



Government of India  
Ministry of Power  
Central Electricity Authority  
System Planning & Project Appraisal Division  
Sewa Bhawan, R. K. Puram, New Delhi-110066  
Website: www.cea.nic.in



No. 66/5/SP&PA-2013/ 1056-68

Dated: 05.05.2015

To	
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Sub: 17<sup>th</sup> Meeting of Standing Committee on Power System Planning in Eastern Region

Sir,

The 17<sup>th</sup> Meeting of Standing Committee on Power System Planning in Eastern Region is scheduled to be held on 21.05.2015 at 11.00 hrs at NRPC, Katwaria Sarai, and New Delhi. The agenda is available on the CEA website www.cea.nic.in. (path to access-Wings of CEA/Power Systems/Standing Committee on Power System Planning/ Eastern Region. You are requested to kindly attend the meeting.

Yours faithful

(K.K. Arora)  
Chief Engineer (SP&P)

## **Agenda for 17<sup>th</sup> Standing Committee Meeting on Power System Planning of Eastern Region**

### **1. Renumbering of the Standing Committee Meeting on Power System Planning (SCMPSP) of Eastern Region**

1.1 Till now sixteen meetings of the Standing Committee Meeting on Power System Planning (SCMPSP) of Eastern Region (ER) and one joint SCMPSP of ER and NER has been held. These meetings are not numbered in a sequential manner. Now, it is proposed to number these meeting sequentially in chronological order, as given below:

S. No.	SCM held on	Location	Meeting Number
1	8 <sup>th</sup> Feb., 2000	-	1 <sup>st</sup> (First)
2	26 <sup>th</sup> Sep., 2000	CEA, New Delhi	2 <sup>nd</sup> (Second)
3	16 <sup>th</sup> Dec., 2002	Bhubaneshwar, Odisha	3 <sup>rd</sup> (Third)
4	25 <sup>th</sup> Aug., 2003	Gangtok, Sikkim	4 <sup>th</sup> (Fourth)
5	24 <sup>th</sup> Dec., 2004	Puri, Odisha	5 <sup>th</sup> (Fifth)
6	22 <sup>nd</sup> June, 2006	Mirik, Darjeeling	6 <sup>th</sup> (Sixth)
7	5 <sup>th</sup> May, 2007	Puri, Odisha	7 <sup>th</sup> (Seventh)
8	5 <sup>th</sup> Nov., 2007	Ranchi, Jharkhand	8 <sup>th</sup> (Eighth)
9	8 <sup>th</sup> Nov., 2008	Bhubaneshwar, Odisha	9 <sup>th</sup> (Ninth)
10	14 <sup>th</sup> Sep., 2009	Bhubaneshwar, Odisha	10 <sup>th</sup> (Tenth)
11	20 <sup>th</sup> Sep., 2010	NRPC, New Delhi	11 <sup>th</sup> (Eleventh)
12	28 <sup>th</sup> Dec., 2010	POWERGRID, Gurgaon	12 <sup>th</sup> (Twelfth)
13	8 <sup>th</sup> Feb., 2012	NRPC, New Delhi	13 <sup>th</sup> (Thirteenth)
14	5 <sup>th</sup> Jan., 2013	POWERGRID, Gurgaon	14 <sup>th</sup> (Fourteenth)
15	27 <sup>th</sup> Aug., 2013	NRPC, New Delhi	15 <sup>th</sup> (Fifteenth)
16	2 <sup>nd</sup> May, 2014	NRPC, New Delhi	16 <sup>th</sup> (Sixteenth)

1.2 In addition to above, first joint Standing Committee Meeting on Power System Planning of Eastern Region and North Eastern Region was also held on 3<sup>rd</sup> January, 2014 at Guwahati, Assam.

