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System Planning & Project Appraisal Division
lsok Hkou vkj ds iqje ubZ fnYyh&110066
Sewa Bhawan, R. K. Puram, New Delhi-110066
osclkbV / Website: www.cea.nic.in

[ISO: 9001:2008]

No. 81/4/2011-SP&PA/2447-57

Date: 29th Dec., 2014

To,

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

2 The Member Secretary,
North Eastern Regional Power Committee,
Meghalaya State Housing Finance Co-Operative Society Ltd. Building
Nongrim Hills, Shillong (Meghalaya) – 793003
Fax: 0364 – 22520030

3 The Director (Projects),
Power Grid Corp. of India Ltd., "Saudamini",
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Fax 0124-2571760/2571932

4 The Managing Director,
Assam Electricity Grid Corporation Limited,
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Guwahati (Assam) – 781001.
Fax: 0361 – 2739513 & 0361 – 2739989

5 The Chairman-cum-Managing Director,
Meghalaya Energy Corporation Limited,
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6 The Chief Engineer (Power),
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Itanagar (Arunachal Pradesh) – 791111.
Fax: 0360 – 2217302

7 The Chief Engineer, Department of Power,
Nagaland, Kohima
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8 Engineer-in-Chief
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Tuikhuahtlang, Aizawl (Mizoram)
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9 The Chief Engineer (Power),
Electricity Department,
Keisampat, Imphal (Manipur) -
Fax: 0385 – 2220702

10 The Chairman-cum-Managing Director,
Tripura State Electricity Corporation Limited,
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Agartala, Tripura.
Fax: 0381 – 2319427

11 The Chairman and Managing Director,
North Eastern Electric Power Corporation Ltd.,
Brookland Compound, Lower New Colony,
Shillong (Meghalaya) – 793003.
Fax: 0364 – 2226417

12 The Executive Director (Engg.),
NTPC Ltd., Engg. Office Complex,
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Fax 0120-2410201/2410211

13 CEO, POSOCO,
B-9, Qutab Institutional Area, Katwaria Sarai,
New Delhi – 110016.
Fax: 011 – 26524525 & 011 – 26536901

Sub: Minutes of the 4th Standing Committee Meeting on Power System Planning of North Eastern Region.

Sir,

The Standing Committee Meeting on Power System Planning of North Eastern Region was held on 13th December, 2014 at Brahmputra Hotel, Guwahati, Assam. The minutes of the meeting are available on CEA website (www.cea.nic.in at the following link: Home page-Wing specific documents-Power Systems-Standing Committee on Power System Planning-North Eastern Region).

Yours faithfully,

(Ravinder Gupta)
Director, SP&PA

Minutes of the 4th Meeting of Standing Committee on Power System Planning of North Eastern Region held on 13th Dec., 2014

1.0 The 4th meeting of the Standing Committee on Power System Planning of North Eastern Region was held on Saturday the 13th December, 2014 at Guwahati, Assam. The list of participants is at **Annexure-I**.

1.1 The meeting was chaired by Chief Engineer (SP&PA), CEA. ED (NERTS), POWERGRID welcomed all the participants to the meeting. He highlighted the progress of the major ongoing transmission projects in the North Eastern Region. He informed that 400 kV Balipara-Bongaigaon (Quad) line has been commissioned in Nov., 2014. Mariani-Mokokchung 220 kV D/c, Bongaigaon-Byrnihat 400 kV D/c, Silchar-Imphal 400 kV D/c (to be initially charged at 132kV) & Silchar-P. K. Bari 400 kV D/c (to be initially charged at 132kV) lines is envisaged to be commissioned by Jan., 2015, Bishwanath Chariyali – Agra ± 800 kV HVDC line is expected in March/April, 2015 whereas Kameng – Balipara 400 kV D/c and Pasighat - Roing – Tezu - Namsai 132 kV lines are expected to be commissioned by June-2015.

1.2 Member Secretary, NERPC delivered a key note address, a copy of the same is enclosed at **Annexure-II**. Thereafter, welcoming the delegates to the meeting, Chief Engineer requested Director (SP&PA) to take up the agenda items.

2.0 **Confirmation of the minutes of 3rd meeting of the Standing Committee on Power System Planning in North Eastern Region (SCPSPNER) held on 21st Dec., 2011 at Katwaria Sarai, New Delhi.**

2.1 The minutes of the 3rd SCPSPNER held on 21st Dec., 2011 at Katwaria Sarai, New Delhi issued vide CEA letter No.81/4/2011-SP&PA/50-62 dated 11th Jan., 2011 were confirmed.

