communication System notified in May’17 as present NMSs do not have visibility of entire network and are not capable to support the requirements envisaged for ISTS Communication

in CERC Regulation. Proposed U-NMS configuration at regional level shall also consider integration of NMSs of State Communication Network to facilitate STUs monitor and maintain their network with the help of Work Station provided at their location having direct access of Regional Server.

7. U-NMS Project implementation Schedule is considered as 24 months and estimated cost for each Regional U-NMS is Rs. 99.93 Crs and Rs. 99.93 Crs for national U-NMS excluding AMC cost which is estimated as Rs. 2.6 Crs for 6 years after Warrantee period. Investment made by POWERGRID is proposed to be recovered through tariff as notified by CERC. The cost break-up is as below:

Abstract cost estimate for U-NMS for ISTS Communication System		
S. No.	Description	Cost Estimate Amount (In Cr.)
A	Supply	65.65
B	Installation and Services	3.95
C	Training	1.32
D	Inland Freight and Insurance (@4%)	2.626
E	Taxes and Duties	
i	Excise Duty (@12.5%)	8.20625
ii	CST(@2%)	1.313
	Total (A to E)	83.06525
F	Incidental Expenditure during Construction (@ 10.75%)	8.93
G	Contingency (@ 3%)	2.49
	Total (A to G)	94.49
H	Interest During Construction (IDC)	5.44
	Grand Total	99.93
I	Maintenance charges for 1 year during warranty period and 6 years after warranty period*	2.61

The Tariff for the investment made is to be shared by all constituents as per CERC notification. The scheme shall become part of existing Commercial Agreement signed for ULDC Project.

Deliberation of the TCC

ED (LD&C and AM), POWERGRID alluded to CERC Communication Regulations. Already the matter of U-NMS project has been cleared by sub committees of other regions NR, WR and SR. The matter was discussed in 14th NETeST meeting of NERPC, however, no comments were received from any of the states in this regard. The infrastructure for the entire country is around 600Cr on PoC basis. In the proposed U-NMS project the state network would also be integrated in the State NMS. Cost is proposed to be borne on POC basis. However, detail recovery process will be guided by CERC order during petition stage. Now in-principle approval of the forum may be given so that POWEGRID may go ahead.

After deliberation, TCC gave in-principle approval for the project and for the cost to be booked under POC mechanism.

TCC noted and recommended for approval of RPC.

Deliberation of the RPC

The RPC noted and approved the recommendation of TCC.

CATEGORY – C : COMMERCIAL ISSUES

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

The total outstanding of POWERGID’s NER beneficiaries as on **20.08.2019** is as under and DICs may kindly liquidate their respective outstanding dues immediately. These figures include both PoC as well as non-PoC billing amounts.

(All Figures in INR Crores)

DIC	Total Outstanding dues	Outstanding more than 45 days	Outstanding more than 120 days	Average monthly billing	Remarks
Ar. Pradesh	8.58	1.93	0.01	2.99	<i>Approx. 03 months receivables</i>

APDCL (Assam)	51.43	0.00	0.00	46.58	-
MSPDCL (Manipur)	18.28	9.65	0.00	4.28	<i>Approx. 04 months receivables</i>
MSPCL (Manipur)	2.97	2.77	2.58	0.10	<i>Arrear amounts for FY 2016-17, 2017-18 & 2018-19 yet to be received</i>
MeECL (Meghalaya)	16.25	7.22	0.00	4.63	<i>Approx. 04 months receivables</i>
Mizoram	1.90	0.00	0.00	2.40	-
Nagaland	3.50	0.00	0.00	3.99	-
TSECL (Tripura)	0.20	0.20	0.04	3.63	-
Total	103.15	21.77	2.63	68.60	-

Concerned DICs with >45 days outstanding may be impressed upon to clear the outstanding dues immediately as POWERGRID is facing financial constraints. Manipur may be specifically requested to clear their outstanding dues as the same have accumulated to beyond 120 days.

Deliberation of the TCC

Forum requested all concerned utilities to clear the outstanding dues at the earliest.

All constituents agreed to clear the same soon.

The TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. C.02 : LC REQUIREMENT AGAINST POC BILLING AS PER CL. NO. 3.6 OF BCD (BILLING COLLECTION AND DISBURSEMENT) PROCEDURES OF CERC ORDER NO. L-1/44/2010-CERC, DTD. 29.04.11 - POWERGRID

LC requirement against PoC billing as per Cl. No. 3.6 of BCD (Billing Collection and Disbursement) Procedures of CERC order no. L-1/44/2010-CERC, Dtd. 29.04.11

REQUIREMENT AND STATUS OF LC AS ON DATE (20.08.2019) OF NER BENEFICIARIES:

(All Figures in INR Lakh)

SN	Beneficiary	Required LC Amount	Validity of existing LC	Total LC Amount to be maintained including enhanced value		
				Existing	Enhancement	Total
1	Ar. Pradesh	249.39	31.03.2020	321.46	0.00	321.46
2	APDCL (Assam)	3930.00	30.04.2020	3930.00	0.00	3930.00
3	MSPDCL (Manipur)	390.93	28.03.2020	236.79	154.14	390.93
4	MeECL(Meghalaya)	365.00	04.10.2019	365.00	0.00	365.00
5	Mizoram	290.56	04.05.2020	290.56	0.00	290.56
6	Nagaland	319.48	21.03.2020	437.73	0.00	437.73
7	TSECL (Tripura)	367.00	14.02.2020	367.00	0.00	367.00

Manipur (MSPDCL) to be impressed upon for enhancement of LC to requisite amount.

Forum requested all concerned utilities to enhance the LC at the earliest.

Deliberation of the TCC

All constituents agreed to clear the same soon.

The TCC noted as above and place to RPC.

Deliberation of the RPC

The RPC noted as above.

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

Outstanding dues more than 45 days as on 31.08.2019 is Rs. 340.78 Crore.

S. No	Beneficiaries	Total Outstanding in Cr.	Outstanding more than 45 days
1	MeECL, Meghalaya	357.40 (Including Surcharge)	340.78

Forum requested Meghalaya to liquidate the outstanding dues at the earliest.

Deliberation of the TCC

The TCC noted as above and place to RPC.

Deliberation of the RPC

Chairman, NERPC & Hon'ble Power Minister, Meghalaya stated that efforts are being made by Govt. of Meghalaya to clear the outstanding dues to all the utilities. He requested them to bear with Meghalaya for the time being as the matter is being taken up on top priority by Govt. of Meghalaya.

The RPC noted as above.

ITEM NO. C.04 : 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 as given below are requested to open the LC at the earliest.

Sl. No	Beneficiaries	LC Required As per PPA (Cr.)	Remarks
1	MeECL, Meghalaya	13.60	Not yet opened
2	MSPDCL, Manipur	15.40	LC opened for Rs 3.79 Crs. The same to be enhanced.

MeECL & MSPDCL are requested to open the LC of requisite value.

Deliberation of the TCC

Forum requested all concerned utilities to open/enhance the LC at the earliest.

All constituents agreed to enhance the same soon.

The TCC noted as above and place to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. C.05 : OUTSTANDING DUES OF OTPC AGAINST NER BENEFICIARIES – OTPC

The current total outstanding dues of OTPC against the NER beneficiary states (as on 22-08-2019) are as under:

Sl. No.	Beneficiary	Outstanding Dues (>45 Days)	Total Outstanding
1	Arunachal Pradesh	0.00	0.00
2	Assam	0.00	0.00
3	Manipur	18.34	26.43
4	Meghalaya	79.78	95.40
5	Mizoram	0.00	0.00
6	Nagaland	0.00	0.00
7	Tripura	0.00	0.00
	Total	98.12	126.38

The total outstanding dues as on 28-08-2019 are Rs. 126.38 Crores out of which outstanding beyond 45 days is Rs. 98.12 Crores. The outstanding dues of Meghalaya and Manipur as accumulated to alarming levels. The auditors have been regularly reflecting the issue of outstanding dues of Meghalaya and Manipur as a special concern in our Board Meetings. Accordingly, Meghalaya and Manipur are hence requested to clear at least the outstanding dues over 45 days, at the earliest.

Deliberation of the TCC

Forum requested MeECL & MSPDCL to clear the outstanding dues at the earliest.

The TCC noted as above and place to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. C.06 : OUTSTANDING DUES OF NHPC FOR MORE THAN 45 DAYS – NHPC

- a. **MeECL, Meghalaya:** As per MeECL Letter No.251 dated 31.01.2017 entire outstanding dues had to clear by August, 2017. But till date, MeECL, Meghalaya has not cleared the entire dues despite their commitment in Jan'2017. As on date, an amount of Rs. 27.13 Crs (Including surcharge of Rs. 16.60 Crs up to 30.07.2019) is due for payment from MeECL, Meghalaya. It is reiterated that amount outstanding beyond a period of 45 days from date of billing is attracting late payment surcharge at the rate of 1.50% per month as per CERC (Terms & Conditions of Tariff) Regulations, 2019. The auditors are stressing upon NHPC to settle the issue of pending huge outstanding dues at the earliest. Latest reminder has been sent on 19.08.2019. In this regard senior officers from NHPC visited Shillong on 26-28th June, 2019 and held meeting with CMD, MeECL and CE (Comml.), MeECL but payments are not forthcoming. MeECL, Meghalaya is requested to liquidate the entire outstanding dues as early as possible or at least principal amount of Rs. 10.53 Crs to avoid further levy of surcharge. NHPC Ltd. is contemplating to approach NCLT for redressal of the long pending issue for early realization of the outstanding dues.
- b. **MSPDCL (Manipur):** An amount of Rs. 20.32 Crores is due for payment (Including surcharge of Rs. 0.47 Crs up to 30.07.2019) from MSPDCL (Manipur) including current bill of Aug'2019. MSPDCL (Manipur) is requested to liquidate the amount at the earliest to avoid late payment surcharge failing which NHPC Ltd shall be constrained to present (LC) to the bankers for encashment.

Deliberation of the TCC

Forum requested MeECL & MSPDCL to clear the outstanding dues at the earliest.

The TCC noted as above and place to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. C.07 : OUTSTANDING DUES OF REGULATORY ACCOUNTS - NERLDC

(a) DSM CHARGE OUTSTANDING

Major defaulter in terms of O/s Payable for weeks >13 are Arunachal Pradesh (28.18 Cr), Assam (5.38 Cr), Manipur (4.08 Cr), Mizoram (7.58 Cr), Nagaland (26.36 Cr).

(b) REACTIVE CHARGE OUTSTANDING

Major defaulters are Ar. Pradesh (Rs: 2795916/-), Manipur (Rs: 12406 /-), Mizoram (Rs: 345504 /-), Nagaland (Rs: 260859 /-), Tripura (Rs: 176024 /-).

(c) FEES & CHARGES OUTSTANDING

Major defaulter in terms of O/s Payable for days > 45 is Manipur (₹886428/-)

Deliberation of the TCC

Forum requested all concerned utilities to clear the outstanding dues at the earliest.

All constituents agreed to clear the same soon.

The TCC noted as above and place to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. C.08 : OUTSTANDING DUES PAYABLE BY BENEFICIARIES - NEEPCO

The outstanding dues payable by the beneficiaries to NEEPCO as on 31.08.2019 is shown in the table below.

(Rs. in Crore)

State	Principal already due (>45 days)	Principal yet to be due (<45 days)	Total Due	LPS Due	Grand Total (Principal + LPS)
1	2	3	4	5	6=4+5
ASSAM	0.85	75.49	76.33.	20.05	96.39
MIZORAM	0.00	30.54	30.54	1.39.	31.93
MANIPUR	7.83	41.87	49.70	3.81	53.51
TRIPURA	62.32	43.55	105.87	2.81	108.67
Ar. PRADESH	6.40	6.36	12.76	3.51	16.27
NAGALAND	0.00	10.99	10.99	0.00	10.99
MEGHALAYA	348.15	33.01	381.16	256.77	637.93
Grand Total	425.55	241.81	667.37	288.34	955.70

In the context of this subject NEEPCO places on record its appreciation for Nagaland, Assam, Arunachal Pradesh and Mizoram for making prompt payments leaving negligible dues. NEEPCO also acknowledge the efforts being made by Tripura to clear the current bills.

However, it may be seen from the table that as on 31.08.2019 the unpaid dues of Meghalaya have escalated to Rs.637.93 crore, followed by Tripura and Manipur with dues of Rs.108.67 crore and Rs.53.51 crore respectively, leaving NEEPCO with unrealized revenue to the extent of Rs. 955.72 crore. The House will appreciate that dues of this magnitude forces NEEPCO to resort to regular commercial borrowings at very high cost in order to meet its routine operational expenses, making the efficient running of power stations unsustainable over a long period.

Therefore, NEEPCO request this forum to take cognizance of this problem and urge upon the defaulting entities to make all efforts to clear the dues in the overall interest of all stakeholders.

Deliberation of the TCC

Forum requested all concerned utilities to clear the outstanding dues at the earliest.

All constituents agreed to clear the same soon.

The TCC noted as above and place to RPC.

Deliberation of the RPC

Chairman, NERPC & Hon'ble Power Minister, Meghalaya thanked NEEPCO for the patience and generosity and once again stated that efforts are being made by Govt. of Meghalaya to clear the outstanding dues to all the utilities. He requested them to bear with Meghalaya for the time being as the matter is being taken up on top priority by Govt. of Meghalaya.

The RPC noted as above.

CATEGORY – D : ITEMS FOR INFORMATION

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

During 19th TCC & 19th NERPC Meeting, POWERGRID informed that LOA was placed on M/s TCIL. All materials received at site and all out efforts to be made to complete work by July'19.

Deliberation of the TCC

PGCIL informed that OPGW stringing is in progress and expected completion by November, 2019. Till date, 257Km out of 380 Km has been completed in Manipur including State & Central Sector. Details are at **Annexure – D.01**.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.02 : STATUS OF FO EXPANSION AND MW VACATION PROJECT IN NER - POWERGRID

During 19th TCC & 19th NERPC Meeting, POWERGRID informed that the project shall be completed by July'19

Deliberation of the TCC

The status of project during 19th NERPC Meeting and the updated during the 20th TCC/NERPC Meeting is as below:

19 th NERPC Meeting	20 th NERPC Meeting
PROJECT: MICROWAVE REPLACEMENT (1135KM OF OPGW)	
<ul style="list-style-type: none"> 13 links out of 30 links commissioned. 	<ul style="list-style-type: none"> 21 links out of 30 links completed. Left over Links as given in Annx.D.02(Left over links by Nov 19)

19 th NERPC Meeting	20 th NERPC Meeting
<ul style="list-style-type: none"> Approx. 8 Km stringing balance due to issues such as tower diversion and re-stringing requirement. 	<ul style="list-style-type: none"> Expected commissioning for Nirjuli-Leikhi-Parey Link is subject to ROW. Links of AEGCL has already been handed over on 21.2.19 Up-gradation cum replacement of ULDC nodes i.e SDH/PDH as per 15TH NERPC is also completed. Status attached under Annex D.02
PROJECT: FO EXPANSION (1887KM OF OPGW)	
<ul style="list-style-type: none"> Stringing Completed - 912 Km Stringing completion is expected by July '2019. 	<ul style="list-style-type: none"> Stringing Completed - 1250 Km Balance Stringing completion is expected by : From Oct19 to March20 progressively as per as per Annex D.02

Details are at **Annexure – D.02.**

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.03 : PROGRESS OF URTDSM PROJECT - POWERGRID

Deliberation of the TCC

The status of project during 19th NERPC Meeting and the updated during the 20th TCC/NERPC Meeting is as below:

19 th NERPC Meeting	20 th NERPC Meeting
PROJECT: PMU	
<ul style="list-style-type: none"> 46 out of total 51 PMUs commissioned in 12 substations. Installation is in progress at BNC and at Ranganadi same is planned from 	<ul style="list-style-type: none"> URTDSM: PMU Part : 51 out of total 51 PMUs commissioned in 14 substations.

<p>start of Jan'19.</p> <ul style="list-style-type: none"> • Out of 12 commissioned stations Dimapur is planned from Jan' 19 end. 	
<p>PROJECT: CONTROL CENTERS</p>	
<ul style="list-style-type: none"> • Installation done for 3 control centers (NERLDC, Assam and Meghalaya) out of 4. SAT done for NERLDC, Assam and Meghalaya. Installation pending at Arunachal Pradesh. • POWERGRID requested for commencement of SAVT in Dec'18, which was agreed by members. 	<ul style="list-style-type: none"> • URTDSM: Control center part: • SAVT completed for PDC/SPDC installed in NERLDC(15.03.19), SLDC-Assam(07.3.19), SLDC-Meghalaya(05.3.19). The system installed in SPDC/PDC centers is used for operation. • For Tripura-SLDC(PDC) materials delivered. Installation work in progress. Site Acceptance Test by Nov19 & SAVT by Dec19. Additional cost (transport+ GST) will be to be booked as incurred for diversion.. • Refer Annexure – D.03 for details

Details are at **Annexure – D.03.**

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.04 : UP-GRADATION OF 220/132KV SALAKATI SUB-STATION FROM CONVENTIONAL TO SAS ON COMPLETION OF 25 YEARS AGE AND CAPITALIZATION DURING TARIFF BLOCK (2019-2024) - POWERGRID

During 16TH TCC & 16th NERPC Meeting (MOM Item No. A.9) approval was accorded for up-gradation of 220/132kV Salakati Sub Station by POWERGRID on completion of 25 Years. The activities covered under up-gradation in Tariff Block 2014-19 was replacement of all old equipment and up-gradation of the Substation from conventional to SAS with tentative expenditure of Rs 10.00 to 12.00 Crores under PoC Mechanism.

Now, the up-gradation tender is in final stage and the job will be taken up in tariff block 2019-24.

This is for kind information to forum for onwards information to next 20th TCC & 20th NERPC Meeting.

Deliberation of the TCC

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

**ITEM NO. D.05 : BETTER WEATHER FORECASTING FOR POWER SECTOR
BY IMD - NERLDC**

It was informed by IMD that they would install 150 nos. AWS in NER and IMD proposed to set up AWS in substations of NER and they are ready to share data with NERLDC & SLDCs which will be beneficial for load forecast.

In the 158th OCCM, Dr. Sanjay O' Neil Shaw, Scientist E/Dy. Director General of Meteorology, Regional Meteorological Centre, IMD, Guwahati made a presentation on the IMD offering for the power sector of NER. The forum thanked IMD for the offer and approved the weather station requirements. Further, it was decided that a list of stations would be prepared by NERLDC in consultation with the constituents of NER and submitted to IMD for feasibility check.

The respective utilities nominated the following as nodal officers i.r.o. IMD project in the 159th OCCM:

- Ar. Pradesh – Sh. Sange Phuntso, EE, SLDC
- Assam- Sh. Pran Krishna Saikia, DM, SLDC
- Manipur – Sh. L Dinesh Kumar GM, SLDC
- Meghalaya- Sh. D. J. Lyngdoh, EE, SLDC
- Mizoram- Sh. Benjamin Tlumtea, EE, SLDC
- Nagaland - Sh. Rokobeito Iralu, SDO, Kohima
- Tripura – Sh. Anil Debbarma, DGM, SLDC
- NTPC - Sh. Kangkan Paul, Manager, BgTPP

OTPC – Sh. N.K. Gupta, Manager, Palatana GBPP

NERTS – Sh. H. Talukdar, Sr.DGM

NEEPCO – Sh. Joypal Roy, DGM

NHPC – Sh. Deepak Sanaygarh, Sr. Manager

Deliberation of the TCC

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.06 : REACTIVE POWER CAPABILITY TESTING OF GENERATORS IN NER REGION - NERLDC

Procedure for reactive power capability testing was approved in 158th OCC meeting of NERPC Forum held on 12th July, 2019 at Guwahati. Thereafter, the first reactive capability testing in NER Region was conducted at OTPC, Palatana on 13th and 14th August, 2019. The testing at all ISGS in NER will be conducted on monthly basis i.e. one ISGS each month.

Deliberation of the TCC

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.07 : DISMANTLING OF 132kV S/C DIMAPUR - IMPHAL TRANSMISSION LINE ON ACCOUNT OF HIGHWAY CONSTRUCTION BY NHIDCL AT NAGALAND - POWERGRID

During the deliberation of special meeting held at Imphal on 25.09.2018 in connection with dismantling of 132kV Dimapur - Imphal S/C Transmission Line of POWERGRID to facilitate construction of Dimapur-Kohima 4-lane Highway, it was discussed and decided that POWERGRID would dismantle the line in various stretches involving 32

nos. of locations to clear the front to NHIDCL for construction of the Highway. Further, POWERGRID agreed to restore the line by 31.01.2019 subject to resolution of all RoW issues in time by Nagaland State Administration immediately on occurrence.

During the 155th OCC meeting, POWERGRID stated that although the foundation & erection works for diversion of the line has been taken up by POWERGRID with adequate mobilization, Right of Way issues along the new route involving 28 nos. of locations had become deterrent to the progress as those are taking considerable time to get resolved. In the said meeting, POWERGRID also raised concern over the apprehended uncongenial working conditions during the Monsoon period leading to further spillage of the work.

Considering all above stated facts, the subcommittee agreed to consider the outage of 132kV Dimapur – Imphal Line under “*Force Majeure Condition*” till completion of restoration.

Now, as on date, following critical issues are still pending with state administration:

- (i) Finalization of compensation of ROW for balance 2 locations in Kohima District & 1 location in Dimapur District.
- (ii) Finalization of compensation for Surface damage for all the new spans in Kohima District.

POWERGRID is pursuing continuously with the Administration to resolve above issues at the earliest.

It may also be mentioned here that heavy rain fall & landslides during the last few months at various locations along the Dimapur-Kohima highway has adversely affected the pace of the ongoing work even as physical movement of working personnel & carriage of construction materials to new locations have been hampered on account of breakdown of communication to the locations. Meanwhile, 2 No. existing towers viz. loc.355 & 356 of the line have collapsed on account of severe landslide along the Dimapur-Kohima highway. Apparently it seems that due to massive soil excavation on account of highway construction the soil Strata might have got disturbed resulting severe landslides along the highway.

Currently, adverse weather conditions & frequent breakdown of communication on account of landslides, as stated above has gravely impacted the restoration work.

Despite all the obstructions, POWERGRID is making all out efforts for restoration of the line at the earliest. However, considering the present conditions, it is expected that it would be possible to restore the line overcoming all the Force Majeure Conditions by November-2019 only. This is however subject to clearance of ROW issues at the balance locations.

It is pertinent to mention here that a section of the 132kV Dimapur-Imphal line (from Imphal to Kohima) is presently under use by DoP, Nagaland for feeding power to Kohima as requested by DoP, Nagaland & subsequently agreed in the 158th OCC meeting (which is an interim arrangement for 6 months).

Deliberation of the TCC

MD, MSPCL informed that Manipur depends solely on i) Silchar-Imphal 400 kV D/C line & ii) Dimapur-Imphal 132 kV line for interstate power supply management and prolong shutdown of Dimapur-Imphal is not desirable in State's interest. Further, he mentioned that failure of southern grid of NER on 20.04.2019 leading to, among others, complete blackout of Manipur. It is worth mentioning that Power failure in Manipur could have been avoided had there been Dimapur-Imphal 132 kV line connectivity. And no one can assure that the same phenomenon shall not happen again. He strongly urged upon DoP, Nagaland & POWERGRID to give a definite time frame of restoration of the above line.

ED, NERTS informed that out of 28 towers, foundation has been completed on 19 locations. Erection of 17 towers completed and stringing in Dimapur section will start shortly. The RoW problem left is on 3 locations only and compensation for 10 spans in Kohima District.

CE, DoP, Nagaland requested POWERGRID to rope them also whenever they approach the District Authority so that the issue can be resolved at the earliest.

The forum stressed upon DoP, Nagaland & POWERGRID to complete the work by November, 2019.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.08 : STATUS OF NORTH - EASTERN REGION SCHEMES UNDER PSDF- CEA

The status of schemes of North-Eastern Region as sanctioned under PSDF is attached at **Annexure-D.08**. The pace of activity is rather slow in the instant schemes.

Deliberation of the TCC

MS, NERPC informed that the various projects in NER are being monitored in every OCC Meetings and requested all utilities to avail the fund at the earliest.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.09 : INORDINATE DELAY IN COMPLETION OF SHIFTING OF THE 400 kV SILCHAR-IMPHAL D/C LINE NEAR IMPHAL (PG) SUB-STATION AT YUREMBAM, IMPHAL - MSPCL

Construction of 3x105 MVA, 400/132 kV Sub-Station at Thoubal in Manipur is completed and ready for commissioning. The associated 400 kV D/C line from Imphal (PG) to Thoubal is also complete except for few spans which is delayed due to PGCIL's inability to complete the shifting work.

Commissioning of this 400 kV sub-station depends on the completion of the shifting work pending with PGCIL. The forum of the 19th TCC & 19th NERPC Meeting held on 28th & 29th November, 2018 at Guwahati also reiterated the completion of this diversion work at the earliest but no substantial progress is seen on the ground. Instead PGCIL has set a new timeline for completion by October, 2019 which is not at all realistic as the harvesting season completes only by early December.