1.3 Members may please note.

### **2. Confirmation of the minutes of 16<sup>th</sup> Standing Committee Meeting on Power System planning of Eastern Region.**

2.1 The minutes of the 16<sup>th</sup> meeting of the Standing Committee on Power System Planning held on 2<sup>nd</sup> May, 2014 at NRPC, New Delhi were circulated vide CEA letter no. 66/5/2013-SP&PA/1223-1235 dated 11<sup>th</sup> July, 2014. No comment from any constituent has been received. The minutes may be confirmed.

### **3. System strengthening in Eastern Region for transfer of additional 500 MW power to Bangladesh**

3.1 Presently, an asynchronous link of 500 MW HVDC Back-to-Back terminal at Bheramara (Bangladesh) connects the electrical grids of India and Bangladesh through Behrampur (India)-Bheramara (Bangladesh) 400 kV D/C line. Bangladesh has desired for transfer of additional 500MW power from India. The proposal was discussed in the 7<sup>th</sup> Joint Working Group (JWG) and 7<sup>th</sup> Joint Steering Committee (JSC) meetings on Cooperation of Power between India and Bangladesh on 2<sup>nd</sup>-3<sup>rd</sup> April 2014 at Dhaka, Bangladesh, wherein, it was decided that both the sides would jointly assess the requirement of system strengthening in their territories for this additional power transfer from India to Bangladesh.

3.2 To identify the transmission system strengthening required on the Indian side for transfer of additional 500MW power to Bangladesh, joint system study were conducted by CEA and POWERGRID. The scheme identified was discussed in a meeting held at New Delhi on 13-06-2014 where representatives from CEA, POWERGRID, ERPC, POSOCO, WBSETCL and NTPC attended the meeting. The system strengthening required in Bangladesh was evolved by BPDB / PGCB of Bangladesh. A combined study report of the subject proposal was presented in 8<sup>th</sup> JSC meeting held on 10<sup>th</sup> Oct. 2014 at New Delhi, wherein, following system strengthening requirements were identified:

➤ **System Strengthening on Indian side:**

- (i) 400 kV Farakka - Behrampur D/C (HTLS) line (about 70 km.)
- (ii) Removal of the existing LILO of 400 kV Farakka - Jeerat S/c line at Behrampur.
- (iii) LILO of the above Farakka-Jeerat 400 kV S/c line at Sagardighi.
- (iv) LILO of Sagardighi-Subhasgram 400 kV S/c line at Jeerat

➤ **System Strengthening on Bangladesh side:**

- (i) Bheramara - Ishurdi 230 kV D/c line – 12 km.
- (ii) Additional 500 MW HVDC back-to-back converter unit (2<sup>nd</sup> module) at Bheramara (Bangladesh).

3.3 During outage of one circuit of Behrampur-Bheramara 400 kV D/C line, Bangladesh would restrict / reduce the loading on the operating (other) circuit to the permissible extent with the help of runback control / ramping down facility on the HVDC system. For reliable and secure supply of 1000 MW against all possible outages (single circuit as well as tower outage), the

construction of 2<sup>nd</sup> 400kV Beharampur-Bheramara D/C line could be considered at a later date.

3.4 In the 8<sup>th</sup> JSC, it was decided that POWERGRID of India and PGCB of Bangladesh would take up the work in their respective territory, with target date of completion as June, 2017.

3.5 **Members may please agree.**

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

4.1 The master plan for evacuation of Power from Hydro projects in Arunachal Pradesh envisages construction of high capacity HVDC / HVAC lines from NER to other parts of the country. The power from hydro projects in Kameng and Twang basin is proposed to be pooled at Rangia / Rowta pooling station from where, it would be evacuated to Northern Region. In view of Right of Way (RoW) constraints in chicken neck area, the possibility of routing the HVDC line through Bangladesh was explored, wherein it was proposed to build multi terminal HVDC with one inverter station in Bangladesh. A concept paper on same was presented by the Indian side in 8<sup>th</sup> JSC meeting on Indo-Bangladesh Co-operation in power sector held on 10<sup>th</sup> Oct, 2014 at New Delhi. Further, it was decided that a study report on the proposed system would be submitted by Nov. 2014 by JWG.