3.0 **Procurement of spare transformers and Reactors in NER**

3.1 Director (SP&PA), CEA stated that CEA vide its letter no. 81/4/2011-SP&PA/174-186 dated 6th Feb., 2012 has requested for approval of constituents for the following transmission works:

a) 1x100 MVA 220/132 kV ICT (3-phase) at Dimapur S/S
b) 1x16 MVA 132/33 kV ICT (3-phase) at Nirjuli S/S
c) 1x5 MVA 132/33 kV ICT (1-phase) at Ziro S/S
d) 1x63 MVAr 420 kV Bus Reactor at Balipara S/S

3.2 He said that these proposals has already been agreed in the special TCC meeting of NER on 5th Aug., 2011 at Agartala and endorsed by NERPC in its 12th meeting held on 14th and 15th Nov., 2011 at Amritsar

3.3 Members noted the above.

4.0 **Radial Interconnection between India (NER) and Bangladesh**

4.1 Director (SP&PA) stated that a 400 kV D/c cross border interconnection from Surajmaninagar (TSECL) sub-station in Tripura to Comilla (North) in Bangladesh has been agreed in the 8th Joint Working Group (JWG) and Joint Steering Committee (JSC) meetings on cooperation in power between India and Bangladesh held in New Delhi on 9th -10th Oct., 2014 for exporting about 100 MW power from India to Bangladesh. The interconnection would be initially operated at 132 kV. The power to Bangladesh would be supplied in the radial mode. The scope of works agreed is given below:

Indian side (To be implemented by POWERGRID)

a) Surajmaninagar (Tripura) – Bangladesh border 400 kV D/C line (initially operated at 132 kV) - 27 km (Twin Moose Conductor)

Bangladesh side (To be implemented by BPDB / PGCB of Bangladesh)

a) Indian Border- Comilla (North) 400 kV D/c line (initially operated at 132 kV)– 15 km (Twin Finch Conductor)
b) Comilla (North) - Comilla (South) 132kV D/c line – 16km

4.2 Director, CEA said the transmission charges of the above radial line would be borne by Bangladesh. Bangladesh would also pay the PoC charges at Surajmaninagar corresponding to their drawal of power. He requested members to take note of the scheme.

4.3 Additional GM (TSECL) stated that Tripura would be surplus in power with the commissioning of ongoing projects like Monarchak CCGT and its share from Palatana CCGT. He requested that Tripura should be allowed to sell power to Bangladesh from their surplus power.

4.4 AGM, POWERGRID informed that source to supply power to Bangladesh will be decided by Ministry of Power (MoP). It could be from unallocated power from Palatana or from surplus power of Tripura. He requested Tripura to address their concern to MoP in this regard.

4.5 After, further deliberations, Members agreed with the scheme.

5.0 **High Capacity multi-terminal HVDC bi-pole line interconnecting North-Eastern Region (NER), India, Northern Region (NR), India and Bangladesh.**

5.1 Director (SP&PA), CEA stated that Arunachal Pradesh is having hydro potential of about 50,000MW and for evacuation of power from these projects CEA has developed a master plan, which envisages 6-7 high capacity HVDC links to other part of the country and HVAC lines. These HVDC lines have to pass through a narrow width of about 15 km called chicken neck area and there is a severe right of way constraint.

5.2 He added that power from hydro projects in Kameng basin, Tawang basin and Bhutan is proposed to be pooled at Rangia / Rowta pooling station. From there, the power is proposed to be evacuated to Northern Region through HVDC line. The proposal of routing this HVDC line through Bangladesh was agreed in the 7th JWG and JSC meeting between India and Bangladesh in April, 2014. The proposal includes a 7000MW multi terminal HVDC bipole line system, with one rectifier terminal of 7000MW at Rangia /Rowta and 1000MW & 6000MW inverter terminals at Barapukuria (Bangladesh) and Muzaffarnagar (NR) respectively. The scope of works is given below:

a) Establishment of 2x500 MVA, 400/220 kV Pooling Station at Rangia / Rowta$ in Upper Assam
b) LILO of both ckts of Balipara-Bongaigaon 400 kV D/C (twin moose) line at Rangia / Rowta Pooling Station
c) LILO of both ckts of Balipara-Bongaigaon 400 kV D/C (quad moose) line at Rangia / Rowta Pooling Station
d) 7000MW@ (2 x 3500 MW), ± 800kV HVDC terminal at Rangia
e) 2 x 500 MW, ± 800kV HVDC terminal at Barapukuria (Bangladesh)
f) 2 x 3000 MW, ± 800kV HVDC terminal at Muzaffarnagar (New)
g) Rangia – Barapukuria–Muzaffarnagar# (New) 7000MW, ± 800kV HVDC bipole line
h) Muzaffarnagar (New) – Bagpat 400kV D/c line (HTLS)
i) Muzaffarnagar (New) – Meerut 400kV D/c line (HTLS)

Note:

1-$: Rangia / Rowta pooling station would also have infeed from Bhutan through Yangbari-Rangia / Rowta 400kV 2xD/c (quad) line; from hydro projects in

Tawang Basin of Ar. Pradesh through Tawang PP–Rangia / Rowta 400kV D/c (HTLS) line and from hydro projects in Kameng Basin of Ar. Pradesh through Dinchang PP – Rangia / Rowta 400kV D/c (Quad) line.

2-#: Muzaffarnagar 765/400/220kV substation along with Muzaffarnagar (New)–Muzaffarnagar (UP) 400kV D/c line (HTLS) and Muzaffarnagar (New) – Saharanpur 400kV D/c line (HTLS) are being planned as a part of high capacity 765kV D/c WR – NR corridor viz. Bilaspur Pool (WR) – Dhanvahi (WR) – Fatehpur (NR) – Lucknow (NR) – Aligarh(NR) – Muzaffarnagar(NR) – Mohali(NR) – Gurdaspur (NR).

3-@ : Regarding MW rating of HVDC terminals, it is to mention that rating of HVDC terminals may be decided so as to ensure injection of 2x3500MW at 400kV AC substation of Rangia/Rowta and drawal of 2x500 MW at 400kV AC substation of Barapukuria (Bangladesh).

5.3 He further stated that the transformation capacity at 400/220 kV level at Rangia / Rowta has been changed to 500 MVA instead of 315 MVA earlier because cost of 315 MVA & 500 MVA ICTs is almost same.

5.4 AEGCL requested that 2 nos. 400 kV bays and 4 no. 220 kV line bays may be provided at Rangia / Rowta. AGM, POWERGRID informed that 6 no. 220 kV line bays would be provided at Rangia / Rowta. He informed that rating of HVDC terminals are yet to be firmed up. The scheme would be taken up for implementation after adequate progress of the generation projects in Arunachal Pradesh and interconnection with AEGCL at 400 / 220 kV level would also be firmed up at that time.

5.5 After further discussion, members agreed with the proposal.

6.0 **Augmentation of Transformation Capacity at 400/220/33 kV Misa substation of POWEWRGRID.**

6.1 Director (SP&PA), CEA stated that existing transformation capacity at 400/220 kV level at Misa is 2x315 MVA out of which one is a bank of 4x105 MVA (incl. one spare) single phase transformers. The loading on both the ICTs is more than 300 MW and it has recorded maximum loading of 410 MW. It is proposed to augment the transformation capacity by addition of 2x500 MVA in place of the bank of single phase transformers.

6.2 AGM, POWERGRID informed that there is severe space constraint at Misa. Accordingly, space created after removal of 4x105 MVA single phase transformers would be utilized for installation of 2 no. 500 MVA transformers with GIS bays.

6.3 SE, NERPC informed that GIS bays has been agreed considering the space constraint at Misa in the last OCC meeting.

6.4 MD, MSPCL said that timing for replacement of transformer be chosen so as there is minimum disruption of power supply to the NER constituents.

6.5 After further deliberations, Members agreed for implementation of following scheme by POWERGRID

- Dismantling / Removal of 4x105 MVA, 400/220 kV ICT at Misa sub-station of POWERGRID
- Addition of 2x500 MVA, 400/200 kV ICT with GIS bays in the space vacated after removal of 4x105 MVA, 400/220 kV ICT at Misa sub-station of POWERGRID

6.6 4x105 MVA, 400/220 kV ICT thus released shall be kept as regional spare.