Rather, in anticipation of the completion of the shifting work, MSPCL had centrifuged the transformer in September, 2018 and planned to commission the sub-station by December, 2018. The Company had undertaken the same work again in March, 2019 hoping to commission the 400 kV S/S before the onset of monsoon and the paddy cultivation season. These delays had forced MSPCL to keep the 400/132 kV

transformers idle for a long time which may deteriorate the insulation of the transformers. In spite of necessary precaution and inspection, keeping the transformers idle for a long time can cause damage due to ingress of moisture and other contaminants as a result of weak insulation.

Further, the delays had caused cost escalations which will invite audit review.

PGCIL is, therefore, requested to place the status of work and also commit a realistic timeline for the completion of shifting/diversion of the 400 kV Silchar – Imphal D/C line.

Deliberation of the TCC

ED, NERTS informed that foundation of all 18 towers has been completed and erection in 5 towers completed and target date is October, 2019 subject to no hindrance (paddy cultivation). He requested MD, MSPCL to assist them in this matter. MD, MSPCL agreed.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.10 : KAMENG HEP- SALE OF POWER SUBSEQUENT TO COMMISSIONING OF 2 UNITS (2X150 MW) - NEEPCO

The first two 150 MW units of the 600 MW Kameng HEP are expected to be commissioned during the current year. In this context the following issues were deliberated upon at the 38th CCM of NERPC on 23rd July, 2019 at Guwahati:

- i) PPA signing/refusal by Manipur: and
- ii) Approval for trading of 15% unallocated power.

The Sub-Committee deliberated on the issues at length and resolved as below:

- i. *“Manipur representative informed that they will communicate their final decision about signing of PPA within a week’s time.*
- ii. *The issue regarding allocation of Power of Kameng HEP was discussed in details. NEEPCO informed that Tripura and Mizoram have written to the Ministry of*

Power, Government of India completely surrendering their shares from Kameng HEP. However, the Ministry of Power, Government of India has not yet de-allocated the shares of these states. NEEPCO further informed that Ar. Pradesh, Assam, Meghalaya, and Nagaland confirmed to take firm share from Kameng HEP and that there are valid PPAs with these states. Assam and Nagaland indicated their willingness to take additional power from the unallocated share of Kameng HEP. Assam informed that although they had communicated to NEEPCO their requirement of 50 MW from the unallocated share in addition to their firm share, they will confirm within two weeks any further requirement beyond the additional 50 MW.

Member Secretary (I/C), NERPC informed that the 15% unallocated power can be allocated to all the NER states based on the existing proportion as done in respect of all other ISGS in NER. He, however, clarified that if some states are willing to take additional power from unallocated share, the same can be taken up with the Ministry of Power”.

Therefore, Assam and Nagaland are requested to kindly confirm their requirements as mentioned above, so that further action on this issue can be initiated by NEEPCO.

Further, NEEPCO requests the house to deliberate on this important matter and enable NERPC to take up with the Ministry of Power, Government of India the issue regarding additional allocation from the unallocated share to willing beneficiaries of the NER.

Deliberation of the TCC

Manipur mentioned that the matter is known to them and is under examination. The same would be intimated to NEEPCO shortly.

TCC advised NEEPCO to find out alternate beneficiaries in case Manipur don't sign the PPA.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.11 : EXEMPTION OF OTPC PALATANA PROJECT FROM PEAK/OFF-PEAK OPERATION UNDER CERC TARIFF REGULATIONS DUE TO INABILITY OF FUEL GAS SUPPLIER TO PROVIDE FUEL AT VARIABLE FLOW RATES - OTPC

While notifying the Tariff Regulations 2019-24, CERC has maintained that to meet the future grid requirements, conventional (Coal & Gas) generators will need to generate more power during peak hours and may be required to reduce generation upto 55% of Machine Continuous Rating (MCR) during off-peak hours. Therefore, in the tariff regulations for 2019-24, CERC has introduced the concept of Peak and Off-Peak hours of operations of a generating station, which shall be operationalized by RLDCs from 1st April, 2020.

OTPC had hence written to the fuel gas supplier for Palatana Project to provide flexible gas supply at variable flow rates to Palatana during the day in line with the CERC Tariff Regulation (for higher generation during peak hours and lesser generation off-peak hours).

However, the fuel gas supplier has expressed its inability to provide gas at variable flow rates due to the facts as stated below:

- a. Gas production facilities at Tripura are on a standalone basis from gas fields in Tripura and are not connected to any external gas grid,
- b. Being landlocked there is no provision of gas import/export in and out of Tripura,
- c. The gas supply facilities have no storage facilities,
- d. The wells and other gas production and transportation infrastructure created in Tripura does not permit production or supply of gas at variable rates of flow and
- e. The gas supplies have been created on Gas to Wire concept

As a gas based power stations is solely dependent on fuel supply to ramp up/ramp down generation, the inability of the gas supplier to provide gas at variable flow rates will mean that Palatana Project will not be able to maintain the desired peak/off-peak hours operation as per CERC Tariff Regulations.

In view of the above, it is kindly requested that Palatana Project may be exempted

from Peak/Off-Peak Operation under CERC Tariff Regulations due to inability of the Fuel Gas supplier to provide fuel at variable flow rates.

The 160th OCCM noted the proposal and advised OTPC to take up the matter with Hon'ble CERC for exemption.

Deliberation of the TCC

MD, OTPC mentioned about CERC's Regulation which advised generator for variable generation. However, he stated that gas supplier(s) are reluctant to supply gas in variable quantities. Moreover, in NER no generator is connected to any external gas field, hence, no storage facilities. Therefore, it is not possible to supply the gas in variable rates. NEEPCO also expressed similar difficulties and agreed with OTPC.

Forum noted the concerns of OTPC & NEEPCO and requested the generating utilities to approach CERC.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

<p>ITEM NO. D.12 : SIGNING OF POWER PURCHASE AGREEMENT (PPA) IN RESPECT OF SUBANSIRI LOWER H.E PROJECT (2000MW) IN ARUNACHAL PRADESH – NHPC</p>
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Signing of PPA with Deptt. of Arunachal Pradesh in respect of Subansiri Lower H.E Project is pending since long. Modification sought by Arunachal Pradesh in PPA has already been agreed to and conveyed vide this office letter dated 10.11.2016. Latest letter was sent on 15.05.2018 to Govt. of Arunachal Pradesh for the same. Moreover, Hon'ble NGT, Principal Bench, New Delhi vide order dated 31.07.2019 has upheld expert committee Constituted by MoEF & CC for Subansiri Lower HE Project.

In view of above, Deptt. of Power, Govt. of Arunachal Pradesh is requested to resolve the issue at the earliest.

Deliberation of the TCC

NHPC informed that Govt. of Arunachal Pradesh has signed the PPA with NHPC on 27.08.2019.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.13 : AUTOMATIC GENERATION CONTROL - NERLDC

Hon'ble CERC has issued order in Petition no. 319/RC/2018 dated 28.08.2019 on AGC. Summary of order is as below:

- a. All thermal ISGS stations with installed capacity of 200 MW and above and all hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC are directed to install equipment at the unit control rooms for transferring the required data for AGC as per the requirement to be notified by NLDC. NLDC shall notify the said requirements within one month of this order.
- b. All such ISGS stations whose tariff is determined or adopted by CERC shall have communication from the nearest wide band node to the RTU in the unit control room.
- c. The Central Transmission Utility (CTU) is directed to have communication availability from NLDC/ RLDCs to the nearest wide band node/ switchyard for the generating stations in a redundant and alternate path ensuring route diversity and dual communication.
- d. The NLDC is also directed to commission the required communication infrastructure.
- e. The expenditure as a result of compliance of the above directions may be claimed as per relevant regulations or provisions of the PPA.
- f. The NLDC is directed to monitor implementation of the above directions so that all the ISGS stations whose tariff is determined or adopted by CERC are AGC-enabled within six months of this order.
- g. The framework regarding compensation for AGC support and deviation charges as stipulated in the Commission's Order in Petition no. 79/RC/2017 dated

06.12.2017 shall apply to the five pilot projects as also to other ISGS as and when they are AGC enabled. This arrangement shall remain in place till the relevant regulations inter-alia on compensation for AGC services are framed by the Commission.

- h. NLDC/RLDCs are allowed to operate the AGC system for enabling the signals to the power plants at the earliest.
- i. All new thermal ISGS stations with installed capacity of 200 MW and above and hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC shall mandatorily have the capability to provide AGC support.

The AGC Pilot projects under implementation are:

SN	Name	Capacity	Name of Utility
1	Dadri (Stage II)	4x210	NTPC
2	Simhadri (Stage II)	2x550	NTPC
3	Mauda (Stage II)	2x660	NTPC
4	BARH	2x660	NTPC
5	BGTPP	3x250	NTPC

Out of the above, it has been implemented in all locations except BgTPP which is now in the pipeline. AGC pilot project at BgTPP is expected to be operationalized in Sep'19.

Deliberation of the TCC

ED, NLDC highlighted the issue of AGC and hoped that pilot AGC of BgTPP will be completed as stipulated date above.

ED, NLDC further mentioned that all the power plants shall have to atke necessary action for arranging the communication (through redundant and alternate paths) from the existing nearest wideband communication node to the unit control room (where remote terminal unit would be located) through redundant fiber optic cables, in coordination with Central Transmission Utility (CTU)

CTU mentioned that they will take the responsibility of communication link from NLDC/RLDCs to nearest wide band node/switchyard for the generating stations in a redundant and alternate path.

As per the said order of Hon'ble CERC, following generating stations of NER are required to install equipment at the unit control rooms for transferring the required data for AGC:

S. No.	Power Plant	Thermal/ Hydro	Capacity (MW)
1	BongaigaonTPP	T	750
2	AGBPP – Kathalguri	T	291
3	Kopili	H	200
4	Loktak	H	105
5	Doyang	H	75
6	Khandong	H	50
7	Kopili-II	H	25

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.14 : FOR SUB-GROUP TO RECOMMEND SUITABLE MEASURES AND ROADMAP FOR INSTITUTION BUILDING AND STRENGTHENING OF THE LOAD DESPATCH CENTRES (LDCS) - NERLDC

(i) Manpower: As NER SLDCs fall under small category so basic manpower requirement is 30-50. It was agreed in 19th TCC meeting, that all SLDCs would be manned accordingly. SLDC Arunachal Pradesh, SLDC Mizoram, SLDC Nagaland and SLDC Tripura is having manpower shortage presently.

Members may discuss for enhancement of manpower for the above LDCs.

(ii) Financial benefit for completion of certification course: No state has implemented yet.

Members may discuss

(iii) Ring fencing of SLDC: No state has implemented yet.

Members may discuss

Deliberation of the TCC

Concerned States above noted and stated that the issue is being examined by them as suggested by NERLDC and appropriate action would be initiated by them to place appropriate manpower at SLDC.

The placement of quality manpower at Manipur SLDC and their functioning was appreciated by the forum. MD-MSPCL stated that they have taken action to improve SLDC functioning and a Society has also been formed to ensure independence of SLDC.

Other States were advised to emulate Manipur model.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.15 : ROADMAP AND TIMELINE FOR IMPLEMENTATION OF CABIL REPORT RECOMMENDATIONS - NERLDC

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	SERC	30	Regulation is not in place for Arunachal 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	SERC	45	
4	Notification of Regulations for Fees and Charges of Load Despatch Centre after public hearing.	SERC	90	
5	Registration of Users of LDC	LDC	100	
6	Separation of financial accounts for LDCs and Identification of Assets and Liabilities of LDCs	STU	120	
7	Preparation of organization Chart for LDC and Identification of Human Resources for LDCs. Identification of list of Certified Operators	STU	130	
8	Creation of separate Bank Account for LDC and a separate Bank Accounts for Regulatory Pool funds to be managed by LDCs	LDC	150	Assam, Meghalaya have opened separate bank account.
9	Preparation of CAPEX plan for up gradation of SCADA, IT and civil infrastructure of LDCs	LDC	150	
10	Preparation of plan for application software relevant for the respective LDC	LDC	180	
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	

12	Submission of Petition for approval of Fees and Charges of Load Despatch Centre in respective ERC	LDC	210	
13	Approval of Fees and Charges for Control period	SERC	300	
14	Commencement of billing of LDC fees and charges	LDC	330	
15	1st Review of progress in the activities for F&C utilization	ERC	365	

Deliberation of the TCC

All Constituent States noted the road map given by CABIL report and stated that they will try to adhere to the time line given. It was agreed to follow-up in next TCC meeting.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.16 : REQUIREMENT OF MODEL DATA FOR SIMULATION OF POWER SYSTEM STABILITY AND DYNAMICS - NERLDC

Simulation of power system stability conditions is important in understanding the behavior of the power system and taking necessary steps for ensuring security of the grid. Considering the complexity of India's power system and likely integration of high quantum of RE generation to the grid, efforts of all stakeholders of power system operation, planning and regulations need to be put together in building an accurate, robust and sustainable all India dynamic simulation model. Consultant appointed by the Taskforce on Power System Analysis under Contingencies (By MoP in December 2012 as a follow up) recommended development of standard modelling procedures and data management procedures, besides the need for periodic validation of generator models through site testing for the purpose of transient stability and small-signal stability studies.

To gain confidence in the stability studies that adequately represent system performance, fit-for-purpose models of power system elements are of utmost importance. A functional fit-for-purpose dynamic model would help to identify the secure operating envelope and thereby managing security effectively. It will allow assessment of impact on grid elements due to connection of new elements and permit power system assets to be run with margins determined on the basis of security assessments. It would also facilitate the tuning of control systems, such as power oscillation dampers, frequency controllers and improve the accuracy of online security tools.

At present, any new generator that seeks connectivity with the grid has to provide the data in the formats as prescribed by CTU or STU/SLDCs. This data is primarily related to equipment's steady state behavior and lacks the necessary information required for dynamic modelling. Therefore, improvised templates have been prepared based on the inputs received from several consultants and POSOCO's experience and have been shared with CTU and CEA recently. It may please be noted that templates for Wind and Solar have already been incorporated by the CTU in its CON-4 format after similar exercise.

Same has to be emulated at state level also. States may be advised to improve their connection agreement to include dynamic parameters for new generators and collect the necessary data in the prescribed format from the concerned entity before allowing them to connect with the grid. In case of already connected plants, SLDC/STU may issue the necessary instruction to the concerned generator with modified templates and request them to furnish the information latest by Dec., 2019 to expedite the process of preparing all India dynamic model, continuous follow up is required at various fora.

Deliberation of the TCC

Sr. GM, NLDC reiterated the importance of dynamic modelling of power system elements to build the confidence in the stability studies and adequately represent system performance. All Constituent States agreed to provide the relevant data to NLDC/NERLDC.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.17 : SAMAST FOR BALANCE THREE STATES - NERPC

SAMAST for states of Assam, Meghalaya, Manipur and Tripura has been approved by CEA/NLDC (but the exact approval cost for Manipur & Tripura is awaited) and once the approved cost for Manipur & Tripura, NERPC will call the common NIT for above States as directed by 19th NERPC.

The QR, QCBS and other tender conditions as well as the splitting of the tender into two components: (i) Meter + AMR, (ii) IT Infrastructure and Software at SLDC were finalised by the SAMAST members during the meeting held on 30.08.19 at Shillong.

However, SAMAST for the remaining states of Arunachal Pradesh, Mizoram and Nagaland are yet to be approved by CEA/NLDC.

Deliberation of the TCC

Ar. Pradesh, Mizoram & Nagaland expressed serious concern about non-inclusion of SAMAST in their States and stated that SAMAST is mandatory for all States in the country and hence, CEA/NLDC should be impressed upon to consider their proposals as well.

Member Secretary assured that the issue will be taken up by NERPC Secretariat with CEA and NLDC.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.18 : IMPLEMENTATION OF 132KV LINE BAY AT PALATANA GENERATION SWITCHYARD - NERPC

During 1st NERSCT meeting, TSECL stated that they are constructing Monarchak – Surajmaninagar 132kV D/c line. However, due to severe RoW issues, the line is

getting delayed and at least 6 months are required to complete the line. After completion of the line, Palatana – Udaipur 132kV S/c line would be opened to enable termination of 2nd circuit of Palatana – Surajmaninagar line at Palatana end.

Members agreed to retain connection of Palatana – Udaipur line in Surajmaninagar line bays at Palatana end for additional six months (upto May 2019). It was emphasized that Tripura may expeditiously complete the Monarchak – Surajmaninagar line to avoid further time extension.

Deliberation of the TCC

AGM, TSECL mentioned that Palatana – Udaipur line is very important to them and this is the main source of power supply for almost two Districts and cannot be evacuated now. He requested the forum to extend the same till March, 2020.

Members expressed serious concern about non-compliance by Tripura as decided in 1st NERSCT and requested the NERPC to take up the matter in next NERSCT.

TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

<p>ITEM NO. D.19 : DOWNSTREAM SYSTEM DEVELOPMENT BY STUs FROM VARIOUS COMMISSIONED AND ON-GOING ISTS SUBSTATIONS - POWERGRID</p>

The status of downstream intra-state system form ISTS substation as per last NERPC meeting is as under:

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 The status of downstream intra-state system form ISTS substation as per last NERPC meeting is as under:	Remarks
1	Biswanath Chariali	400/132kV, 2x200MVA	132	2 - Existing	Biswanath-Chariali- Pavoi	2	Existing	
			132	2 - Awarded	Biswanath Chariali - Itanagar	2	Under TBCB	NERSS-II Part-B (RfP Schedule Mar 2020)
2	Surajmani-nagar	400/132kV, 2x315MVA	132	2 - (RfP Schedule Jul 2020)	Surajmaninagar (TSECL) – Surajmaninagar (TBCB)	2	Matter discussed in CEA meeting	NERSS-V
3	P. K. Bari	400/132kV, 2x315MVA	132	2 - (RfP Schedule Jul 2020)	P. K. Bari (TSECL) – P. K. Bari (TBCB)	2		NERSS-V
4	New Mariani	400/220kV, 2x500MVA	220	2 - to be awarded	New Mariani – Mariani	2	AEGCL to implement in matching time frame	NERSS-VI
5	New Kohima	400/220kV, 2x500MVA	220	2 - (RfP Schedule Jul 2020)	New Kohima (TBCB) – New Kohima (Nagaland)	2	Nagaland to update	NERSS-VI

Deliberation of the TCC

TCC forum requested all the concerned down streams to match with the target as provided by POWERGRID.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.20 : IMPLEMENTATION OF REVISED SPS – 3 SCHEMES FOR PALLATANA GENERATION CONNECTING SILCHAR – BYRNIHUT – AZARA – BONGAIGAON - NERLDC

Following two nos. of GD – V Level Grid disturbance in NER on 03 & 20.04.2019,

involving SPS-3 Scheme of Pallatana, a special meeting was conducted on 02.05.2019 at OTPC wherein it was deliberated by NERLDC to modify the existing SPS 3 Scheme as below:

Present SPS 3 Scheme

Opening of both GTGs breakers at Palatana upon tripping of 400kV Silchar-Azara & 400kV Silchar-Byrnihat

Proposed Revised SPS 3 Scheme

Tripping of Palatana unit(s) based on pre-fault flow through the 400kV Silchar-Azara & 400kV Silchar-Byrnihat corridor:

SN	Net flow in the 400kV Silchar-Azara & 400kV Silchar-Byrnihat corridor (in MW)	Tripping(s)/ Generation reduction required at Palatana
1	Flow<120	No trip
2	120<=Flow<350	1 GTG(232MW)
3	350<=Flow<470	1GTG & 1 STG (363MW)
4	470<=Flow<700	2 GTGs & 1 STG(595MW)
5	Flow>= 700	2GTGs & 2 STGs(726MW)

Brief reasons necessitating the revision

- (i) In the present scheme in majority of successful SPS operations, it has been observed that there is disproportionate generation reduction due to tripping of both GTGs in Southern part of NER grid.
- (ii) This results in overloading of parallel 132kV corridors viz. 132kV Dimapur-Imphal, 132kV Haflong-Jiribam, and 132kV Khliehriat-Badarpur resulting in their tripping
- (iii) Thus to maintain the load generation balance in Southern part of NER grid and prevent overloading of parallel links this revision is required.

The issue was subsequently discussed in OCC Meeting and accordingly, offer was sought from M/S GE to provide offer for implementation of the scheme. M/S GE has already submitted BOQ with Technical Offer for confirmation from our end so that they can submit commercial offer for execution. M/s GE through POWERGRID has

informed the cost of INR 1, 00, 00,000/- (approx.). The cost will be borne by all the constituents of NER on equal basis.

Deliberation of the TCC

TCC forum requested NERPC to thoroughly discuss again in the Sub-Committee and put up in next TCC/RPC Meetings.

TCC noted as above.

Deliberation of the RPC

The RPC noted as above.

ITEM NO. D.21 : ADDITIONAL ICT AT RHEP - NERLDC

Requirement of additional 400/132 kV ICT at Ranganadi Power Station to prevent interruption of power supply to the State of Arunachal Pradesh as well as tripping of multiple units at Ranganadi – Pare Complex was discussed in the 158th OCC Meeting of NERPC and the forum agreed to the requirement of 3rd 400/132kV ICT at RHEP.

This is for approval of TCC/NERPC forum and subsequent deliberation of the issue in next NERSCT for CEA approval.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

DGM, NEEPCO informed that there is space constraint in 400kV switchyard. The forum proposed to refer the same to next NERSCT.

Deliberation of the RPC

The RPC noted.

ITEM NO. D.22 : INTERCONNECTION OF 132KV SUBSTATION AT SURAJMANI NAGAR (TSECL) & 400KV SURAJMANI NAGAR (ISTS) AND 132KV SUBSTATION AT P.K. BARI (TSECL) & P.K. BARI (ISTS) - NERPC

The following agenda item was discussed in the 1st NERSCT meeting held on 29-11-2018 at Guwahati:

Modification in part scope of the scheme – “POWERGRID works associated with NERSS-V” (Subject to views of TSECL – as per para 13.8 of 1st NERSCT)

Earlier scope:

Additional 400kV D/c line at Surajmani Nagar end for termination of Palatana – Surajmani Nagar 400kV D/c line (op. at 132kV) at 400kV Surajmani Nagar (ISTS) S/s

Revised scope:

LILO of Palatana – Surajmani Nagar (TSECL) 400kV D/c line (op. at 132kV) at Surajmani Nagar (ISTS) S/s and operation of Palatana – Surajmani Nagar (ISTS) section at rated voltage level of 400kV & operation of Surajmani Nagar (TSECL) – Surajmani Nagar (ISTS) section at 132kV (with provision to operate the line at 400kV level in future, as and when required).

Upgradation of 132kV Surajmani Nagar (TSECL) S/s to 400kV level, can be examined when TSECL submits relevant study alongwith system data and load growth/generation addition planned in Tripura.

Placed for approval of TCC/NERPC.

Deliberation of the TCC

It was felt that upgradation of 132kV Surajmani Nagar (TSECL) S/s to 400kV level as proposed by TSECL, would have to be discussed in NERSCT.

TCC recommended to refer the issue to NERSCT for ratification before approval of RPC.

Deliberation of the RPC

The RPC noted.

ITEM NO. D.23 : GRANT OF SUBSIDY/INCENTIVE TO BgTPP - NTPC

Bongaigaon Thermal Power Station (BgTPS) is 750 MW (3 X 250 MW) in NER Region. Being first coal based Thermal Power Station in North Eastern Region and also being largest power station in NER, it is playing a vital role in providing stability and reliability to NER Grid. Three units of BgTPS / NTPC Ltd have already been declared commercial operation and it is supplying reliable power to all the NER States.

Because of its unique location, project has faced many hurdles in its development. The lack of infrastructure, law and order situation and adverse climatic condition

has delayed the project inordinately. As a result appreciable escalation of the project cost has taken place. In order to have reliable, affordable and cheap power to all the consumers of NER States and to mitigate the financial hardship being faced by all the NER States, it is therefore proposed to pass a resolution requesting Union Minister of Power, GoI to grant subsidy/incentive to BgTPS so as to make its power affordable to all NER beneficiaries.

Therefore, it is requested to bring one resolution on the said matter in the forthcoming NERPC meeting for early approval of the same.

Deliberation of the TCC

The forum took cognizance of the need for subsidy in respect of Bongaigaon Thermal Power Plant of NTPC, in order to reduce the burden of beneficiaries.

Deliberation of the RPC

The RPC noted.

ITEM NO. D.24 : RENOVATION & MODERNISATION OF PROTECTION SYSTEM OF (3 X 42 MW) LESHKA STAGE - I, POWER STATION - MeECL

Proposal: Replacement of Switchgear equipment and improvement of Earthing system including gravelling of the Switchyard.

Explanatory Note: The existing Switchgear equipment of the Power Station have been given operational problem frequently and as such affecting our generation to a great extent and thus create system instability in the grid. Further, improvement of Earthing system including gravelling of the Switchyard is required as the Station is located in a rocky area.

Tentative Estimate : Rs. 10.00 crores.