4.2 In this regard following transmission system is proposed:

- Establishment of 2x500 MVA, 400/220 kV Pooling Station at Rangia / Rowta<sup>§</sup> in Upper Assam
- LILO of both ckts of Balipara-Bongaigaon 400 kV D/C (twin moose) line at Rangia / Rowta Pooling Station
- LILO of both ckts of Balipara-Bongaigaon 400 kV D/C (quad moose) line at Rangia / Rowta Pooling Station
- 7000MW<sup>@</sup> (2 x 3500 MW),  $\pm$  800kV HVDC terminal at Rangia
- 2 x 500 MW,  $\pm$  800kV HVDC terminal at Barapukuria
- 2 x 3000 MW,  $\pm$  800kV HVDC terminal at Muzaffarnagar (New)
- Rangia – Barapukuria–Muzaffarnagar# (New) 7000MW,  $\pm$  800kV HVDC bipole line
- Muzaffarnagar (New) – Bagpat 400kV D/c line (HTLS)
- 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 2x500 MW at 400kV AC substation of Barapukuria (Bangladesh).*

4.3 Approximate line length from Rangia (Assam, NER) to Barapukuria (Bangladesh) would be about 400km and that from Barapukuria (Bangladesh) to Muzaffarnagar (Uttar Pradesh, NR) would be about 1500km.

4.4 **Members may discuss and concur.**

5. **Deletion of 3<sup>rd</sup> 500 MVA transformer at Kishanganj 400/220kV substation and modification of transformation capacity at Kishanganj from 2x315 MVA to 2x500 MVA**

5.1 A 400/220 kV sub-station at Kishanganj in Bihar is under construction by POWERGRID as a part of Transmission System associated with Phase-I IPPs in Sikkim. The scheme included creation of 2x315MVA, 400/220 kV ICTs at Kishanganj.

5.2 Requirement of additional (3<sup>rd</sup>) transformer of 500MVA at Kishanganj was discussed and approved in the 16<sup>th</sup> meeting of Standing Committee on Power System Planning for Eastern Region held on 02-05-2014 at New Delhi. However, ERPC in its 28<sup>th</sup> meeting on 28<sup>th</sup>-29<sup>th</sup> Sep., 2014 held at Goa has suggested that the 400/220 kV transformation capacity at Kishanganj be changed to 2x500MVA instead of 2x315 MVA + 1x500 MVA.

5.3 Accordingly, following is proposed:

- i) Installation of 2x500 MVA, 400/220 kV ICTs at Kishanganj instead of earlier approved 2x315MVA, 400/220 kV ICTs under Transmission System for Phase-I IPPs in Sikkim.
- ii) Deletion of 3<sup>rd</sup> 500MVA 400/220 kV ICT at Kishanganj approved in the 16<sup>th</sup> meeting of Standing Committee on Power System Planning for Eastern Region held on 02-05-2014 at New Delhi.

5.4 **Members may concur.**

**6. Installation of STATCOMs in Eastern Region**

6.1 Proposal for installation of STATCOM in combination with mechanically switched Reactors (MSR) and Capacitors (MSC) and co-ordinated control mechanism of MSCs and MSRs at Ranchi, Rourkela, Jeypore and Kishanganj substations in Eastern Region was discussed and agreed in the 15<sup>th</sup> meeting of Standing Committee on Power System Planning in Eastern Region held on 27<sup>th</sup> August, 2013. The details are as given below:

Sl. No.	Location /Sub-Station of POWERGRID in ER	STATCOM - Dynamic Shunt Controller (MVar)	Mechanically Switched Compensation (MVar)	
			Reactor (MSR)	Capacitor (MSC)
1.	Rourkela	± 300	2x125	-
2.	Kishanganj	± 200	2x125	-
3.	Ranchi(New)	± 300	2x125	-
4.	Jeypore	± 200	2x125	2x125

6.2 The proposal was subsequently taken up for discussion in the 25<sup>th</sup> TCC and ERPC meetings held on 20<sup>th</sup>-21<sup>st</sup> September, 2013 wherein ERPC, in principle, agreed for installation of STATCOM. However, the agreement was subject to funding through PSDF to the maximum extent possible.