7.0 **Kameng Basin – Dinchang Pooling Station.**

7.1 Director (SP&PA), CEA stated that in the previous Standing Committee Meeting, it was agreed to grant connectivity and LTA to 4 (four) generation projects in Kameng basin and common transmission system was finalized for transfer of power from these projects, which is to be implemented through competitive bidding route. The generation projects and common transmission system is given below:

Generation Projects

a) KSK Dibbin Hydro Power Pvt Ltd
b) Patel Hydro Pvt Ltd (Dirang Enery Pvt. Ltd)
c) Adishankar Khuitam Power Pvt. Ltd
d) SEW Nafra Power Corporation Ltd

Transmission System

Sub-Station

- Establishment of 7x105 MVA, 400/220kV Pooling Station (GIS) at Dinchang
- Establishment of 2x500# MVA, 400/220kV Pooling Station at Rowta / Rangia in Assam

[# since cost of 315 MVA and 500 MVA are in the similar order, 2x500 MVA ICTs has been proposed instead of earlier approved 2x315 MVA ICTs].

Transmission Line

- Dinchang – Rangia / Rowta PP 400kV D/c line with quad conductor
- LILO of Balipara – Bongaigaon 400kV D/c line (twin moose) at Rangia / Rowta PS

7.2 He added that a meeting was held on 25-09-2014 at POWERGRID office, Gurgaon to review the progress of hydro generation projects in Arunachal Pradesh, wherein the progress of hydro projects namely KSK Dibbin and Adishankar Khuitam was not found satisfactory. Thus, the LTA granted to KSK Dibbin and Adishankar Khuitam was cancelled. In the meeting, it was decided that the common system (to be implemented through TBCB) already planned would be implemented without any modification for the following projects :

a. Patel Hydro Pvt Ltd (Dirang Enery Pvt. Ltd)
b. SEW Nafra Power Corporation Ltd

7.3 AGM, POWERGRID stated that the common transmission system would be taken up for the implementation only if the above hydro project make tangible progress in respect of implementation of the projects. The same has also been deliberated upon in the 33rd meeting of Empowered Committee on Transmission, wherein, the committee was of the view to seek the actual status of the hydroelectric projects through field visit.

7.4 After further deliberations, Members noted the changes in the above proposal.

8.0 **North Eastern Region Strengthening Scheme – II (NERSS-II).**

8.1 Director (SP&PA), CEA stated that the comprehensive scheme for strengthening of transmission and distribution system in NER and Sikkim when conceived consisted of intra state works and inter-state transmission works. Subsequently, from implementation point of view, the scheme was divided into three parts. One part i.e. the intra state transmission and distribution works for six states of NER (Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura) were taken up through 50% Government of India funding and 50 % World Bank assistance, second part i.e. strengthening of transmission and distribution system in Arunachal Pradesh & Sikkim through Government of India funding and the third part i.e. inter-state transmission works through tariff based competitive bidding (TBCB). The interstate works were approved by constituents of NER in joint standing committee meeting of ER and

NER held on 03.01.2014 at Guwahati. The scope of inter-state transmission works is given below:

NERSS-II: Part-A (to be implemented by POWERGRID)

a) 2nd 400/220 kV, 315 MVA ICT at Balipara substation of POWERGRID

b) Replacement of existing 132/33 kV, 2X10 MVA ICT by 132/33 kV, 2X50 MVA ICT at Nirjuli sub-station of POWERGRID

NERSS-II: Part-B (to be implemented through TBCB Route)

Sl.	Transmission System	Line Length (km.)
1	Biswanath Chariyalli (PG) – Itanagar (State) 132 kV D/C (Zebra conductor) • 2 no. of 132 kV line bays at Itanagar S/s	95
2	Silchar (PG) – Misa (PG) 400kV D/C (Quad) line	200
3	Ranganadi HEP – Nirjuli (PG) 132 kV D/C line • 2 no. of 132 kV line bays (GIS) at Ranganadi Switchyard	40
4	Imphal (PG) – New Kohima (State) 400 kV D/C line (to be initially operated at 132 kV) • 2 no. of 132 kV line bays at its New Kohima S/s	150
5*	Surajmaninagar-P. K. Bari 400 kV D/C (initially op. at 132 kV) • 2 no. of 132 kV line bays each at Surajmaninagar and P. K. Bari S/s	130

*** This line was recommended in the 14th TCC meeting held on 4th Sep, 2013 in Agartala and NERPC members approved the decision of the TCC.**

Note:

CTU to provide:

- 2 no. of 132kV line bays each at Biswanath Chariyali (PG), Nirjuli (PG) and Imphal (PG) sub-stations
- 2 no. of 400kV GIS line bays each at Silchar (PG) and Misa (PG)
- 80 MVAR bus reactor at Misa (PG) along with GIS bay
- 1x80 MVAR switchable line reactor with GIS bays at Misa end of each circuit of Silchar– Misa 400kV D/C line

States to provide:

- Department of Power, Ar. Pradesh to provide space for 2 no. of 132 kV line bays at their Itanagar S/s

- NEEPCO to provide space for 2 no. of 132 kV line bays (GIS) at their Ranganadi Switchyard
- Department of Power, Nagaland to provide space for 2 no. of 132 kV line bays at their New Kohima S/s
- TSECL to provide space for 2 no. of 132 kV line bays at their Surajmaninagar S/s
- TSECL to provide space for 2 no. of 132 kV line bays at their P. K. Bari S/s

8.2 Additional GM (TSECL) stated there would be bottle neck of power in the event of Palatana-Silchar 400 kV D/C line because of tower collapse as the Palatana-Surajmaninagar-P. K. Bari-Silchar 400 kV D/C corridor which is operated at 132 kV would not be able to evacuate whole power from Palatana. Also one 100 MVA, 400/132 kV transformer at Palatana is not adequate for evacuation of whole power from Palatana. He added that widening of NH 44 is under progress and this increases risk of landslides and probability of collapse of tower also increases.

8.3 AGM, POWERGRID stated that 400 kV operation of Palatana-Surajmaninagar-P. K. Bari-Silchar 400 kV D/C line may cause over voltage problem in the system due to low power flow during normal operating conditions and suggested that initially Palatana-Surajmaninagar section only may be operated at 400 kV.

8.4 Representative from POSOCO (NERLDC) stated that 400 kV operation of this link would improve the reliability of power evacuation from Palatana and adequate reactive provision may be made to control over voltage.

8.5 After further deliberations, Members noted the scheme. Further, in view of anticipated injections from Monarchak at Surajmaninagar 132 kV bus, the 400 kV operation of Palatana-Surajmaninagar-P. K. Bari-Silchar 400 kV D/C line was agreed in principle. It was decided that detailed scheme would be presented in the next meeting. TSECL would also confirm the implementation of entire scope at Surajmaninagar 400 kV sub-station by them and availability of adequate space at Surajmaninagar and P. K. Bari for 400 kV sub-stations. OTPC / TSECL needs to confirm space availability at Palatana switchyard for 2 nos. 400 kV line bays to terminate Palatana – Surajmaninagar line at 400 kV level.

Additional Agenda Items:

9.0 **Up gradation of Silchar-Imphal 400 kV D/C line to its rated voltage.**

9.1 MD, Manipur State Power Company Limited (MSPCL) informed that Silchar-Imphal 400 kV D/C line (initially charged at 132 kV) is expected to be completed by Jan.

2015. Manipur is experiencing tremendous load growth and anticipated load of Manipur by 2019-20 as per 18th EPS is 428 MW. The existing and under construction 132 kV links would not be sufficient to meet the load in a reliable manner. Further, a lot of development is also anticipated because of extension of railway network to Manipur. He added that in order to meet the Manipur load in a reliable manner, the state has also taken up construction of 400 kV sub-station at Thoubal which would be connected with Imphal through 400kV D/c line. Therefore, it is necessary that Silchar-Imphal 400 kV D/C line (initially charged at 132 kV) should be charged to rated voltage level of 400 kV.

9.2 Director (SP&PA), CEA stated that charging of Silchar-Imphal 400 kV D/C line at its rated voltage involves creation of 400 kV sub-station at Imphal and enquired about the availability of land at Imphal.

9.3 MD, MSPCL informed that adequate land, which is contagious to Imphal 132 kV sub-station of POWERGRID has been acquired at Imphal and handed over to POWERGRID. He requested POWERGRID to implement the 400 kV sub-station at Imphal.

9.4 After further discussion, following scope of works was agreed:

a) Up gradation of 2x50 MVA 132/33 kV Imphal (PG) S/S to 400 kV by addition of 7x105 MVA 400/132 kV single phase transformers (one spare)
b) 2 nos. 400 kV GIS bays at Silchar (PG)
c) 2 nos. 400kV bays at Imphal (PG)
d) 80 MVAR bus reactor at Imphal (PG)
e) 125 MVAR bus reactor with GIS bays at Silchar sub-station of POWERGRID. In case, of space constraints, the same may be installed in parallel with existing bus reactors.
f) Adequate space for future 400 kV and 132 kV bays at Imphal (PG).