ITEM NO. D.25 : UPGRADATION OF THE EXISTING SCADA SYSTEM FROM THE OBSOLETE WINDOWS XP OPERATING SYSTEM TO WINDOWS 10 OF LATEST VERSION - MeECL

Explanatory Note: The existing SCADA system's response is very slow and hanging of

the system is experienced on and off. This is mainly due to the very low RAM and Hard Disk capacity and necessary requirement of upgradation of the system software to the latest available version. It may be noted that the installed software of the SCADA system i.e. Windows XP is already obsolete and there is no more technical support for the same.

Tentative Estimate: Rs. 1.5 crores.

ITEM NO. D.26 : RE-ENGINEERING OF EXISTING 132V BUS BAR FROM ACSR PANTHER TO ACSR ZEBRA INCLUDING TERMINAL CONNECTORS AT 132kV SWITCHYARD OF STAGE - III, POWER STATION, MEPGCL, KYRDEM KULAI - MeECL
--

Proposal : Re-engineering of existing 132 KV Bus Bar of 132 KV Switchyard of Stage – III, Power Station

Explanatory Note: The loading of the existing 132 KV Switchyard Bus Bar of Stage-III Power Station, Kyrdemkulai with Panther conductor has exceeded the permissible loading capacity and with the recent development of Upper Khri Stage-I and Stage-II, re-engineering of the same is required urgently.

Tentative Estimate: Rs.0.50 crores.

Deliberation of the TCC

Forum opined that the items from D.24 to D.26 pertaining to Meghalaya for funding from PSDF be taken up by Meghalaya with NPC, CEA & NLDC respectively. NERPC Secretariat may assist them, if necessary.

The TCC noted as above.

This is for information to RPC.

Deliberation of the RPC

The RPC noted as above.

CATEGORY – E : RESOLUTIONS TAKEN DURING THE 20TH NERPC MEETING

The North Eastern Regional Power Committee (NERPC) unanimously resolved in the 20th NERPC meeting held on 12th September, 2019 at Guwahati as follows:

That this Committee strongly urges upon Ministries of Government of India concerned for the following:

RESOLUTION. E.1 : 100% FUNDING FOR RELIABLE COMMUNICATIONS & DATA ACQUISITION SCHEME FROM POWER SYSTEM DEVELOPMENT FUND (PSDF)

The primary function of the communication network is to provide a highly secured and reliable voice and data communication system in support of the WAM (Wide Area Monitoring) System, SCADA/EMS system, Protection System, Market Operation Service and Service Providers (Forecast, Weather and Ancillary services). The Service Providers is for low & high speed data, express voice circuits and administrative voice circuits.

The communication system shall finally form a wideband backbone network on all India basis to support the requirement of the Power System Operation and Market operation.

Reliable Communication is one of the crucial issues of Power System in NER and at present the communication network in NER is still far behind as compared to the other regions of the country. Moreover, with thin population in NER, commercial use of extra fiber for leasing the bandwidth does not arise. Presently, for the reliable communications and data acquisition scheme, there is a provision of only 50% funding through PSDF. **Therefore, unless 100% funding is provided by the Govt. of India, the reliable communication in NER may not be a reality due to poor financial condition of NER States.**

RESOLUTION. E.2 : RELAXATION FOR 5TH AMENDMENT OF DEVIATION SETTLEMENT MECHANISM (DSM) REGULATIONS OF CERC TO BE EFFECTIVE FROM 1ST JANUARY, 2019 INSTEAD OF 3RD JUNE, 2019

The 4th Amendment of DSM Regulations by the CERC effective from 01.01.2019 has resulted in huge Financial burden to NER States, especially Arunachal Pradesh, Mizoram and Nagaland. Subsequently, on receiving representations from all quarters, CERC had realized that the provisions were too stringent to be pragmatic and relaxed certain clauses by issuing 5th Amendment, effective from 3rd June, 2019. The said relaxation has provided some comfort to small NER States; however, the burden on account of 4th Amendment for the period of 01.01.2019 to 02.06.2019 still remains unrelieved. The huge financial burden for this period may be relieved by making the 5th Amendment effective from 01.01.2019.

It is pertinent to mention that States of Arunachal Pradesh, Mizoram & Nagaland has no proper means of monitoring and controlling the exact load flow from its load centres and the SLDC and RTUs are still relying on the GPRS links for communication purposes which is quite unreliable. The situation will improve only once the OPGW connectivity, being implemented by the Power Grid, is completed and made operational and in this scenario the relaxation given under the 5th DSM Amendment is meeting requirement of NER States.

It is resolved that the financial burden on the states for the period 1st January, 2019 to 2nd June 2019 under the 4th Amendment regime (Week 40 to week 52 of 2018-19 and week 1 to week 9 of 2019-20) is relieved by implementing 5th DSM Amendment retrospectively, with effect from 1st January, 2019 onwards.

RESOLUTION. E.3 : INCLUSION OF SIKKIM STATE AS A CONSTITUENT OF NORTH EASTERN REGIONAL POWER COMMITTEE

Although all the developmental programmes activities in Sikkim State are taking place with financial assistance through North-Eastern Council (**NEC**)/**DoNER**, the benefits from development in the State are being availed by Eastern Regional States only.

Many hydro projects are under operation or are under execution in the State of Sikkim, however, North Eastern States don't get any benefit as the State of Sikkim is presently a constituent member of Eastern Regional Power Committee. We, therefore, submit to your honour for kindly considering inclusion of Sikkim State as a constituent member of North-Eastern Regional Power Committee and for amendment of the relevant provisions in the resolution dated **29.11.2005** published in the Gazette of India, so that the States of North Eastern Region are able to derive benefits from major hydro projects in the State of Sikkim.

The forum is resolved that Sikkim being in NE Region can be granted full membership of NERPC by amending the relevant clause of NERPC.

DATE & VENUE OF THE NEXT MEETING

The next meeting of 21st TCC & 21st NERPC is proposed to be held in February, 2020 at Manipur. The exact date & venue will be intimated later.

The meeting ended with vote of thanks to the Chair



ANNEXURES

LIST OF PARTICIPANT IN 20TH TCC MEETING

SN	ORGANISATION	NAME (S/SHRI)	DESIGNATION
1	ASSAM	Binoy Mohan Saikia	CGM , APDCL
2		Tridip Kumar Mahanta	CGM, AEGCL
3		Gunajit Kr. Bhuyan	CGM, (P&E)
4		Dipankar Deka	CGM (O&M)
5		Lalit Sarma	CGM, APGCL
6		H S Mohan	DGM, SLDC
7		Dipesh ch. Das	AGM, SLDC
8		B C Borah	AGM, SLDC
9		Indrajit Tahbildar	AGM (TRC)
10		Mrs. C. Talukdar	Dy. Manager
11		Miss. Jharna Dev	Assistant Manager
12		Neelkamal Sarma	Assistant Manager
13	AR. PRADESH	T. Mara	CE (P)
14		T.K. Tara	SE (Trans)
15		Nangkong Perme	SE (SO)
16	MANIPUR	N. Sarat Singh	MD, MSPCL
17		L. Priyokumar Singh	MD, MSPDCL
18		H. Shanti kumar Singh	Executive Director, MSPDCL
19		Ng. Subhachandra Singh	Executive Director, MSPCL
20		L. Dinesh Kumar Singh	GM (SLDC)
21		Ng. Birjit Singh	GM (Planning)
22		Varun Irengbam	Manager, MSPCL
23	MEGHALAYA	E.W. Nongrum	TCC Chairman & CMD, MeECL
24		E.B. Kharmujai	CE (Comml.), MePDCL
25		M. Marbaniang	ACE (T)
26		H.F. Shangpliang	SE (Gen.)
27		F.E. Kharshiing	SE, SLDC
28		R. Majaw	SE (EM), MePDCL
29	MIZORAM	C. Lianlunga	Engineer-in-Chief

SN	ORGANISATION	NAME (S/SHRI)	DESIGNATION
30		C Lallawmsanga	SE (Coml)
31	NAGALAND	Er. Shikato Sema	CE (T&G)
32		Er. Nitovi Wotsa	EE
33	TRIPURA	M.S. Kele	CMD
34		S.K. Singh	Director (Tech)
35		Ranjan Deb Barman	AGM (Trans)
36	NEEPCO	H.Kr. Deka	ED (O&M)
37		N.K. Mao	ED (Coml)
38		D. Choudhury	GM (Comml.)
39		Bhaskar Goswami	DGM (O&M)
40		Ripunjoy Bhuyan	DGM (Comml.)
41	NHPC	K. Rajah Pandian	GM (Loktak)
42		R. Raina	GM
43		Rahul Ranjan	Sr. Manager (O&M)
44	NERLDC	V. Suresh	Executive Director
45		R. Sutradhar	Sr. GM
46		A. Mallick	Sr. GM
47		Kaushik Sharma	GM
48		Sheikh Sadaruddin	Sr. DGM
49		Sourav Mandal	AGM
50	POWERGRID	Anantha Sarma	Executive Director, NER
51		Sunil Agrawal	Executive Director, LD&C
52		Rajiv Kumar	ED, NERSIP
53		U. Kataki	Sr. G.M.
54		P. Kanungo	Sr. GM
55		Supriya Paul	DGM
56	NTPC	Sanjeev Kishore	RED (ER-II)
57		H.S. Sahoo	GM (OS), ER-II
58		G.C. Mohapatra	AGM (Coml), ER-II
59		S. Haloi	DGM (Comml.)
60	OTPC	Satyajit Ganguly	MD, OTPC & NETC

SN	ORGANISATION	NAME (S/SHRI)	DESIGNATION
61		Arup Ch. Sarmah	GM (Comml.)
62		Amit Dabas	Sr. Manager (Coml)
63		Ashish Srivastava	Manager (Coml)
64		Rashmi Wattal	Asstt. Manager (Coml)
65		Abhinandan Goswami	Sr. Executive (Coml)
66		A.K. Srivastava	Director
67		Dilip Kr. Sarma	Sr. Consultant
68	NETC	R.K. Sarkar	Sr. Consultant
69		Anil Sah	DGM, Project
70		Ratan Singh Basnet	Asst. Manager
71	NLDC	Debasis De	Executive Director
72		N. Nallarasan	Sr. GM
73	NVVN	P.K. Jena	AGM
74	PTC	Harish Saran	ED (Marketing)
75		A.K. Thakur	MS
76	NERPC	B. Lyngkhoi	Director (C&O)
77		S.M. Aimol	Deputy Director
78		Farooque Iqbal	Deputy Director
79		S. Mukherjee	Asst. Director -I

ANNEXURE - II

LIST OF PARTICIPANT IN 20th NERPC MEETING

1. □ Sh. James K. Sangma Hon'ble Power Minister, Govt. of Meghalaya
2. □ Sh. Chowna Mein Hon'ble Dy. Chief Minister, Govt. of Ar. Pradesh
3. □ Sh. T. Ayemi Hon'ble Adviser (Power), Govt. of Nagaland
4. □ Sh. Ram Muivah Secretary, North Eastern Council

SN	ORGANISATION	NAME (S/SHRI)	DESIGNATION	
5	ASSAM	V.K. Pipersenia	Chairman, APDCL/AEGCL/APGCL	
6		S.N. Kalita	MD, AEGCL	
7		Smt. Kalyani Baruah	MD, APGCL	
8		Binoy Mohan Saikia	CGM , APDCL	
9		Tridip Kumar Mahanta	CGM, AEGCL	
10		Gunajit Kr. Bhuyan	CGM, (P&E)	
11		Dipankar Deka	CGM (O&M)	
12		Lalit Sarma	CGM, APGCL	
13		H S Mohan	DGM, SLDC	
14		Dipesh ch. Das	AGM, SLDC	
15		B C Borah	AGM, SLDC	
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17		Mrs. C. Talukdar	Dy. Manager	
18		Miss. Jharna Dev	Assistant Manager	
19		Neelkamal Sarma	Assistant Manager	
20		AR. PRADESH	G.S. Meena	Comr. & Secretary (Power)
21			T. Mara	CE (P)
22			T.K. Tara Doji	SE (Trans)
23			Nangkong Perme	SE (SO)
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26		H. Shanti kumar Singh	Executive Director, MSPDCL	
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33		M. Marbaniang	Addl. CE (Trans)
34		H.F. Shangpliang	SE, MePGCL
35		F.E. Kharshiing	Head of SLDC
36		R. Majaw	SE, (EM)
37		MIZORAM	Lalzirmawia Changte
38	C. Lianlunga		Engineer-in-Chief
39	C Lallawmsanga		SE (Coml)
40	NAGALAND	K.D. Vizo	Principal Secretary
41		Er. Shikato Sema	SE
42		Er. Nitovi Wotsa	EE
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51	NHPC	K.Rajah Pandian	GM
52		R. Raina	GM
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56		A. Mallick	Sr. GM
57		Kaushik Sharma	GM
58		Sheikh Sadaruddin	Sr. DGM
59		Sourav Mandal	AGM
60	POWERGRID	Anantha Sarma	ED, NERTS
61		Rajiv Kumar	ED, NERSIP

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63		U. Katakai	Sr. G.M.
64		Prasanta Kanungo	Sr. GM
65		Supriya Paul	DGM
66	NTPC	Sanjeev Kishore	Regional ED, (ER-II), Bhubaneswar
67		H.S. Sahoo	GM (OS), ER-II
68		G.C. Mohapatra	AGM (Comml.), ER-II
69		S. Haloi	DGM (Comml.)
70	NVVN	P.K. Jena	AGM
71	PTC	Harish Saran	ED (Marketing)
72	NETC	A.K. Srivastava	Director
73		D.K. Sarma	Sr. Consultant
74		R.K. Sarkar	Sr. Consultant
75		Anil Sah	DGM, Project
76		Ratan Singh Basnet	Asstt. Manager
77	OTPC	Satyajit Ganguly	MD, OTPC & NETC
78		Arup C. Sarmah	GM (Comml.)
79		Amit Dabas	Sr. Manager (Coml)
80		Ashish Srivastava	Manager (Coml)
81		Rashmi Wattal	Asstt. Manager (Coml)
82		Abhinandan Goswami	Sr. Executive (Coml)
83	NLDC	Debasish De	Executive Director
84		N. Nallarasam	Sr. GM
85	NERPC	A.K. Thakur	MS
86		B. Lyngkhoi	Director (C&O)
87		S.M. Aimol	Deputy Director (C&O)
88		Farooque Iqbal	Dy. Director (Coml)
89		S. Mukherjee	Asst. Director -I

**KEYNOTE ADDRESS OF SHRI E. W. NONGRUM
TCC CHAIRMAN, NERPC
&
CHAIRMAN CUM MANAGING DIRECTOR, MeECL (MEGHALAYA)
ON THE OCCASION OF
THE 20th TCC MEETING OF
THE NORTH EASTERN REGIONAL POWER COMMITTEE
HELD ON 12TH SEPTEMBER, 2019 AT GUWAHATI**

Shri A. K. Thakur, Member Secretary NERPC, officers of the central & state power departments & utilities, stakeholders in the power sector, My Dear colleagues from MeECL, distinguished guests, ladies and gentlemen – A very Good Morning to You all.

It gives me immense pleasure to be part of this august gathering. I really feel privileged and humble to chair this session of the 20th TCC meeting of NERPC. I would like to take this opportunity to welcome you all once again to 20th TCC Meeting of NERPC.

Main subject:

It is an undeniable fact that power demand is always on the increasing trend all over the country as well as in all the North Eastern states. At present the major problems encountered in the region are, inter-alia, inadequate generating capacity, the skewed thermal-hydro mix of the presently available generating capacity, transmission constraints mainly due to inadequacy of transmission network in the Region and due to non-existence of vital transmission links and long outage of important elements in the network.

We are all aware that the challenges, we are facing in the North East are complex than other regions of India. This is true in the case of Power Sector too, due to, among others, the difficult geographical terrain, poor communication & connectivity issues and transportation problems.

However, in spite of all these challenges, the NE region has seen, over the years, tremendous improvement in the availability of power and all north eastern states are now in a comfortable position as far as availability of power is concerned.

This is possible due to the efficient co-ordination, various initiatives and actions taken up by the NERPC. I remember quite well in the late 80s, as a young engineer performing shift duty in a power station, power generation was increased as we like especially during monsoon season, and when the frequency was not given due attention. Discipline in the power system was almost non-existent. However, that has all changed. The introduction of **Deviation Settlement Mechanism Regulation** has ensured grid discipline and thereby considerably improved the stability of the power sector.

You will appreciate that much work still needs to be done to bring our Region close to or at par with other regions. For this, we need to put in concerted efforts and cooperation for implementation of all schemes and latest technology for development of power sector in NER.

“The scheme of **ADMS** which is already kick-started in the NER States need to be expeditiously followed up and completed within scheduled time”.

“It is heartily to learn that the DPRs on **SAMAST** Project for the States of Meghalaya, Assam, Manipur & Tripura are approved by CEA and on process of tendering”. So my sincere request to NERPC and all concerned for similar action for other three remaining states.

“To address the issue of congestion and for the strengthening of transmission capacity in the region (as many more generating stations are coming up), use of HTLS conductor should be encouraged”. “Similarly, the problem of low voltage profile in the grid can be minimized by installing capacitor banks”.

“Communication is another vital issue which needs to be taken up with all seriousness. It is leant that the average availability of the Telemetry data of NER states is of the range of 30% only.

It is to be appreciated that NERPC has initiated actively to address the issue of communication problems by regularly organizing communication meetings. **A separate communication sub group** has also been formed for coordinated implementation of communication regulation and other communication related matters of the region”.

While welcoming the recent order of the MoP regarding opening and maintaining of adequate Letter of Credit as Payment Security Mechanism under PPA by DISCOMs for sustenance of Generating Companies, it is a fact that most of the NER States are in deep financial stress and so compliance of the said order at this juncture may not be viable. It is requested that this Forum to kindly deliberate on the issue.

Before resuming my seat, I hope that our discussions in this meeting would be fruitful and will take the region towards the path of development of the NE Region.

With these few words, I request Member Secretary to proceed further and take up of the agenda for discussion.

Thank you very much.

ANNEXURE-IV

**ADDRESS OF SHRI SATYAJIT GANGULY
MANAGING DIRECTOR, OTPC & NETC
ON THE OCCASION OF
THE 20th TCC MEETING OF
THE NORTH EASTERN REGIONAL POWER COMMITTEE
HELD ON 12TH SEPTEMBER, 2019 AT GUWAHATI**

Dear participants; Ladies and Gentlemen; At the outset and on behalf of my colleagues of North Eastern Regional Power Committee and on my own behalf, allow me to welcome you all to the 20th TCC Meeting of North Eastern Regional Power Committee.

Under the able guidance of Hon'ble Chairman (NERPC), Member Secretary and Director NERPC together with NERLDC have brought about sweeping changes in the regional grid. Grid Disturbance has been minimized by adopting superlative measures like, Protective and Islanding schemes. Extensive work has been done in the region to consummate the cherished dream of Govt. of India to provide 24x7 power to every household. As per Saubhagya website, all the seven North Eastern states have completed 100% electrification for every household in the region. Total peak demand has increased by 13% in FY 18-19; i.e. from 2520 MW in FY 2017-18 to 2850 MW in FY 18-19. Total installed capacity in the region was 4357 MW as on 31st July, 2019. On transmission side, several transmission elements were commissioned last year and on the generation side, 250MW Bongaigaon third unit and 110MW Pare HEP were commissioned during the timeframe.

In sync with the development of the regional power sector, both OTPC and NETC have evolved over the years in providing superior services to the North Eastern region. I am proud to apprise this august gathering that CEA has acknowledged OTPC as the largest central sector gas based power station for generating maximum number of electricity units in FY 18-19. This has been possible owing to support of our beneficiaries, NERPC, NERLDC and all other stakeholders. We at OTPC have employed prudent O&M practices to improve the machine availability to around

95%, plant availability to around 75% and other operational parameters. NETC has also improved the transmission line availability, which was around 100% last year – A feat any transmission company would vie for.

Without detailing further about the technical and commercial improvements brought about in the region, I would like to extend my sincere gratitude to Chairman, NERPC, Shri Sangmaji for giving OTPC and NETC an opportunity to host this meeting today. I hope the arrangements made for the delegates for the meeting and for the stay are comfortable. Please do reach out to our people if you require any assistance. We would be more than happy to help you. Towards the end of the meeting, we have also arranged for some cultural program during which I would look forward to meet you all in person. Wish you all a great evening today.

Thank you very much.

ANNEXURE-V

**SPEECH BY SHRI H. TOVIHOTO AYEMI
HON'BLE ADVISER (POWER) GOVT. OF NAGALAND
ON THE OCCASION OF THE 20th MEETING OF THE
N. E. REGIONAL POWER COMMITTEE
HELD ON 12th SEPTEMBER 2019 AT GUWAHATI**

Respected Chairman, Hon'ble Minister of power from North Eastern states, senior officers from various states, Ladies and Gentleman.

I take this opportunity to thank the Chairman of North Eastern Regional Power Committee (NERPC), his team of officers and co-hosting partner (OTPC & NEPC) for organizing this important meeting to discuss issues of common interest I North Eastern State.

Well, this is the second time I am attending this important meeting and I feel greatly privileged to be part of this very important meeting. I personally feel that by this time all North Eastern State must realize that power is the engine of growth of any developing economy and that no major economic activity can sustain without adequate and reliable power. We all must also realize that we have to turn around the power sector in our respected states in the shortest possible time by introducing the latest State-of-art technologies to modernize the power system to achieve the goal of 24X7 power for all and also improve the overall efficiency of power system. Let us also remember that electricity like any other infrastructure has over riding declared social responsibilities and obligations and there is a need to provide electricity at an affordable cost. Herein I am deeply impress on the role of NERPC in coordinating activities like system planning, system operation, scheduling and drawal of power, generation schedule, resolving commercial issues etc. However, I feel NERPC should stretch its hand a little bit more in helping various States in restructuring and optimization of various power system operations.

I am extremely happy to learn that NERPC had played an important role in bringing up State Load Dispatch Centre (SLDC) in Nagaland and I am given to understand that this will help the state of Nagaland in facilitating optimum scheduling and dispatch of electricity within the state, Monitor grid operations, keep account of the quantity of electricity transmitted through the State Grid, exercise supervision and control over intra-state transmission system and carry out real time operations of Grid in accordance with Grid Standard and the State Grid code. However, of late various issues relating to operation of State Load Dispatch center (SLDC) are coming up and I strongly urged the NERPC to be truly a spokesman for resolving these issues.

I am made to understand that the Deviation Settlement Mechanism (DSM) regulation was made effective under the 4th Amendment regime from January 2019 resulting in huge financial burden in the form of DSM payables affecting the financial health of small States like Nagaland. It may please be noted that this huge penalty had come at a time when the SLDC and Remote Terminal units (RTUs) were not in proper place and I really appreciate the Central Electricity Regulatory Commission (CERC) for realizing our problem made in 4th Amendment regime and relaxing the DSM regulation to some extent through the latest 5th Amendment. However, the 5th Amendment was made effective only from 3rd June 2019 thus the financial burden from January 2019 to 3rd June 2019 still remain unresolved and this is a big amount for a small state like Nagaland. The state government has also written to the Chairman NERPC to take up the matter with the Ministry of power and Central Electricity Regulatory Commission (CERC) requesting them to make the 5th

DSM Amendment effective from January 2019 for the state of Nagaland. Therefore, I would like to request the Chairman NERPC to place this important issue on record and I also request his kind personal intervention to resolve this issue with the Ministry of Power and Central Electricity Regulatory Commission (CERC).

I also take this opportunity to extend my sincere appreciation to NERPC for taking up system improvement Schemes under PSDF and while doing so I wish to point out that the communication and telemetry system currently in place in North

Eastern Region are highly unreliable and we are compelled to rely on GPRS or broadband connection for communicating with different systems and units. We are aware that in absence of reliable communication network, adherence to various regulations like DSM is not possible and therefore I request NERPC to initiate steps for implementation of reliable communication schemes through PSDF for the entire North Eastern Region.

In conclusion, on behalf of the Government of Nagaland, I would like to once again thank the NERPC and co-hosting partner (OTPC &NETC) for giving me this wonderful opportunity to share my views and concerns.

Thank you and may Almighty God Bless You.

SPEECH OF SHRI CHOWNA MEIN
HON'BLE DY. CHIEF MINISTER, GOVT. OF ARUNACHAL PRADESH
ON THE OCCASION OF THE 20th MEETING OF THE
N. E. REGIONAL POWER COMMITTEE
HELD ON 12th SEPTEMBER 2019 AT GUWAHATI

Hon'ble Chairman of NERPC, most respected Members, Member Secretary, all the delegates of all the constituents, Ladies and Gentlemen.

I am privileged to attend the 20th North Eastern Regional Power Committee Meeting here in Guwahati- the City popularly known as the Gate way to North East India. It is my first opportunity to be in this August forum and I thank the North Eastern Regional Power for organizing this meeting here, I also thank OTPC (ONGC Tripura Power Corporation) and NETC (North Eastern Transmission Corporation) for their magnanimity of hosting this event.