6.3 The matter was discussed again in the 28<sup>th</sup> ERPC/TCC meeting held on 12<sup>th</sup>-13<sup>th</sup> September, 2014 at Goa, wherein, it was decided that POWERGRID may go ahead with implementation of the STATCOM project in Eastern Region with debt - equity ratio of 70:30 funding. The debt part should be refunded through PSDF and Equity Component (30%) to be funded by POWERGRID through regulated tariff mechanism. CTU should initiate the process of availing fund from PSDF.

6.4 **Members may discuss and concur.**

**7. Transmission System associated with Odisha UMPP (4000 MW) and 765 kV System Strengthening Scheme in Eastern Region**

7.1 The transmission systems associated with Odisha UMPP was discussed in the 16<sup>th</sup> meeting of Standing Committee on Power System Planning for Eastern Region held on 02-05-2014 at New Delhi. In the meeting, members agreed with the concept of 765 kV ring proposed and suggested that the location of 765 kV sub-stations should be decided in consultation with the STUs for better utilisation of the 765 kV system. Based on the suggestions of POSOCO, OPTCL, WBSETCL and other members, the system was

modified and was incorporated in the minutes of the 16<sup>th</sup> SCM. Modified proposal was agreed in the 28<sup>th</sup> TCC/ERPC meeting held on 12<sup>th</sup> – 13<sup>th</sup> Sept 2014 at Goa.

7.2 Minutes of Standing Committee on Power System Planning for Eastern Region held on 2<sup>nd</sup> May 2014 were released subsequently after reviewing the proposal based on suggestions of members and carrying out revised studies. The revised system as recorded in the minutes of Standing Committee on Power System Planning for Eastern Region held on 2<sup>nd</sup> May 2014 is as given below:

**(A) Evacuation system for Odisha UMPP project**

**(a) Scope of evacuation arrangement at UMPP switchyard**

1. Generation to be stepped up at 765kV
2. Provision for Split Bus Arrangement on 765kV UMPP Bus
3. 4 no. 765 kV line bays
4. 6 no. 400 kV line bays (suitable for quad conductor lines)
5. 2X1500 MVA, 765/400kV ICT with OLTC +/- 5.5 % (as per CEA Standard for 765kV Substation Equipment) (7 nos 1-phase 500 MVA transformer connected with switching arrangement for 1 no. standby transformer) along with associated bays at Generation Switchyard
6. 2x 240 MVAR Bus Reactor at 765 kV bus of Generation Switchyard
7. 2x125 MVAR Bus Reactor at 400 kV bus of Generation Switchyard
8. 2x240MVAR switchable line reactor along with 750ohm NGR each corresponding to 2 no 765kV line bays.
9. 4x80MVAR switchable line reactor along with 450ohm NGR each corresponding to 4 no 400kV line bays.
10. 1x80 MVAR 1-phase 765kV spare reactor
11. The 765kV and 400kV switchyard may be designed for 50kA and 63kA fault levels respectively.

**(b) For Immediate Evacuation of power from UMPP Project**

1. Odisha UMPP – Sundergarh (Jharsuguda) 765kV 2xD/c line
2. Odisha UMPP – Lapanga 400kV D/c line (quad/HTLS)
3. Odisha UMPP – Kesinga 400kV D/c line (quad/HTLS)

**(c) System Strengthening Scheme associated with Odisha UMPP**

1.  $\pm$ 800kV, 6000MW HVDC bipole line from Angul to suitable location in NR/WR with 3000MW terminal at either end.