9.5 As the scope of works involves up gradation of existing / under construction sub-stations of POWERGRID, it was decided that the above scope of work may be implemented by POWERGRID.

10.0 **Extension of Imphal-New Kohima 400 kV D/C line to Misa.**

10.1 MD, Manipur State Power Company Limited (MSPCL) stated that in the event of outage of Silchar-Imphal 400 kV D/C Manipur line due to tower collapse, another Inter State Transmission System (ISTS) source is needed for reliable supply to Manipur. Towards this, the proposed New Kohima sub-station should be connected to Misa 400 kV sub-station of POWERGRID through 400 kV D/C line. This will

complete the 400 kV ring consisting of Misa-Balipara-Bongaigaon-Azara-Byrnihat-Silchar-Imphal-New Kohima-Misa.

10.2 Director (SP&PA), CEA stated that 400 kV line from Imphal to New Kohima (initially operated at 132 kV) has been proposed to be implemented through TBCB as a part of NERSS-II. Further, the New Kohima (Nagaland) sub-station would also be connected to ISTS network through following:

a) Misa and Dimapur 220 kV sub-stations of POWERGRID through LILO of one circuit of Misa-Dimapur 220 kV D/C line at New Kohima (LILO line and New Kohima 220/132 kV S/S being implemented by Dept. of Power, Nagaland under NLCPR)

b) Mariani (PG) 220 kV S/S through Mariani (PG)-Mokokchung (PG) 220 kV D/C line (under implementation by POWERGRID), Mokokchung (PG)- Mokokchung (Nagaland) 132 kV D/C line (under implementation by POWERGRID) and Mokokchung (Nagaland)-New Kohima (Nagaland) 220 kV S/C on D/C line (to be implemented under comprehensive scheme)

10.3 MD, MSPCL stated that in order to reduce the dependency of Manipur on New Kohima 132 kV sub-station, which is an intra-state sub-station, this 400 kV ISTS link from New Kohima to Misa has been proposed and construction of this link would benefit all states of NER.

10.4 After further discussion, the construction of 400 kV D/C line from Misa to New Kohima was agreed in principle. However, this link would be taken up for construction along with construction of 400 kV sub-station at New Kohima and 400 kV operation of Imphal-New Kohima 400 kV D/C line.

11.0 **Loktak Downstream HEP (2x33=66MW)**

11.1 MD, MSPCL informed that Loktak Downstream HEP (66MW) is being implemented by LHDCL, a Joint Venture of NHPC (74%) & Govt. of Manipur (26%) and entire power would be purchased by the state of Manipur. The project is expected to be commissioned in 13th plan period. The following associated transmission system is being planned and shall be implemented by Manipur:

a) Loktak DS - Rengpang 132 kV D/c

b) Loktak DS - Ningthoukhong 132 kV D/c

11.2 Members noted the same.

12.0 **Expansion of Agartala GBPP (4x21MW) of NEEPCO**

12.1 Representative from NERLDC informed that following transmission system of POWERGRID associated with Agartala GBPP (4x21MW) of NEEPCO is existing:

a) Agartala GBPP – Agartala S/s (State) 132 kV D/c - 8 km.

b) Agartala GBPP – Kumarghat S/s (POWERGRID) 132 kV S/c - 110 km.

12.2 He added that the generation project is being expanded by addition of 52 MW combined cycle project. Major portion of power flows towards Agartala through Agartala GBPP – Agartala S/s (State) 132 kV D/c line and outage of one circuit of this line results in high loading (80-90 MW) on the remaining circuit. He suggested for strengthening of Agartala GBPP evacuation system. After discussion, it was decided that 8 km long Agartala GBPP – Agartala S/s (State) 132 kV D/c line may be re-strung by POWERGRID with high capacity HTLS conductor.

13.0 **Additional Reactive Compensation at Balipara & Bongaigaon**

13.1 POWERGRID informed that recently, after commissioning of Balipara - Bongaigaon 400 kV D/c (2^{nd}) quad conductor line, voltage has risen significantly at Balipara and Bongaigaon sub-stations of POWERGRID due to low power flow in this corridor. He suggested additional reactive compensation to be provided at these sub-stations.