Let me start my deliberation with a happy note by sharing my happiness over the successful completion of 24MW Dikshi hydro Electric Project near Rupa in West Kameng District of Arunachal Pradesh under private sector by Devi Energies Pvt. Ltd. I am also immensely happy to inform the esteemed members of this gathering that this Hydro Project shall be inaugurated by the Hon'ble Chief Minister of Arunachal Pradesh, Sri Pema Khandu ji tomorrow, i.e. the 13th of September 2019. Thereafter the project would be dedicated in service to the state and contribute to regional generation capacity.

Dikshi Hydro Project is an outcome of one of many MOUs signed with many Public and Private Sector Hydro power developers. Its Developer, Devi Energies Pvt. Ltd is the first and only out of many such developers to successfully complete and ready to be synchronized with the State Grid. I congratulate Devi Energies Pvt. Ltd for their success when many bigger and more experienced power producers failed.

Arunachal Pradesh is the largest State in the region geographically. However, it has one of the smallest Power Systems in the Region. Having said that, I don't deny the

fact that Arunachal Pradesh has its own stride of development in the power sector and its contribution to the regional benefits in its own way and pace.

Arunachal Pradesh has boundless natural endowments like enormous hydro power potential reserves which can make the North East a game changer in power sector industry in the country. Such natural gift to the region is an opportunity for all of us to become the highest hydro power producer not only in India but also in the international electricity market as well.

I believe and have faith in this august forum of NERPC that it will have pragmatic and futuristic policy approach to help each state of the region to achieve its goal and make NER capable of writing its own success stories in the Power sector at local and global Electricity market. Let us endeavour to write our own rather than reading others success stories.

In efforts to harness the Hydro Power Potential, we have taken a shift from earlier Policy of hydro power development. Due to various inherent socio-political and environmental circumstances many of the projects under MOUs could not come up. A decision has been arrived at to terminate the MOUs signed with those power developers who are not performing. We would like to concentrate on smaller projects and prefer Public Sector Utilities to take part. We are also sensitive to environment issues and therefore would be encouraging green and renewable energy.

Going through each and every agenda item, it is heartening to learn that this forum is working immensely for regional development in the field of Power Sector. I, as the Minister- in-charge of Power of my State, shall extend every possible help to any endeavour taken up by this forum in its initiatives for regional benefits, cooperative and inclusive development in the region and to ring about a quantum change in the Power Sector Scenario.

Strengthening the State Load Dispatch Centre of Arunachal Pradesh has been one of the priority sectors of my government. SCADA system could be successfully commissioned at Itanagar despite major shortcomings. I was privileged to be part of the inauguration of SCADA on 30th July 2018. I would like to thank NERPC (North

East Power committee), POWERGRID and POSOCO (Power system Operations Corporation) for achieving this success amidst all odds and difficulties.

I thank NERLDC (North Eastern Regional Load Dispatch Centre) Shillong for their continuous unconditional support to my State in setting up the SLDC (State Load Dispatch Centre) and training of its officers free of cost. I am confident that such support will be extended continuously in the future to come. In giving priority to develop SLDC AP to a full-fledged one, government of Arunachal Pradesh has decided to strengthen SLDC in terms of Man Power and related infrastructures. Strengthening of SLDC shall primarily require establishment of its communication system and network, associated IT solutions and applications apart from Civil infrastructures and developing its Man-Power. As such laying of fibre optic over transmission network shall be indispensable and become the backbone of all power system communication for Data, Voice or telemetry. Technology has become smarter because devices can communicate. Without communication, smart metering or smart grid initiative cannot take place

Arunachal Pradesh is unable to lay OPGW (Optical Fibre Ground Wire) over its existing transmission system under 'Reliable Communication System Program' to be funded from PSDF (Power System Development Fund) because of the funding norms of 50:50 ratios on estimated cost. Therefore, I appeal all the members of this forum to come together to strongly urge upon and persuade the Ministry of Power, GoI, to change the funding pattern under PSDF from 50:50 pattern to 90:10; if not 100%.

NERPC, being the regional face of the GoI, can therefore lead the forum and play a pivotal role to bring about the change.

SAMAST, the 'Scheduling, Accounting, Monitoring And Settlement of Transaction' of electricity is an important system and mandated under central Regulation. Unfortunately, it is learned that the Scheme for Arunachal Pradesh, Mizoram and Nagaland have not been sanctioned by DCEA (Central Electricity Authority)/NLDC (National Load Dispatch Centre) despite the DPRs prepared under supervision and

guidance of NERPC and NERLDC. The DPRs were also submitted at the same time with those other constituent State whose schemes had been sanctioned.

The matter seems to be of serious nature as it appears that only States with smaller system had been isolated and left aside. I request and appeal all the members to support us in this endeavour. NERPC Secretariat may take up the issue with CEA/NLDC. Anything that requires any intervention of my office, I shall be happy to do so.

Reliability of Grid in my State is a big issue because of its long radial feeder starting from RHEP (Ranganadi Hydro Electric Project) to Namsai. This single feeder caters to the power needs of more than 50% of the state. Therefore, Arunachal Pradesh had been raising and demanding for more inter connections with the NER (North East Region) Grid so that the long radial feeder is broken down to smaller Ring feeders.

I am happy to see that 220KV Tinsukia-Namsai and 132 KV Roing-Chapakhowa transmission lines have found a place in the agenda of this meeting for approval. I request the forum to approve the proposal as it will benefit other constituent States also, especially the State of Assam. Arunachal being a Hydro Rich State, such smaller interconnections between States would be indispensable at the times of Grid contingencies and shutdown planning.

I am thankful to NERPC Secretariat and Standing Committee for Transmission Planning for making it possible to be placed before this forum for approval. Availability of more interconnection shall also give more flexibility of grid management. This shall also improve the State's Available Transfer Capability.

I would also like to take this opportunity to put forward for more such interconnections for which I request NERPC and other members to support us. I would like to propose the following interconnections which may be considered. I believe these proposals will also be interest of member States, especially the State of Assam.

- a. 132 KV Line from Silapathar (Assam) to Niglok (AP) via Jonai. Niaglok, in East Siang District is about 35 KM from Pasighat and about 10 KM from Jonai. It

has an Industrial Growth Centre and a Sainik School. Further, here is an Indian Army Brigade headquarter few kilometres away from Niklog at Rayang. The power requirement is expected to grow exponentially once the Industrial Growth Centre starts functioning in full capacity. Assam shall also greatly benefit from this line.

- b.** 132 KV line from Basar (AP) to Silapathar (Assam) via Likhali. Basar, the District HQ of Lepa Rada District shall be connected with 132 KV line from Daporijo- Aalo 132 KV line. The proposed 132 KV line from Basar to Silapathar via Likhali would give second interconnection to Basar and Likhali.

‘Comprehensive Scheme for Development of Transmission and Distribution’ in Arunachal Pradesh has been in operation under POWERGRID for the last few years. This project is under North Eastern Regional Power System Improvement Program by the government of India at an estimated cost of Rs 3573.09 Cr. Sanctioned in October 2014 with a project target of 48 months. Despite the project being executed by a giant Central Transmission Utility like POWERGRID, it could not make any appreciable progress. The reasons could be of various natures and factors.

I have been made to understand that the main reason stated is to be the very low rate in cost estimation and therefore tendering processes couldn't make much move due to lack of takers. I am also made to understand that the cost estimation of the project is being revised to more than double the original cost even before the project could take off with desired momentum. This led me to suspect with pain that there must have been serious lapses somewhere. POWERGRID may need to have a retrospection to find where the lapses are!

POWERGRID may also need to see if the scope of works is complete and no missing links exist. If missing links exist, the benefits of the scheme may not percolate to desired level even after completion. Thus, the very purpose of the project will be defeated.

Prioritizing works is another issue the POWERGRID need to take care of in consultation with State's Department of Power. Interconnecting Deomali and

Namsai via Changlang in Arunachal Pradesh should have taken the topmost priority.

Therefore, taking this opportunity of addressing the highest Regional Forum of Power Sector, I would like to appeal POWERGRID to take necessary action to complete Deomali-Namsai via Changlang under Comprehensive scheme on priority basis.

Under North East Region System Strengthening Program, M/S Sterlite was to execute 132 KV Biswanath Chariali to Itanagar Double Circuit Line to be built on Tariff based Competitive bidding. It has been quite sometimes the work was awarded to the firm but I have not noticed any progress of any level in the ground.

With the implementation of this scheme Arunachal Pradesh, especially the capital Complex would be immensely benefitted as it would enhance much needed redundancy of transmission system in the state for a very high reliability.

All flagship programs of GOI towards providing 24 x 7 electricity to its citizen like DDUGVY, RADPRP, IPDS, SAUBHAGYA etc., shall be feasible only on achieving a high reliability of Grid System. I request this august forum deliberate on expediting the completion of the project.

600 MW Kameng Hydro Electric Project has always been stated to be at the verge of being commissioned. But as per the reports available, leakage in penstock pipes had caused the delay of the commissioning. Arunachal Pradesh being the host State is naturally the greatest loser. NEEPCO is requested to take appropriate action so to bring the project to service as soon as possible.

The 7th Standing Committee of transmission planning had cleared the establishment of Khupi-Bomdila-Tawang 132 KV transmission line and Bomdila-Kalaktang 132 KV transmission lines to be constructed under Comprehensive Scheme in Arunachal Pradesh. Now, therefore, it is required that POWERGRID expedite construction of those lines on priority.

It is really of great importance to consider reliability of proposed 132 KV transmission line that would be taken to Tawang on of the most beautiful tourist destination of the region, would very likely be poor because of its length in a radial feeder configuration. Further, the area it would be passing through shall be treacherous to the system as well as the O & M staff.

Therefore, to overcome this bottleneck, I would like to propose establishment of a suitable transmission line between Tawang (India) and Bhutan by adhering to International Protocol. 600 MW Kholongchu Hydro Power Station in Bhutan is away from India by about 40 KMs. Apart from improving the reliability in the sector, it will increase the bilateral exchange of energy in time of needs and enhance ole age bilateral relationship with Bhutan.

I propose the planners and the stake holders present here, specially the4 NERPC, to carry out a feasibility study on the issue and come out with a tangible policy decision as per norms associated with international exchange of Power. I believe the members of this Regional Committee will support this idea and help it make to a pragmatic initiative.

I would also like to take the opportunity to take up the impact of DSM (4TH amendment) Regulation 2018 causing huge penalty for many State including Arunachal Pradesh. Implementation of this amendment had caused similar difficulties to many utilities around the country. In NER also many of the members have suffered heavy financial implications to the State exchequer. The amendment had heavily impacted on member States of the region where the SLDC are in their infancy.

As such, States like Nagaland, Mizoram and Arunachal are the major victims with heavy DSM (Deviation Settlement Mechanism) charges because of the amendment. I appeal to this forum to take a common view to fight for waver of the additional DSM charges caused by 4th amendment and recalculated as per 5th amendment from the date of 4th amendment implementation. The honourable CERC had also appreciated and accepted the grievances of utilities over the 4the amendment and has modified it by the 5th amendment. I appeal all the members to support us in this regard.

Arunachal Pradesh is a late starter in development because of its history and difficult geopolitical circumstances. Before the Chinese aggression in 1962, Arunachal Pradesh (then NEFA) was administered by External Affairs Ministry until 1st August 1965. Thereafter on 1st December 1965 all five frontier divisions became the first 5 districts of NEFA and administered through governor of Assam as agent of president of India until it became a Union Territory on 21st January 1972.

The pace of real development of the State started to take place only after it became a full-fledged State having its elected government. It had inherited many assets of NEFA days. Thus, Department of Power, Govt. Of AP has also inherited many assets of the NEFA day specially in lower voltage level. These assets have either crossed their useful and economic life or have become obsolete over the years.

Therefore, we have lots to do in modernising our Transmission and Distribution system for which a huge investment is required. I believe NERPC, as regional mentor, can play a pivotal role to bring about a change in the State's Power Sector by presenting Arunachal Pradesh in correct perspective in the Indian power scenario.

Funding our project is the major issue. It is a fact that every constituent member in this august forum agree that Power Sector is a cost intensive business and that no one can go forward without external funding from GoI or other Financial Institutions. Because of socio-political and its geography, Arunachal Pradesh has always been revenue deficit State. To generate revenue for developing its internal resources we need investment in Power sector, especially in Hydro Power.

However, fund required for such investment has always been a big challenge for the State Government. To alleviate this situation, Arunachal Pradesh, had tried its best to rope in World Bank funding and other such international Financial Institutions like ADB, JICA etc., for funding development projects in the State. But those initiatives were blunted by objections raised by a neighbouring country which deprived the state of such external investment and funding-a fact enjoyed by rest of the country but denied to my State.

Therefore, I choose to put forward this issue in this forum to make you realise that Arunachal Pradesh deserve a special treatment by all for funding its development

activities. I hope all the members will appreciate our situation and support us in this initiative and request NERPC Secretariat to use its office to keep in mind every time when dealing with funding Power sector development project in Arunachal Pradesh. As a representative of Ministry of Power, GoI in NER, NERPC can act as a conduit between Centre and State for regional development, specially of Arunachal Pradesh, in the Power Sector.

Arunachal Pradesh require to do lots in revamping its transmission and distribution sector for AT&C loss, efficiency in electricity supply and consumer services through technology by use of use of IT solutions and applications in Power and energy management System at transmission and distribution level. We look forward for implementation of Feeder metering, ring fencing, smart meters, implementation of smart grid project, Distribution management System, Computerised metering and billing etc.

For all these to make a visible mark, we shall be needing lots of investment. NERPC Secretariat can guide and Assist us with their knowledge and experiences towards achieving our goals. We don't want to stop because of fund crunches but want to keep going how so ever small be the step we make. We believe NERPC and all the esteemed members of this forum will keep supporting us and help my State to catch up with the rest of the Country.

With these words, I thank you all for giving me this opportunity to be here in this great forum. I am proud to say that my State is a beautiful on and would like to extend my invitation to visit us. We will be happy host you any time.

Thank You all,

Jai Hind

**SPEECH OF SHRI JAMES K SANGMA
CHAIRMAN, NERPC
&
HON'BLE POWER MINISTER, GOVT. OF MEGHALAYA
ON THE OCCASION OF THE 20th MEETING OF THE
N. E. REGIONAL POWER COMMITTEE
HELD ON 12th SEPTEMBER, 2019 AT GUWAHATI**

My Colleague Ministers from other North-Eastern States, Officials of the Central and State Governments, Officials from other Central and State Power Utilities, Distinguished Guests, Special invitees, Ladies and Gentlemen.

1. First and foremost, I would like to place on record my appreciation and sincere thanks to the ONGC TRIPURA POWER COMPANY (OTPC) & NORTH EAST TRANSMISSION COMPANY (NETC) FOR organizing this meeting and making all necessary arrangements. I must share this with one and all that OTPC despite the very short notice, agreed to host this year's Regional Power Committee of the North East without any hesitation whatsoever.

2. It is a matter of honour and great pleasure to be here once again chairing this Meeting this year. As you may all recall last year's NERPC Meeting held on the 29th of November 2018 wherein we all came together to discuss so many important issues and take collective decisions in the interest of the power sector of our north east region, well, it is in that same spirit that I hope on the occasion of the 20th North East Regional Power Committee (NERPC) meeting that this particular meeting will also address many of the relevant and pertinent issues affecting the power sector of the NE region. The NERPC has been and continues to relentlessly strive towards making the NE power system operations reliable, efficient and economical and in doing so I look with hope and expectations towards a positive outcome from the discussions and deliberations today.

3. I would also like to place on record my sincere gratitude to the Government of India for their continued and constant support to the North Eastern Region especially in regard to the Power sector. The implementation of World Bank funded project NERPSIP (North East Region Power System Improvement Project)- Tranche-I is one such programme. Accordingly, much needed construction of Transmission lines and Substations are presently in progress. However, I also take this opportunity to urge upon the Power Grid Corporation of India Ltd (PGCIL), the Implementing Agency to speed up the work so that not only Meghalaya but the whole NE Region will be benefited. And to ensure overall improvement of the NE Region power system, the work under Tranche I should be completed in time so that sanction of Tranche II can accordingly be taken up.
4. We discussed this in the last RPC on the inclusion of Sikkim under the umbrella of NERPC, rightly so, as projects in Sikkim are being funded by NEC/DoNER. But this inclusion of Sikkim under NERPC is yet to be finalized.
5. I understand that many of our DISCOMS are in a financial distress as the gap between the cost of supply and realization is increasing. And this is a serious concern for all of us. The Distribution utilities are over burdened with accumulated outstanding dues to the CPSUs, like NEEPCO, PGCIL, NTPC and other Generating companies due to the hike in power purchase cost.

Here I would like to highlight that the power purchase cost from Bongaigoan Thermal Power Station (BTPS) of NTPC is so expensive that we are left with very less options but to surrender this power. The government of Meghalaya has requested many times to the Ministry of Power (MOP), Government of India of its decision to surrender its share of allocation from BTPS in the greater interest of the consumers but till date no order has come up and the State is ending getting bills after bills for Fixed charges.

While welcoming the recent order of the MOP regarding the opening and maintaining of adequate Letter of Credit(LC) as payment Security Mechanism under PPA by DISCOMS for sustenance of Generating companies, we have to also understand the fact that most of the NER States are in deep financial crisis and

hence compliance of the said order at this juncture is really difficult for us as this will further deteriorate the financial health of DISCOMS.

Therefore, I once again urge that in this meeting we should jointly take up this issue and put forward our difficulties to the Ministry of Power, govt. of India.

On behalf of NERPC, I once again extend my heartiest greetings to all the participants and look forward to meaningful deliberations.

I would like to also share a few points on the Power Scenario in Meghalaya, my own State:

- a.** As you all already know, Power in the State of Meghalaya is generated by the state owned Generation Corporation viz. Meghalaya Power Generation Corporation Ltd (MePGCL) and the power requirement is met from the State's own generation as well as the allocated power share from Central Generating stations.
- b.** MePGCL Power Stations are expected to generate 1165.55 MU of energy for 2019-20 which constitute more than 80% of the energy required within the State i.e. 1182.51 MU (MSERC approved Multi Year Tariff Order for MePDCL for the year 2019-20)
- c.** There are 9 (nine) generating stations with a total Installed Capacity of 356.20 MW and generating about 1200 Million Units (MU) of energy annually. Out of these 9 (nine) stations, the LAKROH Mini Hydel Project (LMHP), with an installed capacity of 1x1.5 MW, was recently commissioned and put into commercial operation in March, 2019.
- d.** In order to increase power generation in Meghalaya, MePGCL has taken keen interest to harness some of the available hydroelectric potential in the state. Presently, there are two projects which are under construction viz. Ganol SHP (3 X 7.5MW =22.5 MW) and Riangdo SHP (3 X 1.5 MW). The total capacity addition, once these projects are commissioned, will increase the total installed capacity under MePGCL from 356.20 MW to 381.70 MW.

- e.** Besides implementation of the Hydro Power projects, Meghalaya power Generation Corporation Ltd (MePGCL) is also taking up Survey & Investigation of Small, Medium and Large hydro Projects. Medium and Large projects, totaling to about 700 MW, are being surveyed and investigated with funds from NEC; while Small Hydro Projects totaling to about 79.5 MW are being surveyed and investigated with funds from MNRE, NEC & the State Govt.
- f.** Meghalaya also has priorities for the Renovation, Modernization and Up-gradation of existing hydro power stations. The R & M works including Upgrading two power stations have already been completed.

Presently, RM&U of the Umiam Stage-III HEPP (2X30MW) which was commissioned in 1979, is in progress. The RM&U of the Plant is being implemented through financial assistance from JICA (Official Development Assistance).

A Loan Agreement was signed between the Govt. Of India and JICA on 29.10.2018 and the Loan Agreement has been effectuated on 5th April 2019. The Project Cost is ₹7088 million, out of which the ODA loan portion is ₹ 5497 million. At present, the Evaluation process for the selection of consultant for the Project is in progress.

Preliminary studies for exploring the possibility of undertaking Renovation and Modernization of Umtru Power Station (4x2.8MW) which was commissioned in the year 1957 is also being pursued for funding from External source.

- g.** The Government of Meghalaya has envisaged development of Solar Power Parks in the state. At present development of two Solar Parks of 10MW capacity each, is being taken up by the State at Suchen and Thamar village in the East and West Jaintia Hills District respectively totaling to 20 MW. Further, to strengthen the generation sector and to maintain the grid stability, additional proposal has been submitted. We therefore urge upon the Committee to endorse these proposals.

h. The Transmission sector in the state of Meghalaya is being strengthened and expanded through various schemes, including North Eastern Regional Power System Improvement project (NERPSIP) about which I had mentioned earlier. Several proposals pertaining to the Transmission sector in Meghalaya, including reliable communication & data acquisition, re-conductoring of old lines with HTLS conductor, requirement of OOPGW for Line Differential protection: SAMAST implementation; LILO of 132 KV Kahilipara-Umtru double circuit lines at Killing sub-station; etc., have been included. We therefore, urge upon the Committee to endorse these including additional proposals, which are vital to transmission system capacity and reliability in our State. Furthermore, I also propose that this Committee endorse our proposal to review the funding norm under PSDF (Power System Development Fund), to facilitate expeditious execution of PSDF schemes. But we should also collectively approach the Central government to fund other Distribution projects under PSDF.

i. I would like to mention here once again about the development of skilled manpower in the region and providing job opportunities for this segment.

In Meghalaya I have initiated the inspection of land under MeECL (approximately 6300 acres) which are near the source of power where we can set up different type of power related industries like manufacturing of poles, distribution transformers and even Electronics goods which need small space.

j. At present due to various factors endemic only to our region, the SAUBHAGYA Scheme is expected to be completed by March 2020. I would therefore, request all the members of NERPC to jointly present the case to the Ministry of Power to grant uniform extension to all the North eastern States till March 2020.

k. Our DISCOM, MePDCL has successfully got approval to get funding from the Asian Development Bank (ADB), the first of its kind for the Distribution sector in the State. The ADB is a multilateral development partner in the power sector in India and has supported several states in India including north eastern State, such as Assam. The investments under this funding will

include works of system strengthening in 3 of the circles in the state as well as improve the metering and IT infrastructure in the State. This will further contribute to its goal of creation of holistic reliable and resilient power distribution as well as economic development in the state and the region. With the introduction of Under Ground (UG) cables instead of Overhead lines with bare conductors which are prone to fault (due to falling of trees) and prone to lightning, we seek to usher in a push for new and radical thought in our Distribution sector.

With these words I once again thank OTPC and NETC for being such generous hosts and all of you for participating in this meeting by giving your valuable thoughts and suggestions. In the words of Henry Ford,

Coming together is a beginning

Staying together is progress

And working together is success.

THANK YOU

I wish you all a great success in this meeting.

ANNEXURE-VIII

**KEYNOTE ADDRESS OF SHRI A.K. THAKUR, IES (CPES)
MEMBER SECRETARY, NERPC
ON THE OCCASION OF THE 20th MEETING OF THE
N. E. REGIONAL POWER COMMITTEE**

Hon'ble Chairman, NERPC & Power Minister, Govt. of Meghalaya, Shri Sangma Ji, Hon'ble Dy. Chief Minister & I/c Power, Govt. of Arunachal Pradesh, Shri Mein Ji, Hon'ble Adviser (Power), Govt. of Nagaland, Shri Ayemi Ji, Secretary, NEC, Shri Muivah Ji, Chairman, APDCL/AEGCL/APGCL, Shri Pipersenia Ji, TCC Chairman & CMD, MeECL, Shri Nongrum Ji, Managing Director, OTPC & NETC, Shri Ganguly Ji, Commissioners & Secretary Power of NE States, CMDs, MDs of State & Central Utilities, and all the Senior officers from NE States, Central Utilities, Special Invitees, ladies and gentlemen.

On behalf of NERPC Secretariat, let me first extend a very warm welcome to all the participants from all the utilities to the 20th NERPC meeting. I would also like to express my humble gratitude to all of you for sparing your valuable time to attend this very important NERPC meeting today. As you know, 20th NERPC meeting was initially planned on 13.09.2019 but due to unavoidable circumstances, the same was preponed to 12.09.2019 and inconvenience caused due to the change of date is deeply regretted. But here we are today in this beautiful city of Guwahati which is known as the gateway of North East India and I hope you have a pleasant stay. I am pleased to inform the house that all the delegates from all State & Central Utilities are present today and this shows our sincerity towards improvement of power sector in our region and I hope many important decisions will be taken today which will benefit N.E. Region.

It gives me great pleasure in appreciating the efforts taken by OTPC & NETC in hosting the 20th TCC & NERPC Meetings today. I, on behalf of NERPC would like to convey our heartfelt gratitude to Shri Ganguly Ji, MD, OTPC & NETC and especially his team for helping NERPC in convening the meeting in

very short notice. The way you have taken care of us and making comfortable arrangement is highly appreciated by all of us.

Since time is very short, I will not prolong my address, but I would like to highlight the major activities/achievements of NERPC during the last few months.