2. Suitable AC strengthening system at the remote end of the HVDC bipole line in NR/WR.

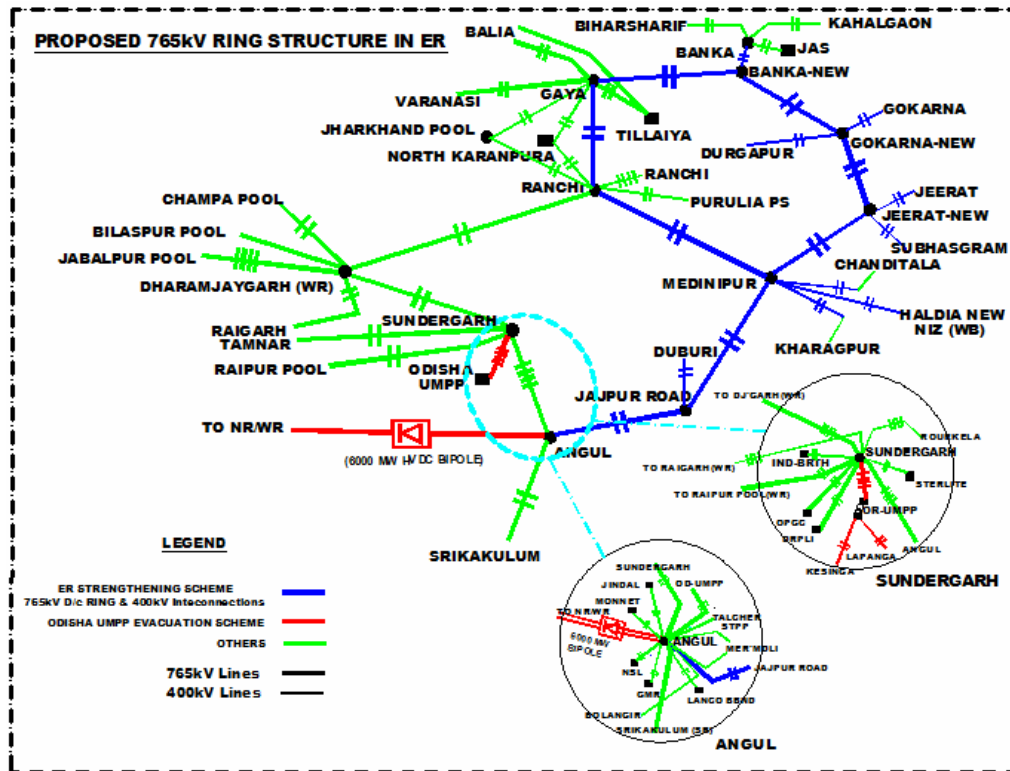
**(B) 765kV system strengthening in Eastern Region**

1. Establishment of 765/400 kV new substations at Banka (New), Gokarna(New), Medinipur, Jeerat (New) and Jajpur Road.
2. Angul – Jajpur Road 765kV D/c line
3. Jajpur Road – Medinipur 765kV D/c line
4. Ranchi (New) – Medinipur 765kV D/c line
5. Medinipur – Jeerat (New) 765kV D/c line
6. Jeerat (New) – Gokarna (New) 765kV D/c line
7. Gokarna(New) – Banka(New) 765kV D/c line
8. Gaya – Banka (New) 765kV D/c line
9. Gaya – Ranchi (New) 765kV D/c line
10. Jajpur Road – Duburi 400kV D/c line (quad/HTLS)
11. Medinipur – Haldia New (NIZ) (WBSETCL) 400kV D/c line (quad/HTLS)
12. LILO of Chandithala – Kharagpur 400kV D/c line at Medinipur
13. Jeerat (New) – Subhasgram 400kV D/c line(quad/HTLS)
14. Jeerat (New) – Jeerat 400kV D/c line (quad/HTLS)
15. LILO of Jeerat (WB) – Subhasgram 400kV S/c section at Rajarhat\*\*
16. Gokarna (New) – Gokarna 400kV D/c line (quad/HTLS)
17. Gokarna (New) – Durgapur (PG) 400kV D/c line (quad/HTLS)
18. Banka (New) – Banka 400kV D/c line (quad/HTLS)