13.2 Members agreed for addition 125 MVAR bus reactors by POWERGRID at Balipara and Bongaigaon sub-stations. In case, of space constraints, the same may be installed with GIS bays or in parallel with existing bus reactors.

14.0 **By passing of Bongaigaon sub-station**

14.1 SE, NERPC informed that at present NER grid is linked to National grid through Bongaigaon 400 kV sub-station. Any, contingency of this sub-station would plunge the NER in to darkness. He suggested that some of lines bussed at Bongaigaon may be bypassed.

14.2 AGM, POWERGRID informed that at present no 400 kV sub-station is there in the vicinity of Bongaigaon and by passing any of the line would increase the length of the line significantly. He added that HVDC line from Biswanath Chariyali to Agra is under construction and the HVDC is having provision of reverse power flow. Further, Rangia / Rowta 400 kV sub-station is in planning stage, where power from Bhutan would also be pooled. If required, the proposal may be discussed after implementation of new sub-station at Rangia / Rowta.

15.0 The meeting ended with thanks to the chair.

Annexure-I

List of participants of 4th Standing Committee Meeting on Power System Planning in North Eastern Region held at Guwahati on 13.12.2014

Sl.	Name & Designation	Contact No.	E-mail ID
CEA			
1.	Shri K.K. Arya, Chief Engineer	9810455760	kkarya_2001@rediffmail.com
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3.	Shri Santosh Kumar, Dy. Director	8860754505	ksantoshcea@gmail.com
NERPC:			
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2.	Shri B. Lyngkhoi, Director/SE	9436163419	b_lyngkhoi@yahoo.com
POWERGRID:			
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Annexure-II

Keynote address delivered by Member Secretary, NERPC

My esteemed colleagues, Shri G.K. Das, MD, AEGCL, Shri N. Sarat Singh, MD, MSPCL, Shri K.K. Arya, Chief Engineer (PS), CEA, Shri R.K. Singh, ED, NERTS, Shri G. Patowary, ED, NEEPCO, Shri R. Gupta, Director, CEA, distinguished delegates of States and Central Utilities, Generating Companies, Trading Organizations, Guests, Ladies and Gentlemen.

Very good morning to you all.

I feel privileged to have this opportunity to present on the occasion of this 4th Standing Committee meeting on Power System Planning of North Eastern Region. I would like to inform that I have joined as Member Secretary, NERPC on 10.12.2014 and I would like to see that this region will grow at par with other region of the country. AS we all know that BER has a huge hydro potential and many ongoing power projects are on the pipeline and within few years the region will not only having surplus of power but also export to other region of the country. Govt. of India has taken initiative to export power to neighbouring countries viz., Bangladesh, Nepal, Myanmar etc. Hence, its utmost important to tap these potential judiciously and to the optimum but at the same time we should see that environmentally have to be taken care at the same time.

I am given to understand that Lower Subansiri Hydro Electric Project and Kameng Hydro Electric Project undertaken by NHPC and NEEPCO, respectively, are much behind schedule. The delay in commissioning of these Projects will not only result in cost overrun but also delay in Socio-Economic benefit from the Project. These CPSUs, who are considered leaders in the country in terms of establishing large Hydro Electric Project. Should take immediate steps in expediting these projects and act as role model to other organizations of the region to follow them.

Going by the National Plan and Programme for hydro capacity addition to improve upon the present thermal-hydro mix ration in the country, Arunachal Pradesh, had allotted for development of Mega Hydro Projects to CPSUs and Private Developers, a total capacity of 38,000 MW (approx.) which when fructify would address power deficit of all the NER States. Now, for evacuation of such magnitude of power from these projects to NER States and beyond is the responsibility of Central Transmission Utilities (CTUs). I, therefore, would like to request PGCIL to develop a comprehensive plan for evacuation of power involving State Transmission Utility and any support required from the State shall be extended.

I would like to request CEA to plan the evacuation of power thoroughly so that all the NER states should be connected with adequate transmission lines so that power which is available in the region should go first to the region and surplus power can be exported to other region.

I am sure the meeting will have meaningful deliberations and the decision of the committee will help in speedy development of the power system in the region. I wish a grand success of the meeting.

Finally, I would also like to request to CEA counterpart that any important meeting in NER may kindly be intimated at least 2 (two) weeks in advance considering the communication difficulties in the region so that constituents can have sufficient time to make necessary arrangement to attend the meeting

THANKING YOU