- We may recall the black out in July, 2012 when India suffered one of the biggest grid failure and Govt. of India has constituted a Task Force under the guidance of Chairperson, CEA to find out the root cause and to suggest remedial measures to avoid such type of incidences in future. Hence, in compliance with the Task Force Report on Grid Disturbance Analysis in 2012, a Protection Database for different regions in India was envisaged. To comply with the above recommendation, NERPC with its sincere efforts had already awarded web-based Protection Database Management System and Protection Setting Calculation Tool (PSCT) for entire North Eastern Region which is likely to Go Live by December, 2019. With this project NER can now analyze the root causes of every incidences and once this scheme is implemented, NER grid security will be improved.
- In the 5th Forum of Regulators (FOR) Technical Committee meeting in July, 2016 it was decided that a robust mechanism known as SAMAST should be in place in all the States across the Country. The implementation would include Metering at intra-State level, AMR scheme to fetch data to SLDC, intra-State scheduling, Open Access web portal, Accounting, Settlement system etc. This would pave way for intra-State ABT implementation. To comply with above decision NERPC has taken up the initiative and the necessity was felt that instead of separate tendering by each states for the above project a common tender documents may be prepared and floated by NERPC so that project may be completed in time and uniformly in all the NER States. Therefore, various Sub-Group have been constituted comprising Members from NERPC, NERTS, NERLDC and NER States for formulation of Technical specifications and common NIT. This approach of NERPC was not only appreciated by Hon'ble CERC but also by other stakeholders. The proposal of SAMAST for all the states have been sent for PSDF funding to NLDC. This is one of the biggest achievements of NERPC under the able guidance of Chairman, NERPC. Even though at present only for 4 (four)

States of NER, the proposal of SAMAST has been approved by CEA/NLDC but for the remaining 3 (Three) States i.e. Ar. Pradesh, Mizoram & Nagaland is being pursued by NERPC.

- The overall power supply scenario including scheduling and dispatch have to be monitored in cognizance with Indian Electricity Grid Code, 2010 & its subsequent amendments and related CERC Regulations with respect to real time availability of power to avoid Grid failures. Excessive over-drawl may jeopardize the real time balance of load and generation of power leading to Grid failure which may affect the balance of power in other regions too. For this, Automatic Demand Management Scheme (ADMS) was to be implemented by SLDCs of NER. Hence, with sincere efforts and dedication, NERPC, as directed by 19th NERPC, called a common tender on behalf of NER States and you would be surprised that the award value was only 8 Crores against the sanctioned amount of Rs. 16 Crores which has optimized the Govt.'s fund.
- Further, I just want to inform the august forum that the Security Constrained Economic Dispatch (SCED) mechanism has been implemented in the country w.e.f. 01.04.2019. Number of participants is 49 (59GW) and number of generating units are 132. The charges to be paid to SCED generators is Rs. 759 Crores and charges to be refunded by SCED generators is Rs. 1149 Cr. Hence the total amount cumulated to the pool is Rs. 389 Cr and the reduction in average variable cost of generation is 3.3paise/Kwh.

With sincere efforts and dedications, the following major elements were added to NER Grid since last NERPC Meeting and this in turn has enhanced the drawing capacity as well as relieved the congestions of NER Grid.

- 220kV D/C Bongaigoan – Salakati Line charged on 29.05.2019.
- 400/220/33 kV, 500 MVA ICT-I at Misa Substation charged on 12.04.19
- 5 no GIS bays, 2 no GIS Buses and LV Side of 400/220 kV 315 MVA ICT II at Bongaigaon Substation charged on 29.05.2019
- 2 no AIS Bays at Salakati Substation charged on 29.05.2019.
- With sincere efforts and co-ordinations by NERPC with various stakeholders, Unit III of Bongaigoan Thermal Plant of NTPC was

successfully commissioned on 26th March, 2019 and with this, 250 MW capacity is added to NER.

Commissioning of various transmission elements into the NER grid have enhanced transmission network to all NER States but in order to reach to the common man, Distribution Network has also to be in place. I would, therefore, like to draw the attention of the August body that as all wings of power sector are under the ambit of NERPC, the DISCOMS should also sent the officers in various Sub-Committee Meetings of NERPC so that the distribution related issues may be highlighted and resolved and NERSIP/Comprehensive Schemes and SAUBHAGHAY Schemes will be completed at the earliest for the benefit of NER.

- Communication & Telemetry is one of the most important issues which the region is still lacking as per all India level. But here also NERPC has taken a lead and by November, 2019 when all the NERFO & Upgradation projects are completed, this issue will also be resolved.
- Besides these there were so many goals achieved during the last few months which I cannot mention all of them due to paucity of time.
- Finally, my sincere request is that all the constituents should try earnestly to liquidate their outstanding dues to the affected party so that both the parties can grow together. Unless financial transactions are happening and dues are cleared, it would be difficult to survive as utilities.

Before I conclude I would also like to mention that PSDF fund is 100% grant given by Govt. of India and I would humbly request that we should avail it at the earliest by expediting the PSDF projects before the funds get depleted.

On behalf of NERPC, I once again extend my heartiest greetings to all the participants and look forward to meaningful deliberation.

I once again thanked OTPC & NETC for hosting this meeting in a very Grand way and wish the plenary a grand success.

ANNEXURE – B.11

A. Details of substations and lines (New works)

SL NO	SCOPE OF WORK	ROUTE LENGTH / LOAD (CKM/MW)	TYPE OF CONDUCTOR	Remarks (NEW/EXISTING/AUGMENTATION)	Approval in
1	Establishment of new 220/132 kV (2 X 160 MVA) and 132/33 kV (2 X 50 MVA) S/s at Khumtai			New Substation	5 th SCM
	220 kV:				
	LILO of Mariani-Samaguri (AEGCL-Existing) S/C Line 1 at Khumtai (AEGCL-New)	6 kM	ACSR Zebra	New	
	LILO of Mariani-Samaguri (AEGCL-Existing) S/C Line 2 at Khumtai (AEGCL-New)	5 kM	AAAC Zebra	New	
	132 kV:				
	LILO of Jorhat (W)-Bokakhat (AEGCL-Existing) at Khumtai (AEGCL-New) S/C Line	5 kM	AAAC Panther	New	
	Khumtai (AEGCL-New) - Sarupathar (AEGCL-Existing) S/C Line	60 kM	AAAC Panther	New	
	Load	20MW	Load	at 33 kV Bus	
2	Establishment of new 220/33 kV (2 X 100 MVA) S/s at Bihpuria			New Substation	1 st NERSCT
	220 kV:				
	220KV Bihpuria (AEGCL-New) - Sonabil (AEGCL-Existing) D/C Line	78km	AAAC Zebra	New	
	Load	30 MW	Load		
3	Establishment of new 220/132 kV (2 X 160 MVA) and 132/33 kV (2 X 50 MVA) GIS Substation at Agamoni			New Substation	6 th SCM
	220 kV:				
	LILO of both ckt of Alipurduar (PGCIL) - Bongaigaon (PGCIL) D/C line at Agamoni (AEGCL- New)	25 kM	ACSR Zebra	New	
	132 kV:				
	LILO of Gossaigaon - Gauripur S/C (AEGCL-Existing) Line at Agamoni (AEGCL- New)	10 kM	HTLS	New	
	Load	16 MW	Load		
4	Establishment of new 220/132 kV (2 X 160 MVA) GIS Substation at Shankardevnagar			New Substation	5 th SCM
	220 kV:				
	Shankardevnagar (AEGCL-New) - Misa (AEGCL-Existing) D/C Line	25 kM	ACSR Zebra	New	
	Shankardevnagar (AEGCL-New) – Lower Kopili HEP (APGCL) D/C Line- (Other Source)	50 kM	AAAC Zebra	New	

ANNEXURE – B.11

SL NO	SCOPE OF WORK	ROUTE LENGTH / LOAD (CKM/M W)	TYPE OF CONDUCTOR	Remarks (NEW/EXISTING/AUGMENTATION)	Approval in
5	Establishment of new 220/33 kV (2 X 100 MVA) GIS Substation at Boragaon (Jalukbari)			New Substation	1 st NERSCT
	220 kV:				
	Boragaon (Jalukbari) (AEGCL-New) - Kukumara (AEGCL-Existing) D/C Line	21 km	18 km OH & 3 km UG Cable	New	
	Load	30 MW			
6	Establishment of new 220/33 kV (2 X 100 MVA) GIS Substation at Panjabari			New Substation	1 st NERSCT
	220 kV:				
	LILO of Sonapur-Sarusajai (AEGCL-Existing) -S/C Line at Panjabari (AEGCL- New)	3 km	AAAC Zebra	New	
	Load	30 MW			
7	Establishment of new 220/33 kV (2 X 100 MVA) GIS Substation at Jakhlabandha			New Substation	1 st NERSCT
	220KV:				
	LILO of 220kv Samaguri-Mariani line 1 (AEGCL-Existing) at Jakhlabandha(AEGCL-New) S/C line	10KW	AAAC Zebra	New	
	Load	18MW			
8	Establishment of new 132/33 kV (2 X 50 MVA) Substation at Dhing			New Substation	1 st NERSCT
	132 kV:				
	Dhing (AEGCL- New) - Nagaon (AEGCL-Existing) - S/C Line	35 km	AAAC Panther	New	
	Load	12 MW			
9	Establishment of new 132/11 kV (2 X 31.5 MVA) GIS Substation at Ghungur (Silchar-2)			New Substation	1 st NERSCT
	132 kV:				
	Ghungur (AEGCL- New) - Silchar (POWERGRID) S/C Line	10 km	XLPE Armoured Al Cable	New	
	Load	20 MW			
10	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Titabor			New Substation	1 st NERSCT
	132 kV:				
	Titabor (AEGCL-New) - Mariani (AEGCL-Existing) D/C Line	20 km	AAAC Panther	New	
	Load	24 MW			

ANNEXURE – B.11

SL NO	SCOPE OF WORK	ROUTE LENGTH / LOAD (CKM/M W)	TYPE OF CONDUCTOR	Remarks (NEW/EXISTING/AUGMENTATION)	Approval in
11	Establishment of new 132/11 kV (2 X 31.5 MVA) GIS Substation at Zoo Road			New Substation	1 st NERSCT
	132 kV:				
	Zoo Road (AEGCL-New) - GMC (AEGCL-Existing) S/C Line	8 kM	XLPE Armoured Al Cable	New	
	Load	25 MW			
12	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Chhaygaon			New Substation	1 st NERSCT
	132 kV:				
	Chhaygaon (AEGCL-New) - Boko (AEGCL-Existing) D/C Line	20 kM	AAAC Panther	New	
	Load	28 MW			
13	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Kumarikata			New Substation	1 st NERSCT
	132 kV:				
	Kumarikata (AEGCL-New) - Nalbari (AEGCL-Existing) S/C Line on D/C Tower	40 kM	AAAC Panther	New	
	Load	10 MW			
14	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Burhigaon			New Substation	1 st NERSCT
	132 kV:				
	LILO of Rowta-Sipajhar (AEGCL-Existing) S/C Line at Burhigaon (AEGCL-New)	15 kM	AAAC Panther	New	
	Load	15 MW			
15	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Chabua			New Substation	1 st NERSCT
	132 kV:				
	LILO of Tinsukia (AEGCL-Existing) - Dibrugarh (AEGCL-Existing) S/C Line	8 kM	AAAC Panther	New	
	Load	18 MW			
16	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Morigaon			New Substation	1 st NERSCT
	132 kV:				
	Baghjhap(Existing)-Morigaon(New) D/C Line.	20km	AAAC Panther	New	

ANNEXURE – B.11

SL NO	SCOPE OF WORK	ROUTE LENGTH / LOAD (CKM/MW)	TYPE OF CONDUCTOR	Remarks (NEW/EXISTING/AUGMENTATION)	Approval in
	Load	15 MW			
17	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Nagaon-2			New Substation	1 st NERSCT
	132 kV:				
	132 kV Samaguri (AEGCL- Existing) - Nagaon-2 (AEGCL-New) D/C Line	41 km	AAAC Panther	New	
	Load	25 MW			
18	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Amayapur			New Substation	1 st NERSCT
	132 kV:				
	Amayapur (AEGCL- New) - Hajo (AEGCL- Existing) D/C Line	25 km	AAAC Panther	New	
	Load	15 MW			
19	Establishment of new 132/33 kV (2 X 50 MVA) GIS Substation at Lumding			New Substation	1 st NERSCT
	132 kV:				
	LILO of Shakardevnagar (AEGCL- Existing) S/C Line - Diphu (AEGCL-Existing) S/C Line at Lumding (AEGCL-New)	10 km	AAAC Panther	New	
	Load	16 MW			
20	Establishment of new 132/33 kV (2 X 50 MVA) Substation at Serfanguri			New Substation	1 st NERSCT
	132 kV:				
	Serfanguri (AEGCL- New) - Kokrajhar (AEGCL-Existing) D/C Line	18 km	AAAC Panther	New	
	Load	15 MW			
21	Establishment of new 220/132 kV (2 X 160 MVA) Substation at Rowta			New Substation	1 st NERSCT
	220 kV:				
	Rowta (AEGCL- New) – 400/220 kV Rangia (AEGCL) D/C Line	80 km	AAAC Zebra	New	
22	Establishment of new 132/33 kV (2 X 50 MVA) Substation at Dhupdhara			New Substation	1 st NERSCT
	132 kV:				
	Dhupdhra (AEGCL- New) - Boko (AEGCL- Existing) D/C Line	25 km	AAAC Panther	New	
	Load	8 MW			
23	Establishment of new 400/220 kV (2 X 500 MVA) Substation at Rangia			New Substation	7 th SCM
	400 kV:				

ANNEXURE – B.11

SL NO	SCOPE OF WORK	ROUTE LENGTH / LOAD (CKM/M W)	TYPE OF CONDUCTOR	Remarks (NEW/EXISTING/AUGMENTATION)	Approval in
	LILO of both ckt of Balipara (PGCIL)-Bongaigaon (PGCIL) 400kV (Twin Moose) D/c Line at Rangia (AEGCL-New)	21 km	ACSR Twin Moose	New	
	125 MVAR Bus Reactor	2 no.		New	
	220 kV:				
	LILO of both ckt of Rangia - Amingaon (Existing-AEGCL) D/c Line at Rangia (AEGCL-New)	20 km	ACSR Zebra	New	
24	Establishment of new 400/220 kV (2 X 500 MVA) Substation at Sonapur			New Substation	5 th SCM
	400 kV:				
	LILO of Silchar (PGCIL)-Byrnihat (Meghalaya) 400kV S/c Line at Sonapur (AEGCL-New)	25 km	ACSR Twin Moose	New	
	50 MVAR Switchable Line Reactor in Sonapur-Silchar section at Sonapur end	1 nos.			
	80 MVAR Bus Reactor	2 no.			

B. Details of cost components of transformer capacity augmentation of existing substations (agreed in 1st meeting of NERSCT)

SL NO.	Name of Substation	Net Capacity Addition in MVA
1.01	Narengi: 2x50 MVA, in place of 2x25 MVA, 132kV	50
1.02	Bornagar: 2x50 MVA, in place of 2x25 MVA, 132/33kV	50
1.03	Moran: 2x50 MVA, in place of 2x16 MVA, 132/33kV	68
1.04	Gauripur: 2x50 MVA, in place of 2x25 MVA, 132/33kV	50
1.05	Dibrugarh: 2x50 MVA, in place of 2x31.5 MVA, 132/33kV	37
1.06	Depota: 2x50 MVA, in place of 2x31.5 MVA, 132/33kV	37
1.07	Kahilipara: 3x50 MVA, in place of 2x31.5 MVA & 1x30 MVA, 132/33kV	57
1.08	Rangia: 2x50 MVA, in place of 2x25 MVA, 132/33kV	50
1.09	Golaghat: 2x50 MVA, in place of 2x25 MVA, 132/33kV	50
1.10	Sankardeb Nagar: 2x50 MVA, in place of 2x25MVA, 132/33kV	50
1.11	Panchgram: 2x50 MVA, in place of 2x25MVA, 132/33kV	50
1.12	Boko: 1x160 +1x100 MVA, in place of 1x50 +1x100 MVA, 220/132kV	110

1.13	Agia: 1x160 +1x100 MVA, in place of 1x50 +1x100 MVA, 220/132kV	110
1.14	Kukumara: 2x50 MVA, in place of 1x25+1x16MVA, 132/33kV	59
	TOTAL	828.00

C. Capacity Augmentation of Transmission lines (agreed in 1st meeting of NERSCT)

SI No	Name of Line	Route Length KM	Circuit Type	CkM
1	2	3	4	
1	<u>TRANSMISSION LINES</u>			
1.01	BTPS (Salekati) – Dhaligaon 132kV D/C line	38	D/C	76
1.02	Kukumara – Sarusajai 220kV D/C line	24	D/C	48
*1.03	Gossaigaon – Gauripur 132kV S/C line	62	S/C	62
	TOTAL	124		186

* Re conducting of this line is recommended by CEA because of overloading of Gossaipur-Gauripur line due to feeding of power from 220KV Agamoni SS by LILoing of this line.

D. Bay Extension in Existing Substations (In accordance with agreed system)

SL. NO.	Name of Existing Substation where bay Extension required	No. of Bays
1.01	Azara: Two 220 kV line bays for Azara-Boragaon 220 kV Line	2
1.02	Mariani: Two 132 kV Line bays for Mariani - Titabor D/C line.	2
1.03	Srikona: One 132 kV Line bay for Srikona - Ghungur S/C Cable line.	1
1.04	Baghjap (Jagiroad): Two 132 kV Line Bays for Nagaon - Baghjap D/C line	2
1.05	Nagaon: Three 132 kV Line Bays for Nagaon - Baghjap D/C line.	3
1.06	Moran: Two 132 kV Line Bays for Moran-Betbari S/C Line	2
1.07	Sibasagar: Two 132 kV Line Bays for Moran-Betbari S/C Line	2
1.08	Sarupathar: One 132 kV Line Bay for Khumtai - Sarupathar 132 kV S/C Line	1
1.09	GMC GIS: One 132kV GIS Line Bay for GMC - Zoorad UG Cable line	1
1.1	Nalbari: One 132kV line bay for Nalbari - Kumarikata 132kV line	1
1.11	BOKO: Four line bays for Boko - Chhaygaon 132kV D/C line& Boko – Dhupdhara 132kV D/C line	4
1.12	BOKAJAN: One 132kV line bay for Bokajan-Diphu 132kV S/C line	1
1.13	DIPHU: One 132kV line bay for Bokajan-Diphu 132kV S/C line	1
1.14	HAJO: Two line bays for Hajo - Bogaribari 132kV D/C line	2
1.15	Boko: Two 132 kV line bays for Boko-Dhupdhara 132 kV D/C Line	2
1.16	Kokrajhar: Two 132 kV line bays for Kokrajhar-Serfanguri 132 kV D/C Line	2
	TOTAL BAY EXTENSION	29

E. Conversion of Air Insulated S/S(AIS) to Gas Insulated S/s(GIS) (agreed in 1st meeting of NERSCT)

Sl No	Name of Work	Name Of Substation
1.01	Conversion of Air Insulated S/s (AIS) to Gas Insulated S/s(GIS) (One No.)	132/33KV Gohpur

F. Replacement of Ground Wire to OPGW (agreed in 1st meeting of NERSCT)

SL. NO.	Name of Links	km/nos.
1	Fiber Optics on balance transmission lines of AEGCL,	615km
2	Fiber Optics on Station Equipments at various Substation	18nos.

ANNEXURE – D.01

Status of OPGW Links for Manipur State: MSPCL (considered under NER FO Expansion Project) -

S N	Link Name	OPGW (in km)		Target Completion	Remarks
		Supply	Erection		
1	132kV Loktak(NHPC) ~ Ningthoukhong	11.2	11.2	Oct-19	Equipment Nodes: 1.Churachandpur, 2.Imphal State(SLDC), 3.Jiribam State, 4.Kakching, 5.karong, 6.Kogba, 7.Rengpang, 8.Thoubal, 9.Yaingangkokpi, 10.chandel, 11.Hungdung. Tower collapse in 2 links connected to Churachandrapur & ROW in one link had delayed the work. (Gang left site, Work was to be restated thereafter)
2	132kV Imphal(State) ~ Karong	60	45.4	Nov 19/ ROW to be solved. Matter intimated to State MSPCL	
3	132kV Yurembam ~ Yaingangpokpi	42	42	Oct19	
4	132kV Yaingangpokpi ~ Kongba	33.6	33.6	Oct19	
5	132kV Kongba ~ Kakching lilo at Thoubal	57.7	57.7	Oct19	
6	132kV Kakching ~ Churachandpur	38	19.6	Nov19/ Work delayed & to restart after collapsed tower restored by State	
7	132kV Yaingangpokpi ~ Hungdung	32	14.5	Nov-19	
8	132kV Kakching ~ Chandel	25	16.37	Oct19	
9	132kV Loktak(NHPC) ~ Rengpang	47	0	March20. ROW/miscreant problem faced. Assistance of supervisor sought from MSPCL	
10	132kV Jiribam ~ Jiribam state	1	0	Jan'20	
11	132kV Ningthoukhong ~ Churachandpur	32	16.8	Oct19/ Work delayed & to restart after collapsed tower in that line. restored by State in Aug19 & work restarted	
	Total	379.5	257.17		Overall Completion Dec19—March20 Progressively / Details Break up given in AnnexD.02 as well

Note1: Data of most stations (including Chandel, Churachandpur, Kongba, Hungdung) are already made reporting through GPRS by POWERGRID in coordination with MSPCL. Spare OPGW & HW-8km also supplied.

A.1: Project's Name: Microwave Vacation OPGW project of NER

Status of OPGW Links /Elements for above project

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

SN	Link Name	Sector	OPGW Erection (in KM)	Remarks / Status
1	132KV Silchar (PG)-Badarpur (PG)	Central Sector	19.221	Completed
2	132kV Badarpur-Kolasib	Central Sector	106.759	completed
3	132kV Kolasib-Aizawl	Central Sector	65.732	Completed
4	132kV Nehu-Khelieriat Part	Central Sector	5.400	Completed
5	220KV Misa-Samaguri	Central Sector	34.373	Completed
6	400KV BTPS-Salakati via NTPC	Central Sector	3.490	Completed
7	132kV Badarur(PG)- Badarpur(AEGCL)	Central Sector	1.023	Completed
Sub Total (A) = TOTAL (Central Sector) =			235.998	
8	132KV Pailapool-Srikona	AEGCL	33.692	Completed
9	132kV Jiribam-Pailapool	AEGCL	12.752	Completed
10	132kV Badarur(AEGCL)- Srikona(AEGCL)	AEGCL	19.586	Completed
11	132KV Balipara-Gohpur	AEGCL	101.124	Completed
12	132kV S/C Mariani - Lakwa TL	AEGCL	79.298	Completed
13	132kV D/C Lakwa - Namrup TL	AEGCL	58.394	Completed
14	220kV Agia-Sarusujai (with LILO at Boko, Mirza)	AEGCL	130.706	Completed
15	132KV Namrup-Tinsukia	AEGCL	43.571	Completed
16	220kV BTPS-Agia	AEGCL	65.732	Completed
17	220kV S/C Samaguri - Mariani TL (CKT - II)	AEGCL	169.717	Completed
Sub Total (B) = TOTAL (State Sector) =			714.572	Links handed over
Grand Total (Sub Total A+B) =			950.570	

A.1: Project's Name: Microwave Vacation OPGW project of NER

Status of OPGW Links /Elements for above project

PART – 2: SUPPLY & ERECTION BY M/S TEN DOT

(Equipment are clubbed with NER FO Expansion) Status of OPGW Links (as pending for DOCO)

SN	Link Name	OPGW Stringing status	Overall reporting of end stations to NERLDC/ SLDC	Remarks (w.r.t terminal equipment & others) DOCO will be done at one go for all left over links under MW Vacation OPGW Proj
1	132KV Silchar-Srikona	Complete	Data reporting	Completed & reporting/ DOCO completed
2	132KV Mariani-Mariani	Complete	Data and voice reported dtd 31.03.2019.	Completed & reporting/ DOCO pending
3	132KV Nirjuli-Ranganadi with Parey	ROW issue	** 03 months after ROW is resolved	S.N.3&4 may be clubbed to be considered as single link (Nirjuli-Ranganadi LILO at Parey & LILO at Leikhi.
4	132KV LILO of Nirjuli-Ranganadi at Lekhi- This is extended part of Sl.No.3	ROW issue	03 months after ROW is resolved	OPGW part completed (except Railway/high way diversion part where work is stopped due to ROW)/ Matter taken up through NERPC. Equipment installed & Commissioning pending..
5	132kV Imphal(PG)-Imphal (State)	Complete	Oct-19	Equipment installation WIP & Commissioning pending
6	LILO of 132kV Aizawl-Zemabawk-II at Melriat SS	Complete	Oct-19	Completed & reporting/ DOCO pending
7	132KV Melriat-Sihmuid	Complete	Oct-19	Sihmuid end State station not ready -Not charged. Equipment installed at one end
8	132KV Mokokchung(PG)-Mokokchung (state)	Complete	Oct-19	Equipment installed & Commissioning pending

9	Ranganadi-Gohpur (Part-I)-via Nirjuli-Gohpur	Complete	Data and voice reported dtd 18.01.2019.	Completed & reporting/ DOCO pending.
10	Ranganadi-Gohpur (Part-II)-via Ranga-Balipara	Complete		May be considered as single link
11	Aizawl-Zemabawk-II	Complete	Oct-19	Equipment installation WIP & Commissioning pending
11	Dimapur-Dimapur	Complete	Oct-19	Equipment installation WIP & Commissioning pending
12	132kV Ranganadi-Ziro	Complete	Oct-19	Equipment installation WIP & Commissioning pending
13	132KV Lekhi-Itanagar -- Chimpu SLDC	Complete	Oct-19	Equipment installation WIP & Commissioning pending. But same link is also affected by Nirjuli Ranganadi LINK LILO at Lekhi. Then WB is extended from Leikhi to Chimpu
14	BNC LILO-25km	Delayed due to Flood	Oct-19. subject to Shut down clearance in Sept19	Equipment partly installed Yet to be commissioned. Shut down was not approved I 158-159th OCC & plan delayed

Note: The above is total 13 links as narrated in remarks. Joint verification with NERLDC/ SLDC will be done at one go.