**\*\*Note:** *LILO of Sagardighi - Subhasgram 400kV S/c at Rajarhat and that of Sagardighi - Rajarhat 400kV S/c (formed after prior LILO) at Jeerat, which were also a part of this scheme, have been modified as they have been partly included in the scheme for transfer of additional 500MW (total-1000MW) power to Bangladesh, which is under advanced stage of finalization. The revised scope would now be : LILO of Jeerat – Subhasgram 400kV S/c section at Rajarhat (so as to form Farakka – Sagardighi – Jeerat (WB) – Rajarhat – Subhasgram 400kV D/c section)*

**The corresponding schematic diagram is given below:**





7.3 Further, Ministry of Power vide its letter dated 29-12-2014 has asked the bid process co-ordinator for Odisha UMMP i.e. PFC for termination of the bidding process for Odisha UMMP. In view of this, transmission system associated with Odisha UMMP would be taken up for discussion and concurrence of members when the generation project would come. Members may note.

**8. Downstream 220kV system development of STUs (Bihar, Jharkhand & Odisha) from the various approved and ongoing sub-stations of POWERGRID**

8.1 Under the ERSS-III scheme, following new 400 kV sub-stations have been proposed / are being commissioned by POWERGRID :

- 2x200 MVA, 400/132 kV sub-stations at Lakhisarai and Banka in Bihar
- 2x315 MVA, 400/220 kV at Chaibasa and Daltonganj in Jharkhand
- 2x315 MVA, 400/220 kV at Bolangir, Keonjhar and Pandiabil in Odisha

The sub-stations at Lakhisarai, Banka, Bolangir and Keonjhar have been commissioned by POWERGRID, but the downlinking 220 and 132 kV lines / systems have not yet been commissioned by the concerned STUs. Further, Chaibasa substation is expected to be commissioned shortly.

8.2 Bihar, Jharkhand and Odisha need to expedite their downlinking system for drawl of power from these substations so that proper anchoring of the

associated line be achieved to enable proper utilization of transmission assets.

## 9. Transformer augmentation requirements in Eastern Region

9.1 A review of peak loading on various ICTs in Eastern Region during 2013–14 was done as per data furnished by ERLDC and Substations where Transformers were highly loaded and n-1 criterion was being violated were identified. The same has been tabulated below:

Sl. No.	Substation	Peak Loading (2013-14) (MW)	Aggregate Existing/planned Tr. Capacity (MVA)	N-1 Capacity (MVA)
1	Durgapur	409	630	315
2	Malda	360	630	315
3	New Siliguri	391	630	315
4	Jeypore	478	630	315
5	Rourkela	424	630	315
6	Gaya	533	815 (500+315)	315/500

9.2 After considering space availability, age of transformers, etc at the above identified locations, it is proposed to augment transformations capacities as follows:

1. Installation of 3<sup>rd</sup> 400/220kV, 1x315MVA ICT at Durgapur Substation<sup>@</sup>
2. Replacement of 400/220kV, 2x315MVA ICTs at Malda Substation with 400/220kV, 2x500MVA ICTs
3. Installation of 3<sup>rd</sup> 400/220 kV, 1x315MVA ICT at New Siliguri Substation<sup>@</sup>
4. Replacement of 400/220 kV, 2x315MVA ICTs at Jeypore Substation with 400/220 kV, 2x500MVA ICTs
5. Replacement of 400/220 kV, 2x315MVA ICTs at Rourkela Substation with 400/220 kV, 2x500MVA ICTs
6. Installation of 400/220 kV, 1x315MVAICT at Gaya Substation<sup>@</sup>

*@ The 400kV, 1x315MVA Transformers being proposed at the above locations shall be supplied from regional spare ICTs obtained after transformer replacements*

9.3 **Members may discuss and concur.**

## 10. Conversion of fixed Line Reactors to switchable Line Reactors

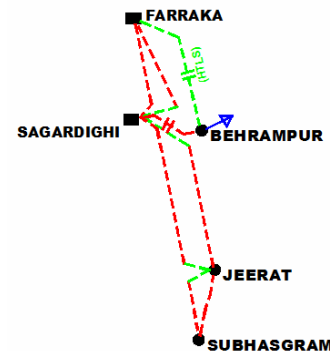
10.1 Fixed line reactors on small 400 kV lines may lead to cases of over-compensation in lines. Several short 400 kV lines have been identified in