A.1: Project's Name: Microwave Vacation OPGW project of NER

Status of OPGW Links /Elements for above project

PART – 3: SUPPLY & ERECTION OF EQUIPMENT BY ECI/FIBCOM/TEJAS

Status Up gradation of ULDC SDH-PDH equipment (as per 15th NERPC—A.16& A.18) is also clubbed & included in MW Vacation OPGW project

S.N	Name of Nodes	SDH Eqpt (ECI Make)	PDH Equipment (ECI Make)	PDH Equipment (Valiant Make)	Status
1	Umium-III	1	0	2	Completed
2	Umium-I	1	0	2	Completed
3	Nehu	1	0	0	Completed
4	Shillong RSCC	1	2	0	Completed
5	Khliehriat	1	0	2	Completed
6	Khandong	1	0	2	Completed
7	Kopili	1	0	2	Completed
8	Dimapur	1	0	2	Completed
9	Imphal	1	0	0	Completed
10	Kohima	1	0	0	Completed
11	Badarpur	1	0	2	Completed
12	Kumarghat	1	0	2	Completed
13	Agartala Gas-RC Nagar NEEPCO	1	0	2	Completed/ Delay in space allocation. Space given in August19
14	Agartala-79Tilla	1	0	3	Completed
15	Bongaigaon	0	2	0	Completed
16	Repeater between Bongaigaon & Balipara	1	0	0	Space not available in between Trans line at intermediate position/ROW issue for space shelter repeater finalization.
17	Umtru	1	2	0	Space & Optical Link issue from MEPTCL, Meghalaya is yet to be sorted. Front was not clear due to same. Matter jointly taken up i.ro of the ULDC fiber as used by MEPTCL Installation. Target-Nov19
18	Misa	0	0	2	Completed
19	Balipara	0	0	2	Completed
Total Up gradation/ Replacement		16	6	25	

Also PDH (Tejas/ECI) upgraded in 12locations location s Khliehriat, Badarpur, Kumarghat, Agartala Gas ,Agartala SLDC, Khandong, Kopili,Misa, Dimapur Imphal, Umiam-I Umiam-III & work is completed.

Over All Target- Nov19

A.2 Project: NER FO EXPANSION:

(Status of “Fiber Optic Cable Package for NR fiber optic expansion (additional requirements) and NER fiber optic expansion under establishment of Fiber Optic Communication system in Northern Region”

Sl No	Link Name	OPGW Stringing status	End Equipment Status	Overall reporting of end stations to NERLDC/ SLDC
	Central Sector			
1	132kV Melriat (PG) ~ Silchar (PG)	Complete	Complete	Data and voice reported dtd 31.03.2019. SAT Pending.
2	132kV Khandong~Halflong (PG)	Complete	Optical connection established over SDH. Data/Voice integration with PDH in progress	Oct-19
3	132kV Dimapur (PG)~ Doyang (NEEPCO)	-do-	Do	Oct-19
4	132kV Doyang (NEEPCO)~ Mokokchung (State)	-do-	Do	Oct-19
5	220kV Mokokchung (PG)~ Mariani (PG)	-do-	Do	Oct-19
6	400kV Mariani (PG)~ Kathalguri (NEEPCO)	-do-	Do	Oct-19
7	400kV Surajmaninagar (TSECL) ~ Pallatana (OTPC)	30.967/36.7 Km	plan delayed due to non-granting of shutdown as crossing	Oct-19 subject to Shut down clearance in Sept19
8	132kV Badarpur(PG) ~ Jiribam(PG)	Stringing progress :48/67.16 Km	Do	Dec19
9	Bongaigaon (PG-400 kV) ~ 220kV Salakati-220 kV BTPS	0/4.5 Km	Work on halt due to flood	Jan20
10	400kV Mirza (Azara) ~ Byrnihat	0/47.208 Km	Installation to be started	Dec19
11	400kV Silchar ~ Pallatana	Stringing Complete: 61.146/24 7.409 Km/ROW issue	On halt due to flood & non-issue of on time PTW by Pallatana for grid security	Feb 20
12	132kV Agartala(TSECL) ~RC Nagar (NEEPCO)	Complete	Installation in progress.	Space is provided by NEEPCO IN August only.Oct19
13	132kV Jiribam (PG) (Manipur) ~ Loktak (NHPC)	0/82.461Km	Work to be started, Jiribam state end space issue	Feb 20. Earlier gang faced ROW issue and fled site near/on route to Lokatak

14	132kV Loktak (NHPC) ~ Imphal (PG)	Complete#	OPGW part completed. Equipment I&C in progress.	Oct-19
15	PK Bari (TSECL)--LILO of (NETCL) Belonia	0/10.441Km	Work to be started	Jan20
16	132kV Pare ~ Chimpu	0/31Km	OPGW Supply Completed. Works yet to started for I&C.	Jan20
Manipur State Sector				
1	132kV Yurembam ~ Yaingangpokpi	Complete#	OPGW part completed (except Approach cable). Installation of Equipment are also completed. WIP	Oct-19
2	132kV Yaingangpokpi ~ Kongba	Complete#	-do-	Oct-19
3	132kV Kongba ~ Kakching with LILo at Thoubal	Complete#	-do-	Oct-19
4	132kV Imphal(State) ~ Karong	45.4/60Km.	OPGW Stringing in progress/ ROW Faced	Nov 19/ ROW to be solved. Matter intimated to State MSPCL
5	132kV Kakching ~ Churachandpur	19.60/38Km.	-do-	Nov19/ Work delayed & to restart after collapsed tower restored by State
6	132kV Loktak(NHPC) ~ Ningthoukhong	Complete	OPGW part completed Installation of Ap Cable/Equipment WIP	Oct-19
7	132kV Yaingangpokpi ~ Hundung	14.5/30Km	OPGW Stringing in progress	Nov-19
8	132kV Kakching ~ Chandel	16.37/25Km	OPGW Stringing in progress	Oct-19
9	132kV Loktak(NHPC) ~ Rengpang	0/47Km	OPGW stringing work yet to start. ROW/miscreant problem faced. Assistance of supervisor sought from MSPCL	March -20
10	132kV Jiribam ~ Jiribam state	0/1Km	OPGW stringing work yet to start.	Jan'19
11	132kV Ningthoukhong ~ Churachandpur	16.80/32Km	OPGW Stringing in progress	Oct19/ Work delayed & to restart after collapsed tower in that line. restored by State in

				Aug19 & work restarted
Tripura State Sector				Dhalabil, badarghat, budhjangnagar , SM Nagar reporting to SLDC
1	132kV Agartala(TSECL) ~ Barumura(GTP)	Complete	Complete	SAT-Oct19
2	66kV 79 Tilla Grid (TSECL) ~ Badharghat	-do-	-do-	Data Reporting.
3	132kV Surajmaninagar(TSECL) ~ Budhungnagar	-do-	-do-	-do-
4	132kV Agartala(TSECL) ~ SM Nagar (TSECL)	-do-	-do-	-do-
5	132kV Pallatana(OTPC) ~ Udaipur(TSECL)	-do-	With the completion of SM Nagar-Palatana OPGW, data/voice shall be made reported to SLDC	Oct-19
6	132kV Udaipur(TSECL) ~ Rokhia GTP	-do-	With the completion of SM Nagar-Palatana OPGW, data/voice shall be made reported to SLDC	Oct-19
7	66kV Udaipur(TSECL) ~ Gumti HEP	-do-	With the completion of SM Nagar-Palatana OPGW, data/voice shall be made reported to SLDC	Oct-19
8	66kV Gumti HEP ~ Amarpur(TSECL)	-do-	With the completion of SM Nagar-Palatana	Oct-19
9	66kV Satchand(TSECL) ~ Sabroom(TSECL)	-do-	Islanded link. Neither of Terminal stations is a wideband location	Oct-19
10	132kV 79 Tilla Grid (TSECL) ~ Dhalabil(TSECL)	-do-	PDH installation & commissioning pending	Oct-19
11	132kV Rokhiya (GBPP) ~ Surajmaninagar(TSECL)	Supply Complete. Front Not ready (TL under construction)	Front Not Ready	Link to be deleted. Supply material isto be handed over to TSECL. DOCO will be done with consent from TSECL
12	132kV Surajmaninagar(TSECL) ~ Monarchak (NEEPCO)	-do-	Front Not Ready	
Meghalaya State Sector				
1	132kV Nehu ~ Neigrihms	0/7.7Km	OPGW stringing work yet to start.	Jan20

2	132kV Khliehriat(PG) ~ Khlehriat (State)	Complete#	OPGW part almost complete (Except Approach cable part).	Oct-19
3	132kV Khliehriat(State) ~ Myntdu Leshka- HEP	24.932/24.932Km	OPGW part complete (Except Approach cable part).	Oct-19
4	132kV Khliehriat(PG) ~ Lumshnong (S/C)	5/25.19Km	Work on halt due to rainy season	Oct-19
Nagaland State Sector				
1	132kV Kohima (132KV) ~ Kohima (220KV)	0/25Km	OPGW stringing work yet to start.	Dec19
2	132kv Kohima ~ Wokha	0/58Km	OPGW stringing work yet to start./ DOP to ensure completion of Links of LILO of Wokha Kohima at New Kohima/Jadhima	Dec19
3	132kV Doyang (NEEPCO) ~ Sanis	0/10Km	OPGW stringing work yet to start.	Jan20
Mizoram State Sector				
01	Aizawl--Zemabawk I	0/1Km	OPGW stringing work yet to start.	Dec-19
<p>Stations of Assam AEGCL namely Lakwa Namrup Gohpur Mariani Kahlipara-SLDC also considered in NER FO expansion(equipment installed & commissioned) SDH PDH for SLDC AP, Lekhi also considered in NERR FO Expansion (Equipment commissioning by Dec19)</p>				

NOTE1: Above mentioned communication links got delayed due to certain unavoidable situation

NOTE-2:

- 1. All concerned stations (State or ISTS/ISGS) where End equipment being installed are to provide**
 - a) Auxiliary power as input to charger of DCPS**
 - b) Air conditioning environment for equipment under ULDC packages**

- c) PDH distance to RTU should be within 20meter of RTU/Gateway if data path is serial type**
- d) SDH distance to PDH should be within 15-20meter of PDH & SDH is to be placed within 15-20 meter of FODP**
- e) Respective station owner has to arrange of their own-
 - 1) 2wire normal telephone (along with telephone wire from control desk/control room up table) to the PDH/SDH to be provided by user**
 - 2) For RTU data also, necessary cable is to be provided by RTU-owner/owner of station.**
 - 3) one Ethernet cable(shielded) for serial data(if K 101) reporting by RTU & one Ethernet cable(shielded) to be laid & connected (between RTU/GATEWAY up to the Communication equipment-SDH/PDH for data & voice by user/owner RTU station****
- f) State will jointly check with POWERGRID & one dedicated coordinator at State SLDC/Department will be assigned for communication.**
- g) State can opt to keep Earth Wire or may ask contractor to take the same back.**
- h) AMC after execution will be supervised by respective state & paid by respective state directly to contractor. However for achieving competitive price, AMC rate was included in original tender**

ANNEXURE -D.03

Project: URTDSM PROJECT STATUS

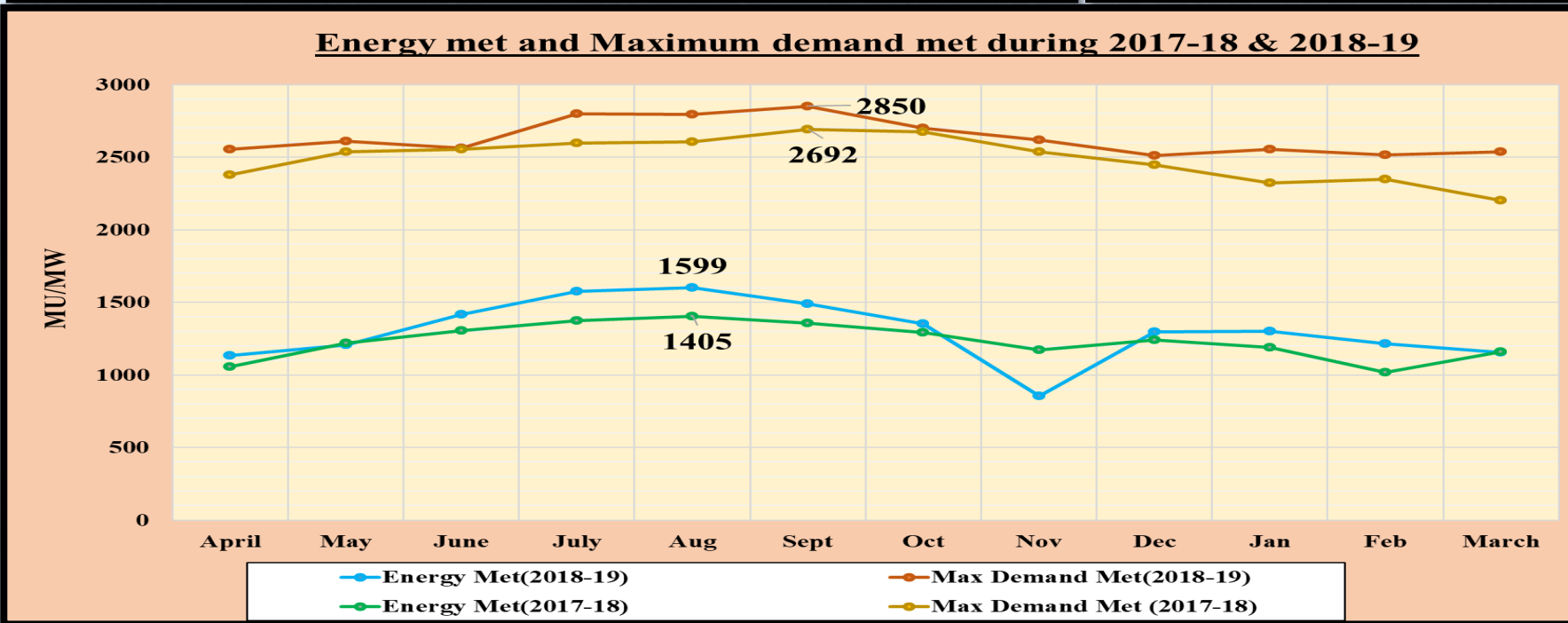
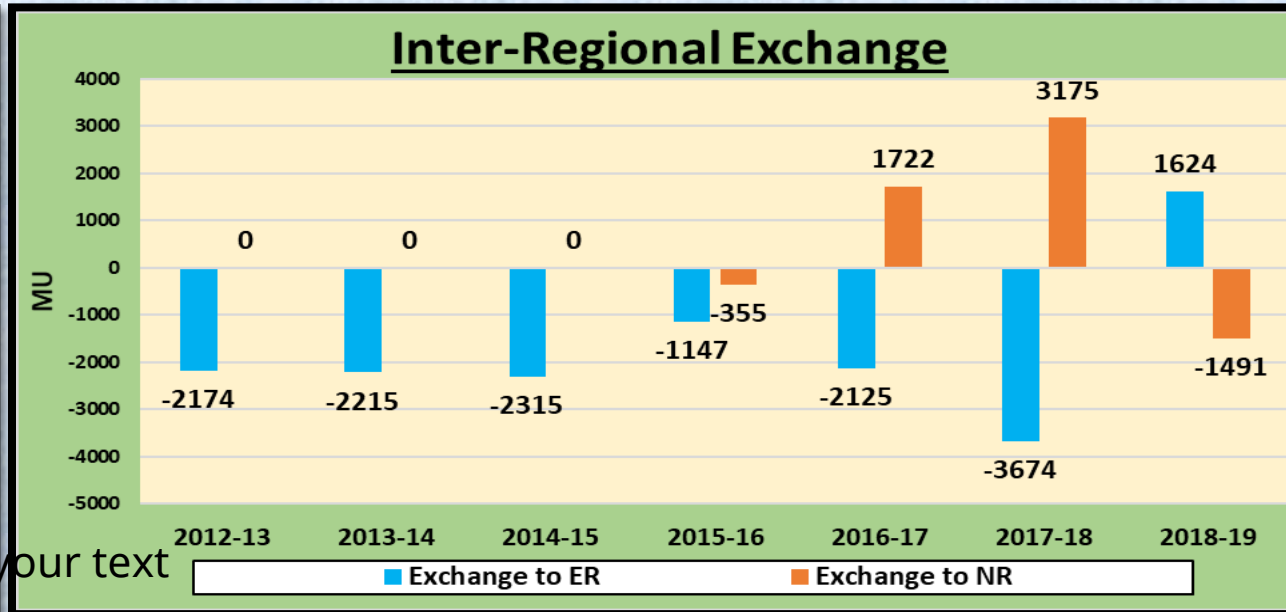
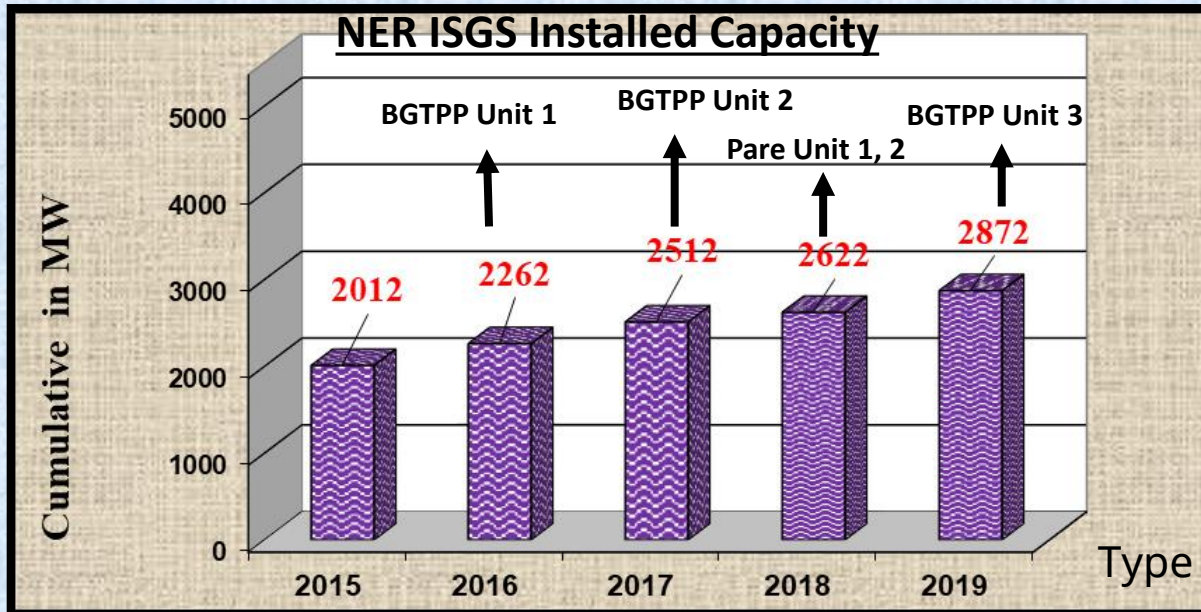
N	Equip.	Scope		Status				Status / Remarks
		Nos.	Location	Erection	SAT	Report	Data Validati	
1	SPDC		NERLDC	1	1	1	NA	Completed 26.3.19/PTOC issued after SAVT
2	PDC		Assam	1	1	1	NA	Completed 26.3.19/PTOC issued after SAVT
3	PDC		Meghalaya	1	1	1	NA	Completed 26.3.19/PTOC issued after SAVT
4	PDC		Arunachal/ Tripura	0	0	0		Diversion completed & Materials delivered in Tripura. Work is targeted completed by 2 months (SAT).
	Total	4						
5	PMU	3	Salakati	3	3	2	3	Completed
6	PMU	6	Balipara	6	6	6	6	Completed
7	PMU	6	Bongaigaon	6	6	6	6	Completed
8	PMU	4	BNC	4	4	4	4	Completed
9	PMU	4	Silchar	4	4	4	4	Completed
10	PMU	7	Misa	7	7	7	6	Completed
11	PMU	3	Mariani	3	3	3	3	Completed
12	PMU	5	Dimapur	5	5	5	3	Completed
13	PMU	1	RHEP - NEEPCO	1	1	1	2	Completed
14	PMU	2	Kopili - NEEPCO	2	2	2	2	Completed
15	PMU	4	Samaguri - Assam	4	4	4	4	Completed
16	PMU	2	Agia - Assam	2	2	2	2	Completed
17	PMU	2	Mariani - Assam	2	2	2	2	Completed
18	PMU	2	Tinsukia - Assam	2	2	2	2	Completed
		51		51	51	50	47	Note: There was some delay (around months July & Aug19) due to Flood in South Assam, South Tripura & North Tripura

Over all Target-URTDSM project

- 1. Tripura PDC/System as diverted from Arunachal Pradesh under central sector:
Site Acceptance: Nov19, System Availability Verification Test: Dec19**
- 2. UPS etc.: By Dec19**

NER Power Scenario Overview

Annexure-XIII



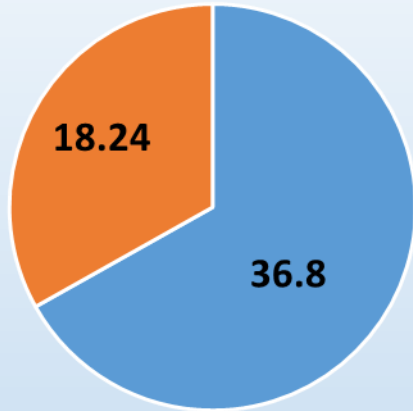
Peak Demand Met touched **3000 MW** on 30th Aug,19

Energy Met in Aug'19 : 1622 MU

Stagnant growth is a concern

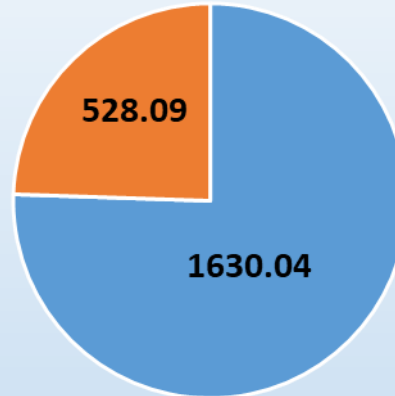
Market Participation by NER States during 2018-19

Arunachal Pradesh



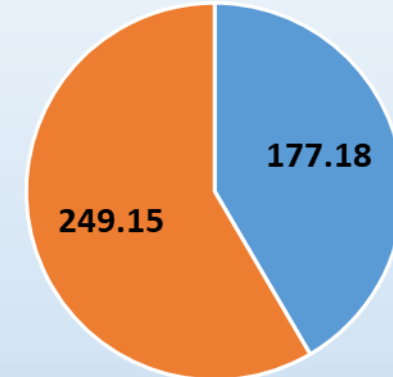
Total Consumption: 795
Total Market: 55 (6.9% of total)

Assam



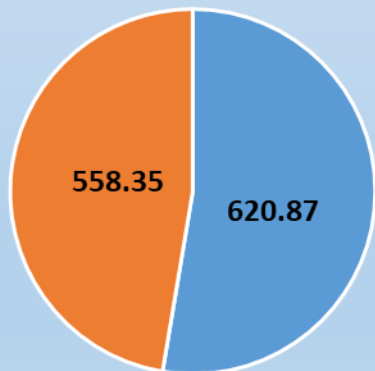
Total Consumption: 8203
Total Market: 2158 (26.3% of total)

Manipur



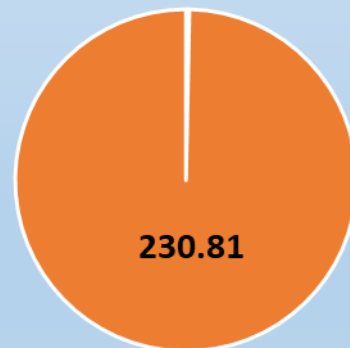
Total Consumption: 857
Total Market: 426 (49.7% of total)

Meghalaya



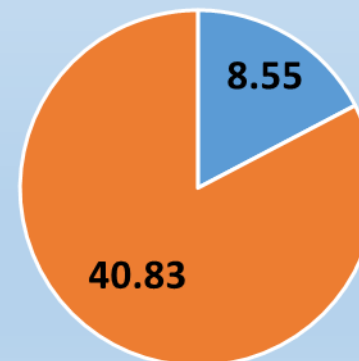
Total Consumption: 1438
Total Market: 1179 (82% of total)

Mizoram



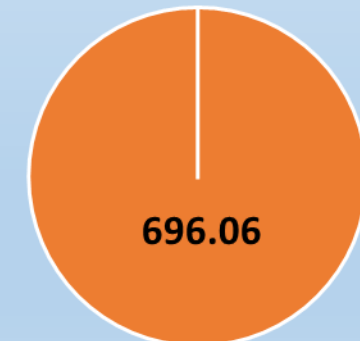
Total Consumption: 587
Total Market: 230.81 (39.3% of total)

Nagaland



Total Consumption: 778
Total Market: 49 (6.3% of total)

Tripura

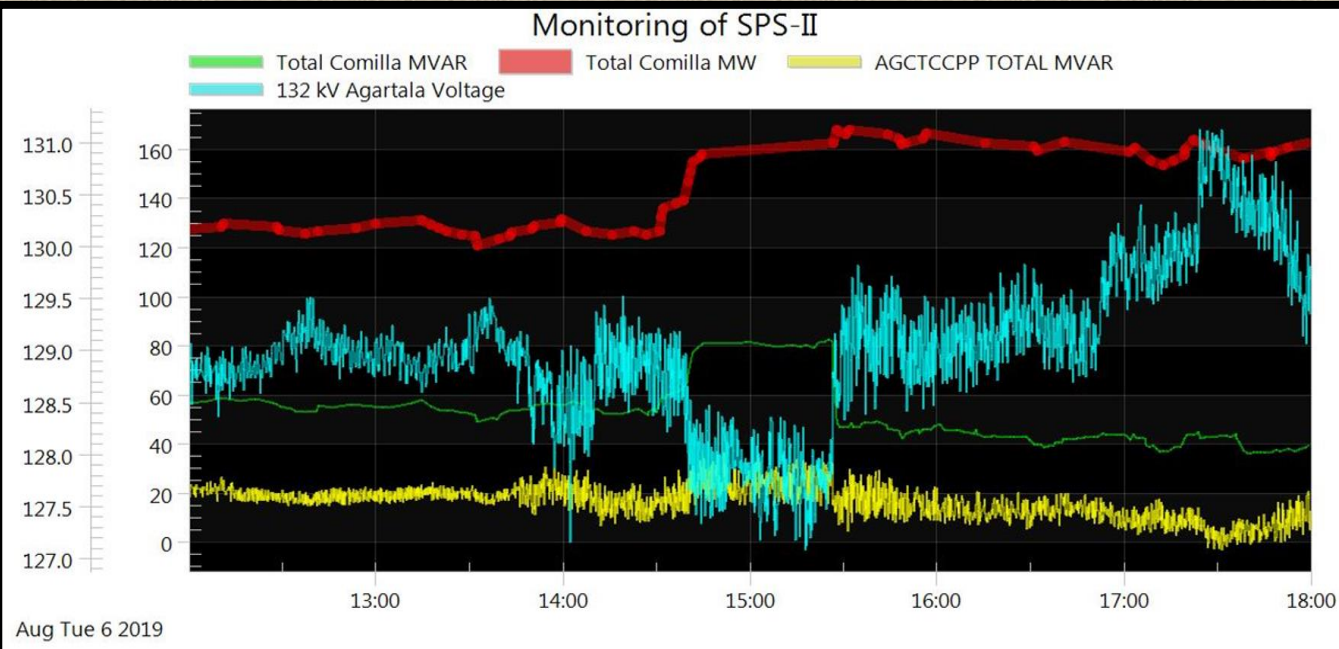
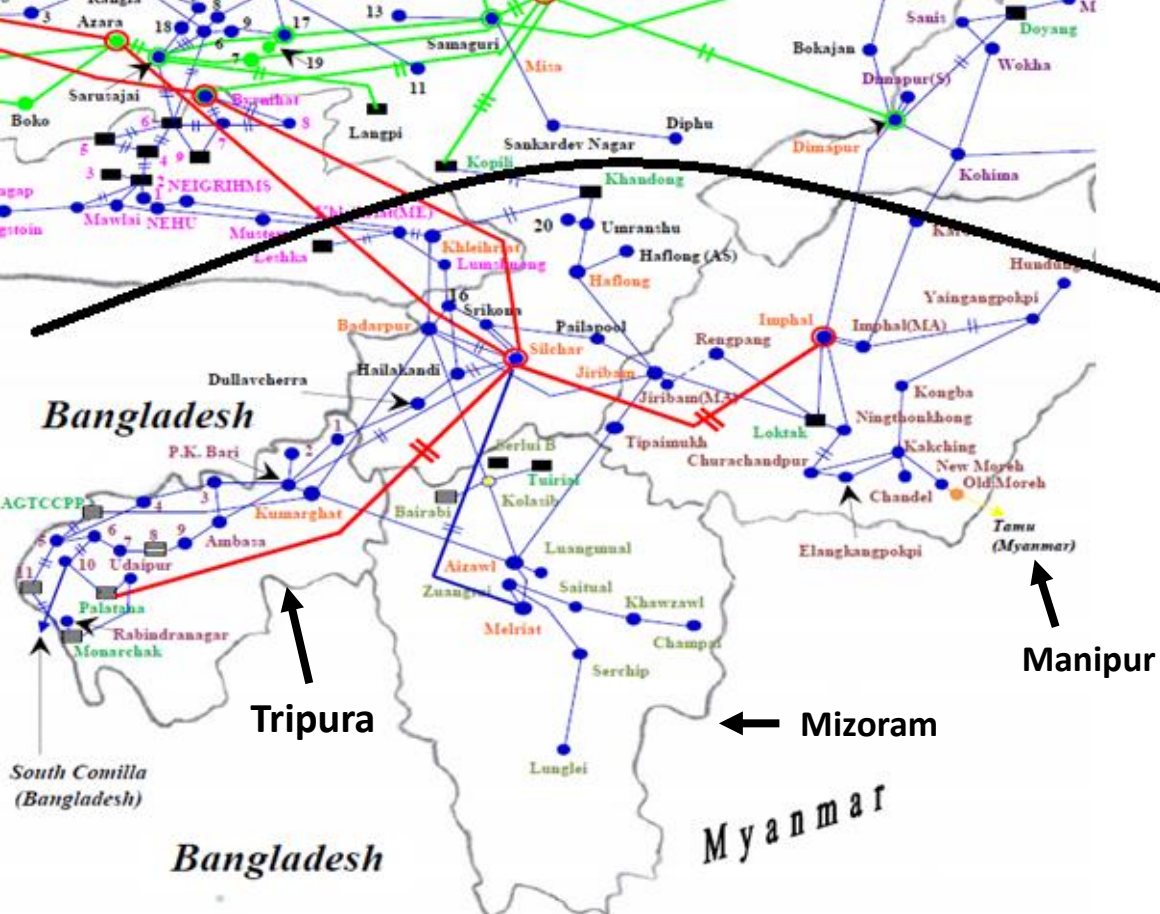


Total Consumption: 2087
Total Market: 696 (33.3% of total)

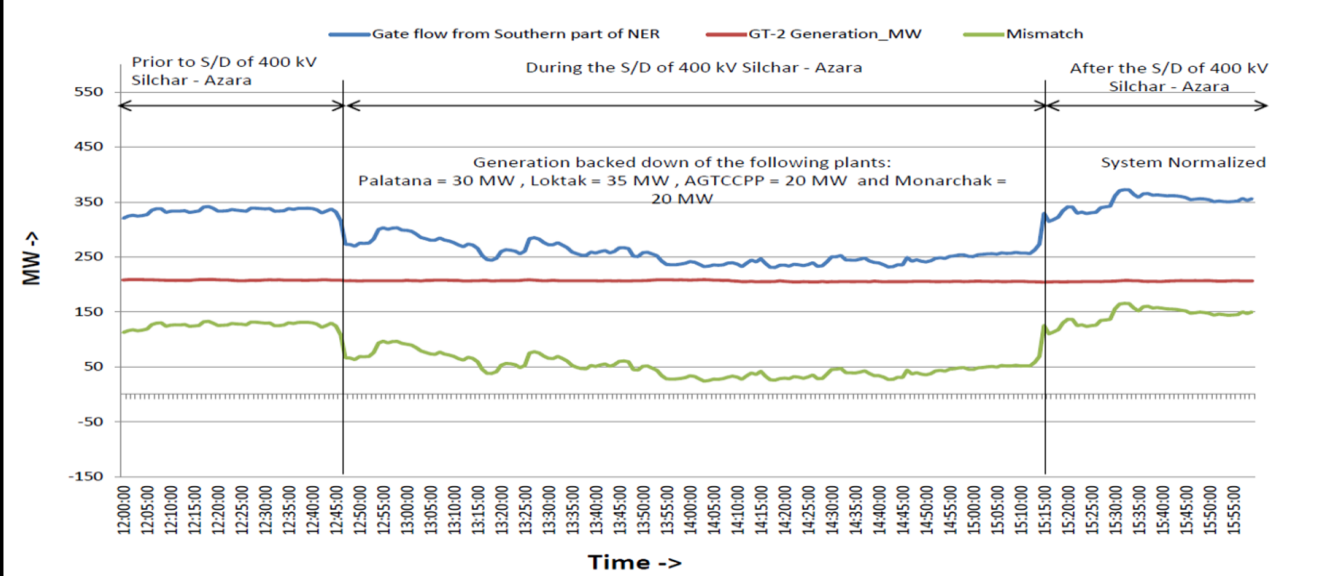
■ Bilateral Purchase ■ Bilateral Sale

All figures in MU

SPS 2 & SPS 3 in NER



Southern part of NER gate flow & OTC GTG-2 Generation during S/D of 400kV Silchar - Azara dated 11.06.2019

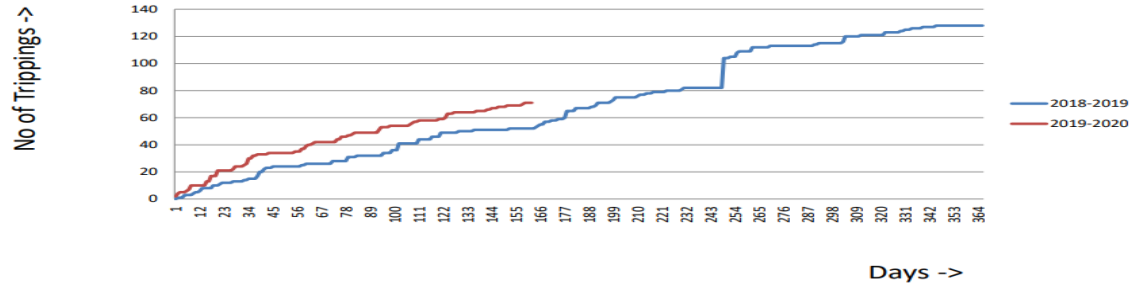


Need of re-look

- GD V on 3rd April & 20th April, 2019
- MW linked SPS 3
- Four nos. of SPS for Bangladesh
- SPS 4 of Bangladesh envisages Comilla feeders to be disconnected on SPS 2 operation
- Measures by Tripura to improve Voltage.

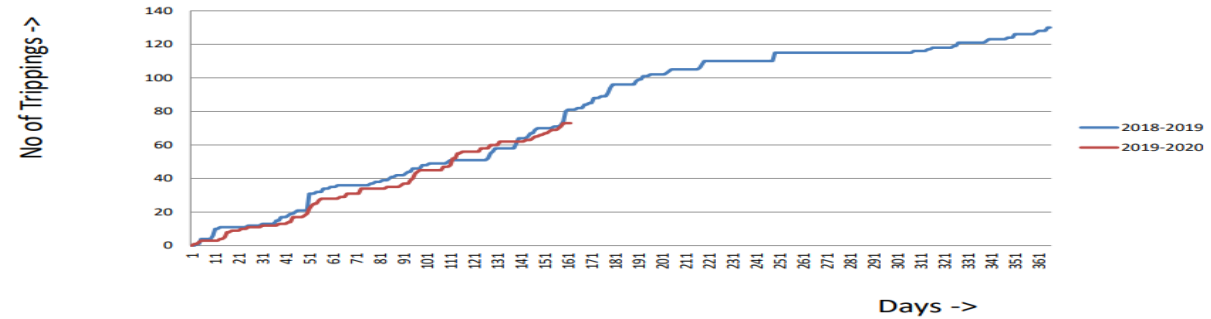
Tripping of Transmission lines-a cause of concern

No. of Tripping of 400 kV lines till 09-09-2019



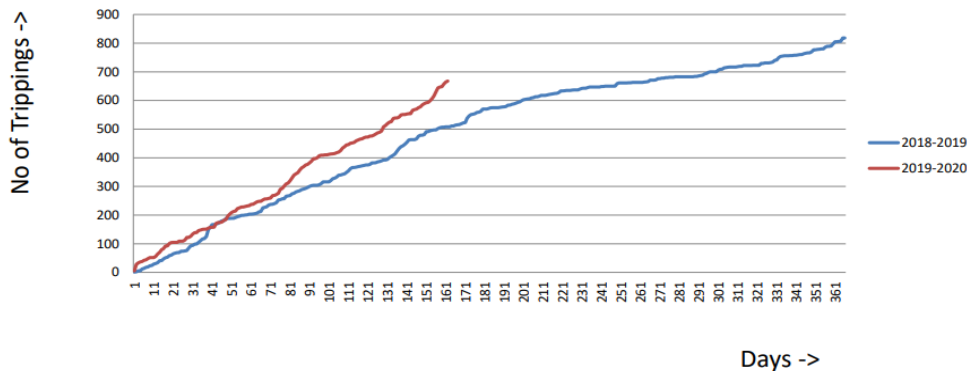
No. of tripping in 2018-2019 as on date: 52
 No. of tripping in 2019-2020 as on date: 71
 (Total No Lines= 26)

No. of Tripping of 220 kV lines till 09-09-2019



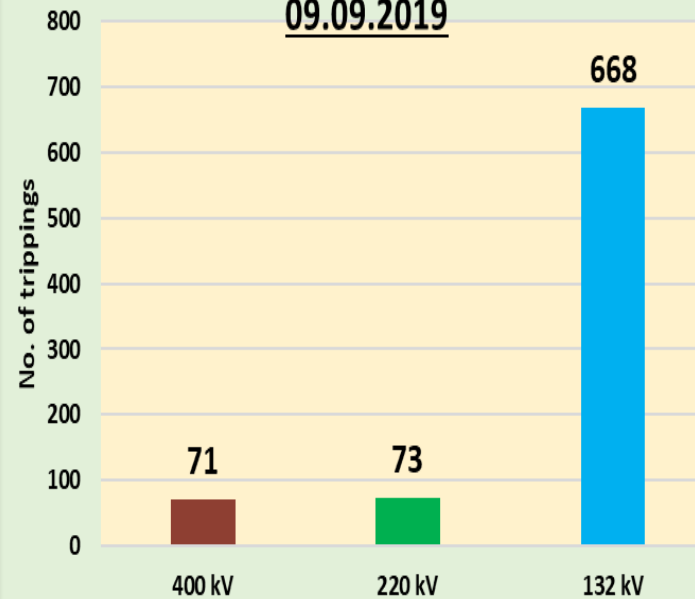
No. of tripping in 2018-2019 as on date: 81
 No. of tripping in 2019-2020 as on date: 73
 (Total No Lines= 45)

No. of Tripping of 132 kV lines till 09-09-2019

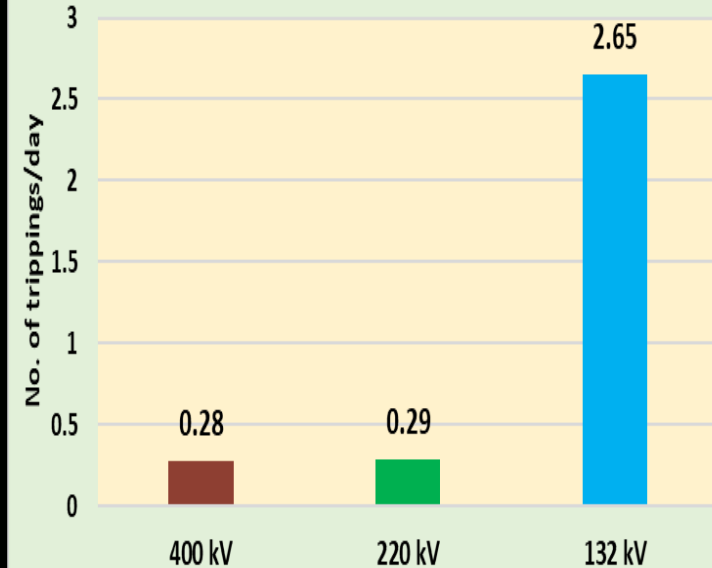


No. of tripping in 2018-2019 as on date: 508
 No. of tripping in 2019-2020 as on date: 668
 (Total No Lines= 161)

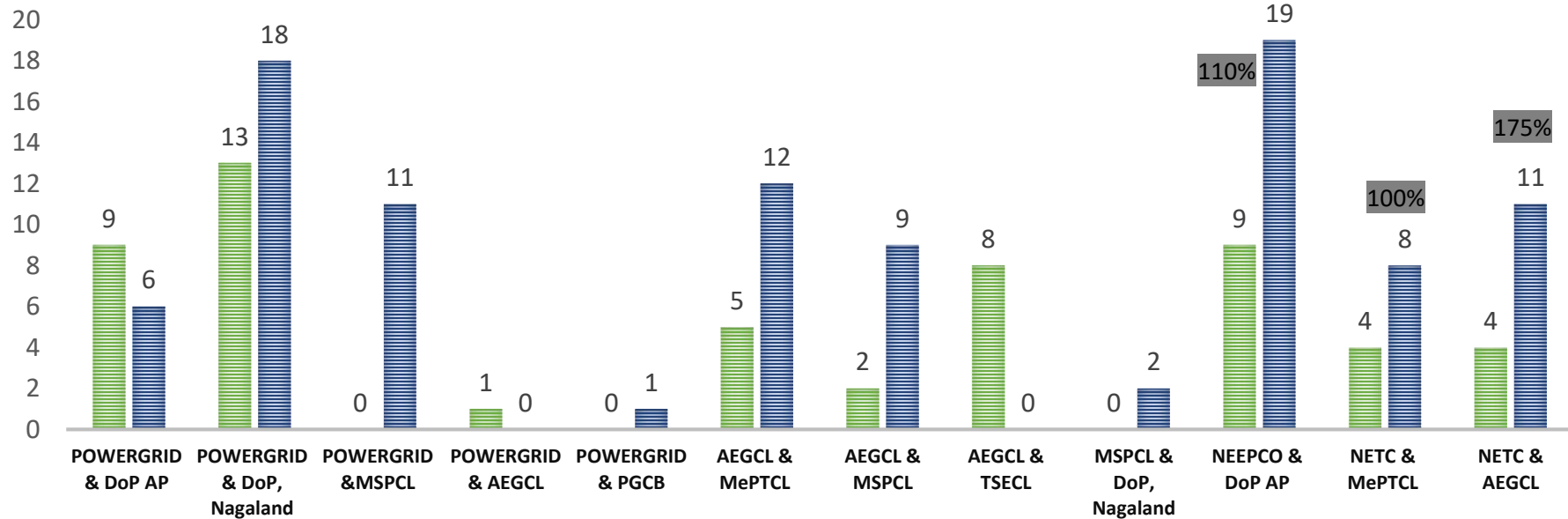
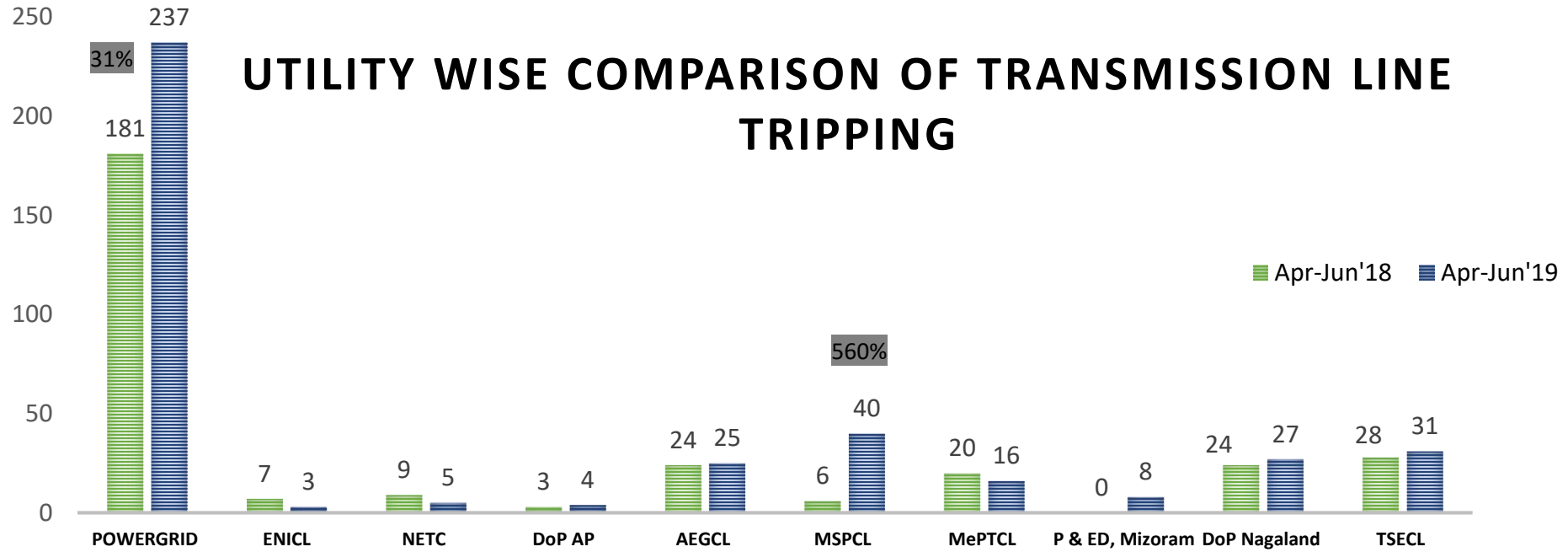
No. of trippings in 2019-20 as on 09.09.2019



No. of trippings per day in 2019-20 as on 09.09.2019

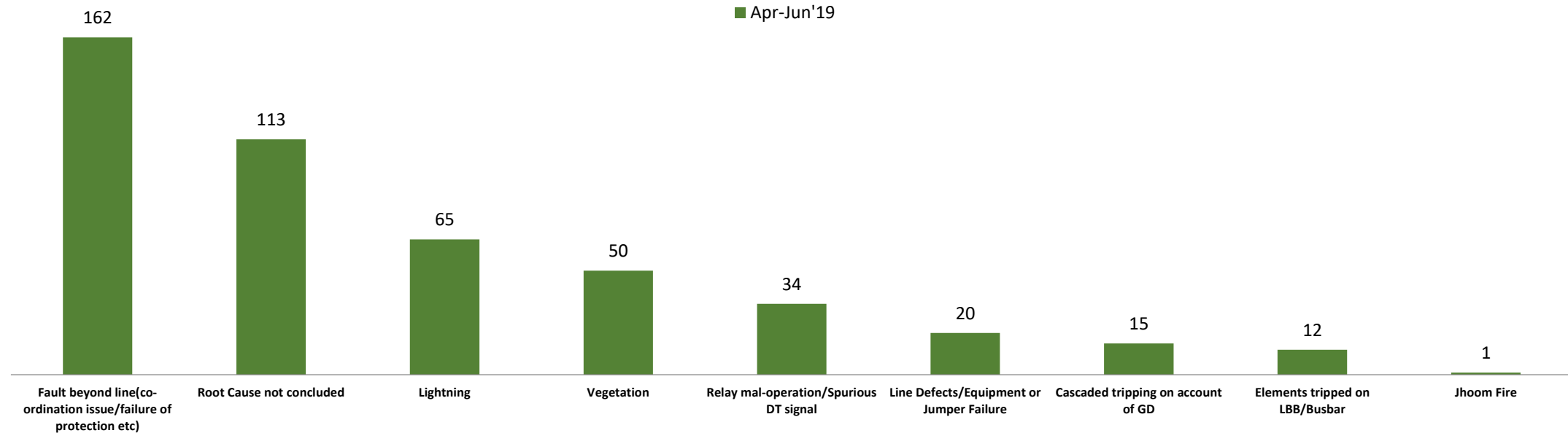


UTILITY WISE COMPARISON OF TRANSMISSION LINE TRIPPING

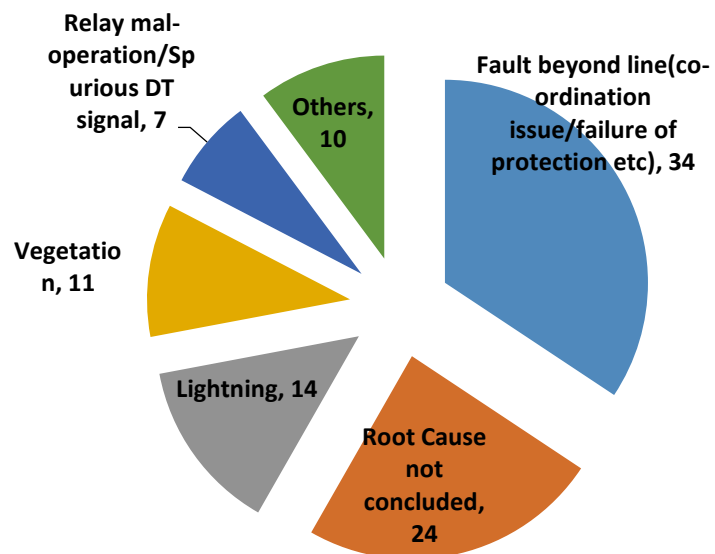


Note: This item was discussed in the 53rd PCC Meeting of NERPC

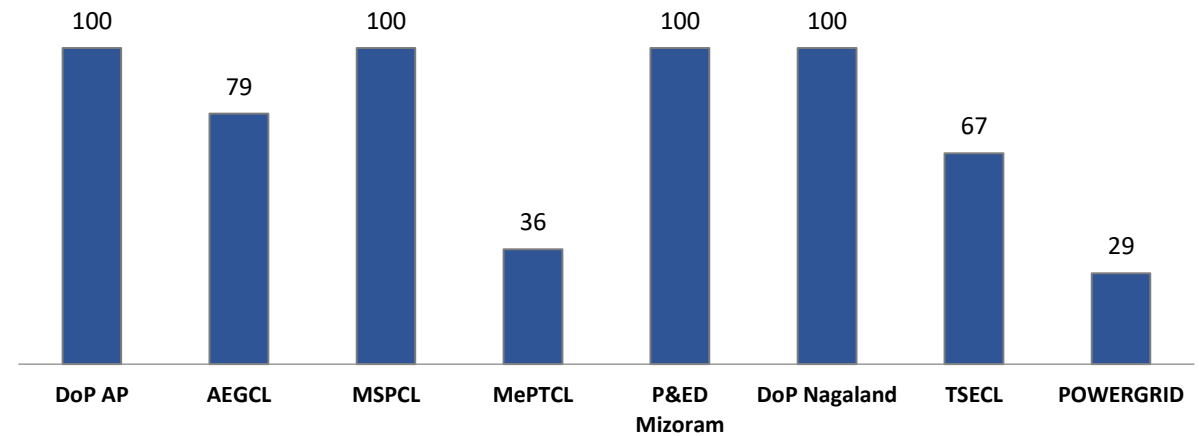
Tripping of Elements - Root Cause Categorization



Note: Root Cause could not be concluded majorly due to non-submission of DR outputs & analysis report by concerned utilities



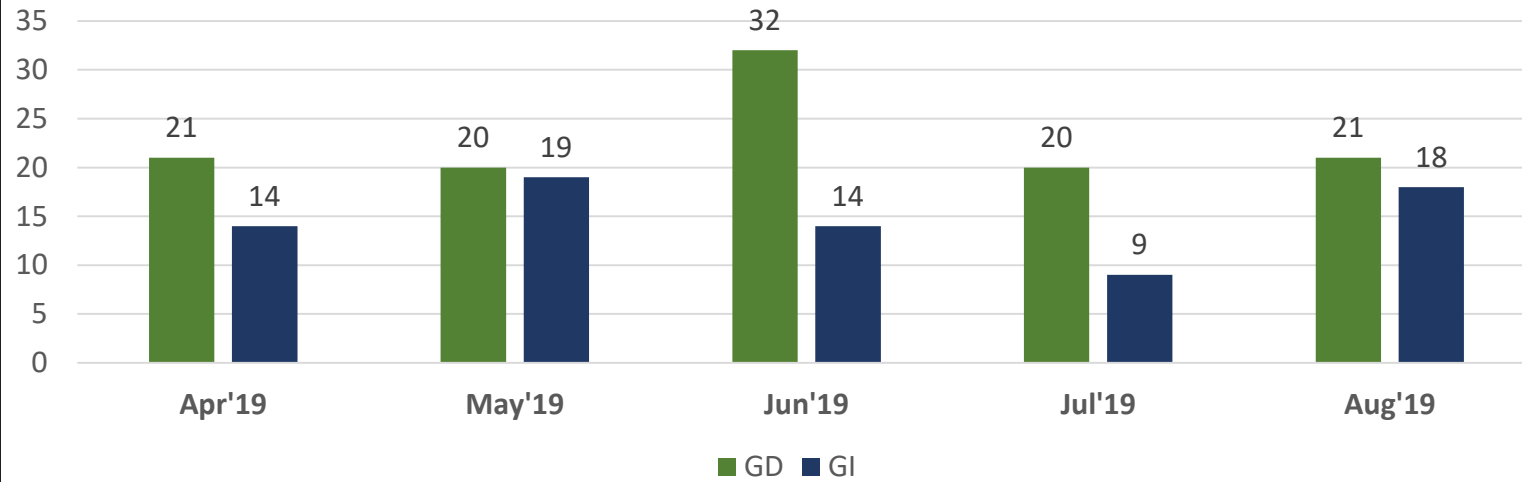
Non-submission of DR outputs in %



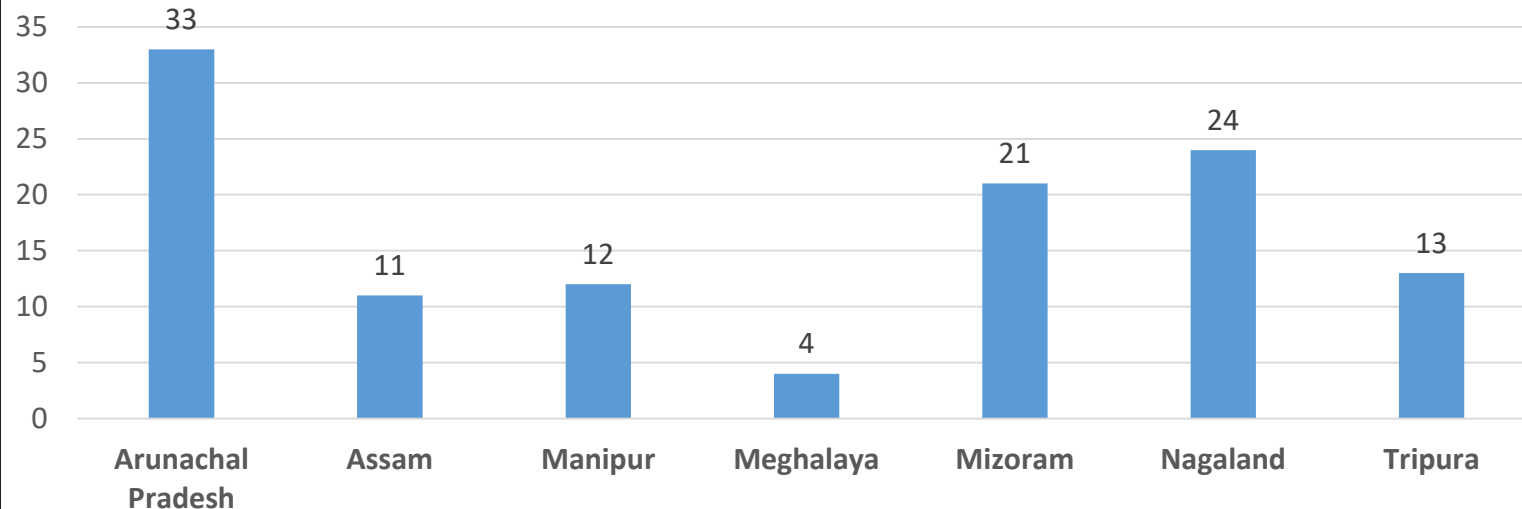
Note:

- Information was given to mentioned utilities vide Letter from CGM (NERLDC) dated 24.07.19
- % was calculated based on the data submitted for events w.e.f 1st Apr'9 to 30th Jun'9

Grid Disturbance & Grid Incidents for the period Apr'19 to Aug'19

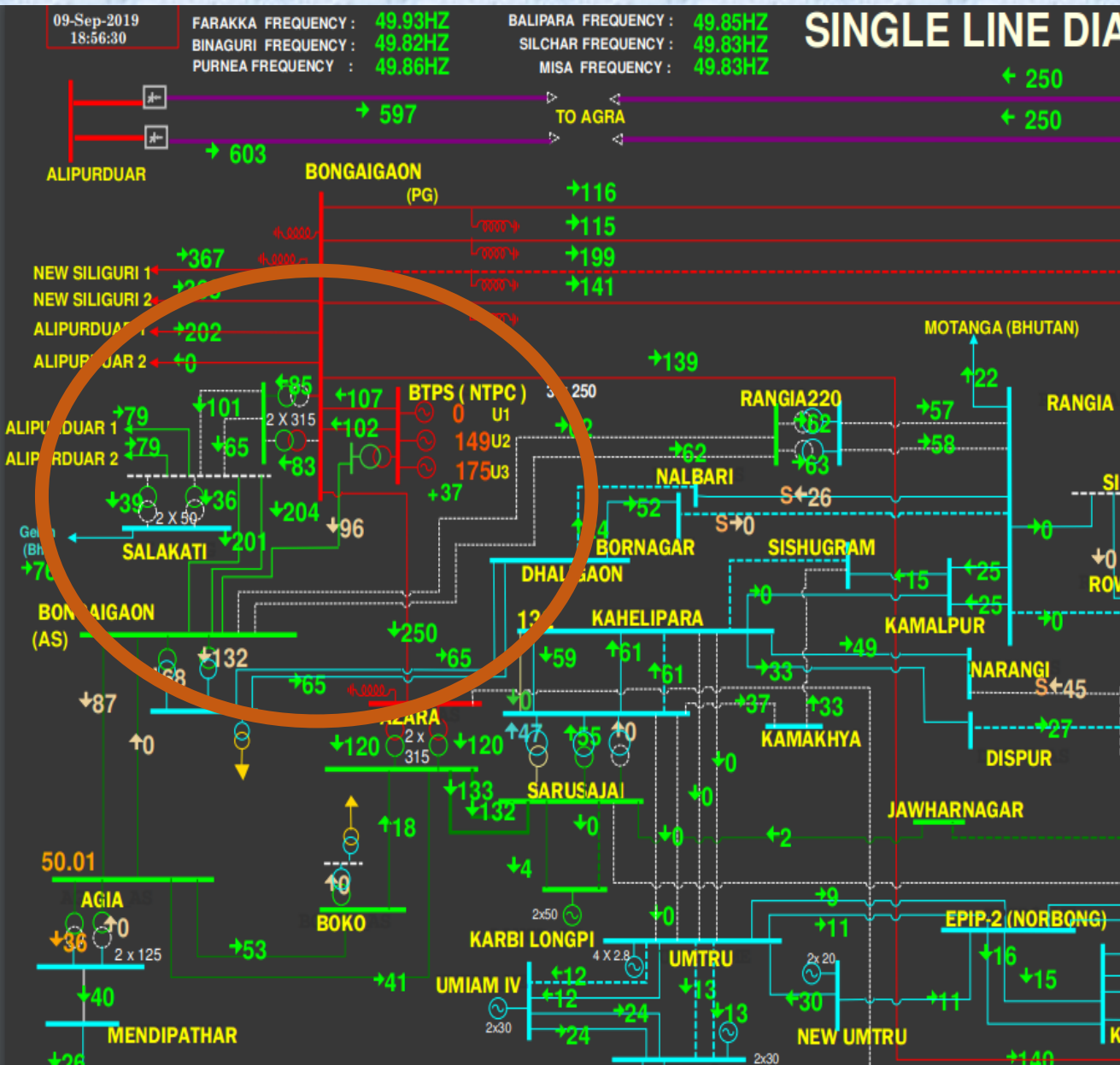


Grid Disturbances affecting NER States for the period Apr'19 to Aug'19



- **GD V on 3rd April & 20th April, 2019**
- **More than 100 GDs in 5 months.**
- **Substantial high numbers in case of Ar. Pradesh, Mizoram, Nagaland.**
- **Protection co-ordination is the main issue to be addressed.**
- **Disturbances in Tripura affects supply to Bangladesh also.**

Criticality in Intra-State System of Assam around Bongaigaon Area



LILO of Balipara – Bongaigaon 400kV D/c (Twin Moose) at Rangia

7th Standing Committee meeting of NER held on 17.05.2018

11.5 Assam proposed establishment of 400/220 kV Substation at Rangia in 4th, 5th and 6th Standing Committee meeting.

Assam insisted for establishment of Rangia substation as intra-state scheme.

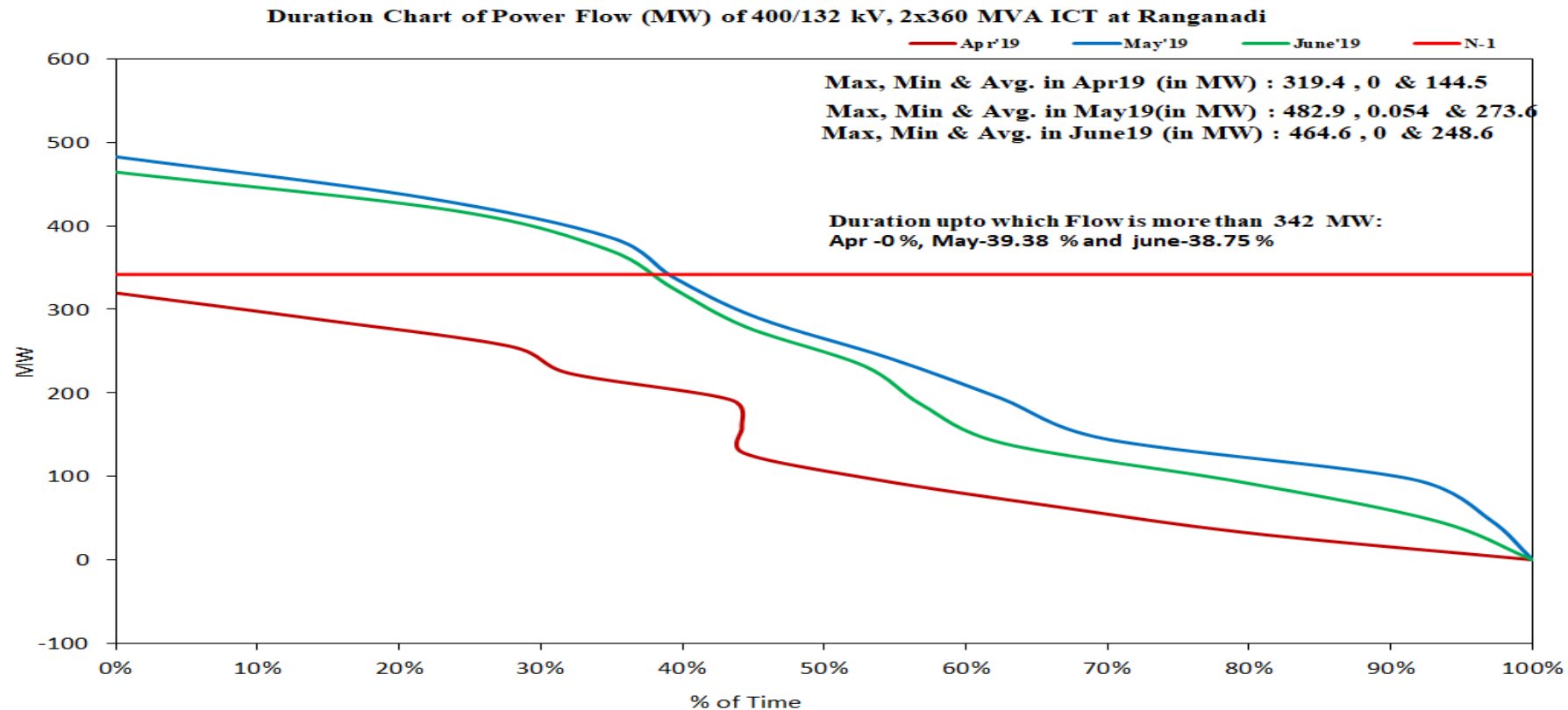
1st meeting of North Eastern Region Standing Committee on Transmission (NERST) held on 29.11.2018

16(c) Rangia 400/220kV: In the 7th SCM of NER it was agreed that Rangia S/s may be established through LILO of both circuits of Balipara – Bongaigaon 400kV D/c (Twin Moose) line. Thus, AEGCL may consider LILO of both circuits as agreed in the 7th SCM of NER. AEGCL agreed.

LILO at Rangia needs to be expedited
2nd ICT at BGTPP needs to be expedited

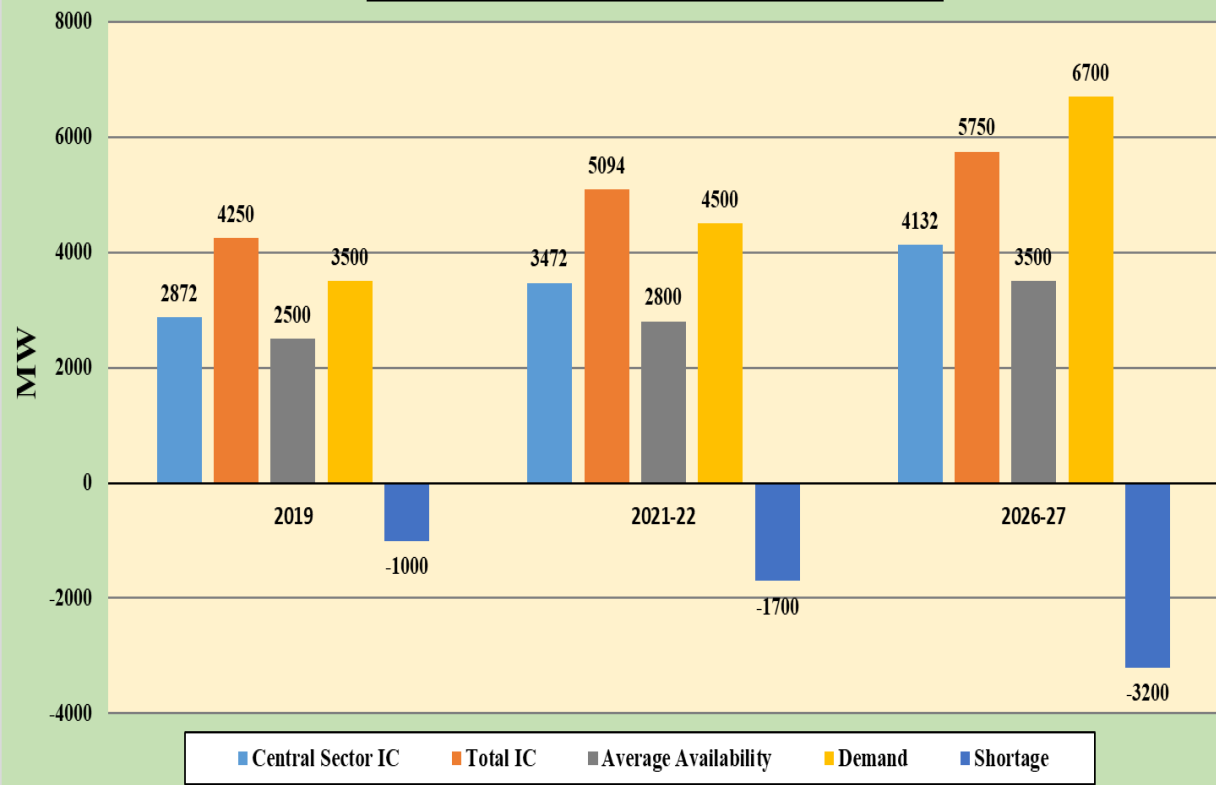
Agenda Item No B.07: Additional ICT at RHEP

- **Background:** Grid Disturbance on 11-Jun-19 triggered by tripping of 360 MVA, 400/132 kV ICT-1 at RHEP(NEEPCO).
- N-1 criteria is not fulfilled after **addition of 110 MW at Pare HEP** (NEEPCO).
- 158th OCC Meeting of NERPC -> forum agreed to the requirement of 3rd 400/132kV ICT at RHEP.
- This is for approval of TCC/NERPC forum and subsequent deliberation of the issue in next SCM for CEA approval.

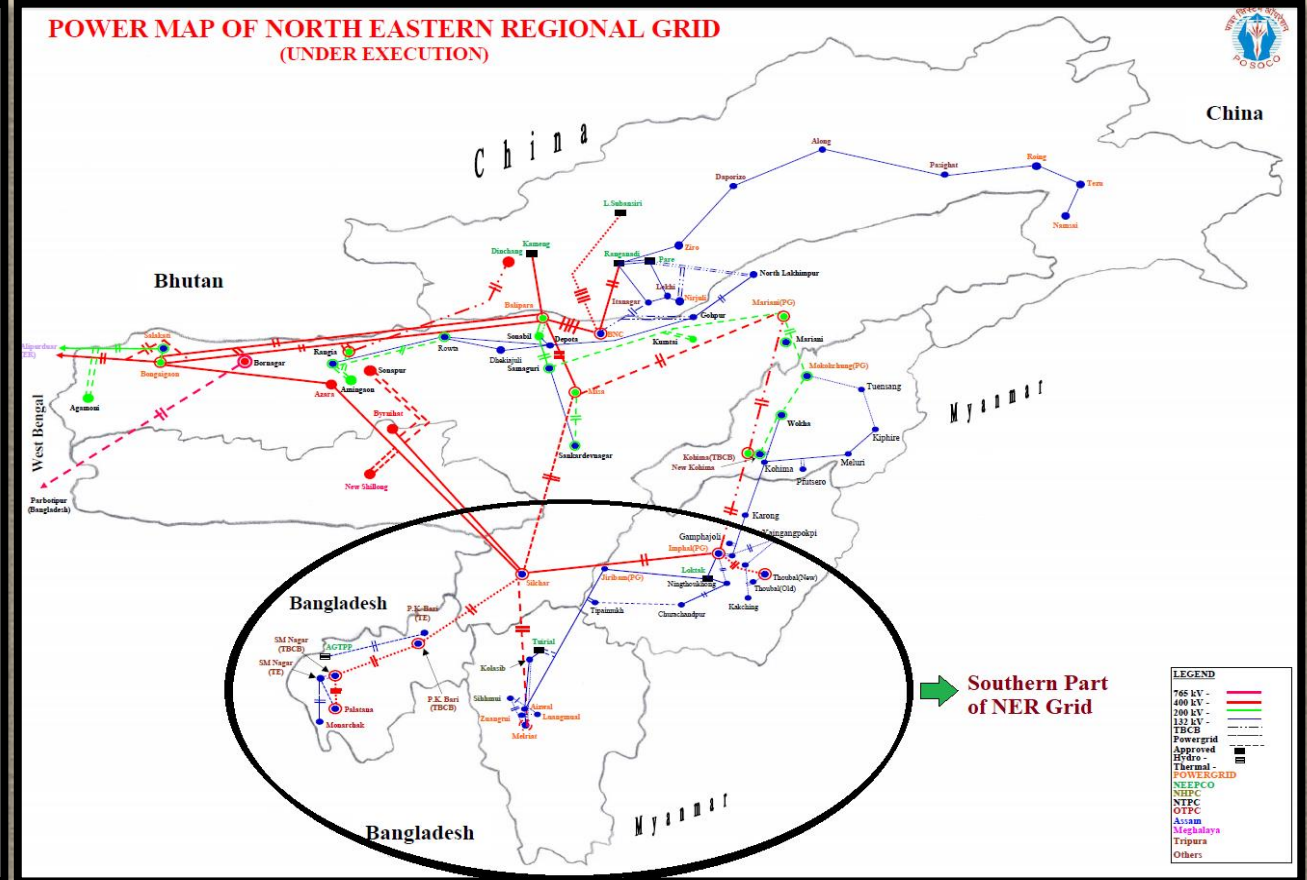


Future Scenario

Peak Demand Vs Generation Scenario



POWER MAP OF NORTH EASTERN REGIONAL GRID (UNDER EXECUTION)



→ Southern Part of NER Grid

Timely completion of upcoming projects and corresponding upgradation of transmission/distribution is a pre-requisite for enabling import of required quantum to meet projected NER Demand

Roadmap and Timeline for implementation of CABIL report recommendations

- Manpower: NER SLDCs fall under small category and hence requirement is 30-50.
- Financial benefit for completion of certification course.
- Ring-fencing of SLDCs.
- Activities for implementation of CABIL recommendations.

SAMAST Implementation in NER States

- Initiative taken by NERPC & NERLDC for SAMAST implementation in integrated manner.
- TESG for PSDF accorded approval in respect of Assam, Meghalaya, Manipur and Tripura.
- Common tendering by NERPC for the four states.
- Matter to be pursued for the states of Arunachal Pradesh, Mizoram and Nagaland.

TELEMETRY STATISTICS (as on 03.09.19)