Eastern Region which has a high degree of compensation (around 100%) and the same have been tabulated below:

Sl. No	Name of the Line	Length in ckt km	Capacity (MVAR)		Switchable (S) / Fixed (F)		% Compensation
			End I	End II	End I	End II	
1	Lakhisarai - Biharshariff-I	89	--	50	--	F	85.00
2	Barh - Patna-I	93.113	--	50	--	F	67.00
3	Barh - Patna-II	93.113	--	50	--	F	67.00
4	New Siliguri - TALA-I	98.087	63	--	F	--	65.00
5	New Siliguri - TALA-II	98.087	63	--	F	--	68.00
6	Keonjhar - Rengali	100.4	--	63	--	F	95.00

10.2 It is proposed to convert the fixed line reactors into switchable line reactors so that they may be utilised as Bus Reactors, as and when needed to improve Voltage profile.

10.3 Further, the 1x63 MVar Line Reactor at Subhashgram end of Sagardighi–Subhashgram S/c line may also to be made switchable. As per the system strengthening finalized for the transfer of additional 500MW (Total 1000MW) power to Bangladesh (schematic given alongside) the Sagardighi – Subhashgram S/c line is proposed to be LIL0ed at Jeerat. The Jeerat – Subhasgram line section formed after this LIL0 would be very small and hence 1x63MVar line reactor at Subhasgram end should be made switchable.



10.4 Members may discuss and concur.

## 11. Identification of termination substation at Rourkela end, for Rourkela – Goelkera (Jharkhand) 132kV S/c line

11.1 Rourkela (Odisha) – Goelkera (Jharkhand) 132 kV S/c line was originally planned to be terminated at Rourkela substation of OPTCL, Odisha. However, due to construction of buildings and other structures etc. this line could not be terminated at the designated substation.

11.2 Now, POWERGRID is carrying out a consultancy works for the state of Jharkhand wherein Rourkela-Goelkera 132 kV S/c line is to be LILO at Manoharpur new substation of JUSNL, Jharkhand.

11.3 As per the preliminary survey done by the contractor (M/s KEC), it has been found that the Rourkela-Goelkera 132kV S/c line could only be terminated at 220 kV Tarkera S/s of OPTLC, out of the three possible substations namely – 132 kV Rourkela, 132 kV Chhend and 220 kV Tarkera substations. The same has also been intimated to JUSNL vide letter dated 20<sup>th</sup> Oct 2014 by POWERGRID.

11.4 Members may discuss and concur.

**12. Proposal of JUSNL (Jharkhand Urja Sancharan Nigam Limited) for provision of 220/132 kV Auto transformer in proposed 400/220 kV GSS of M/s PGCIL at Daltonganj with provision of 02 nos. 132 kV bays for JUSNL**

12.1 JUSNL vide its letter dated 21-04-2015 has informed that due to land acquisition constraints at Daltonganj it is not possible to create 220 kV level at Daltonganj. JUSNL has proposed to provide 220/132 kV Auto transformer in proposed 400/220 kV GSS of M/s POWERGRID at Daltonganj with provision of 02 nos. 132 kV line bays for delivery of power at 132 kV level from the POWERGRID sub-station. The existing 220 kV D/C Latehar – Daltonganj transmission line (presently charged at 132 kV level) of JUSNL is passing nearby proposed grid substation Daltonganj of M/s PGCIL. JUSNL has proposed that line from Latehar to Daltonganj will be LILO at Daltonganj (PG) in such a way Daltonganj (PG)-Latehar would be operated at 220 kV and Daltonganj (PG)-Daltonganj (JUSNL) would be operated at 132 kV. JUSNL has also informed that they are constructing 220/132 kV Garhwa S/S and Daltonganj-Garhwa 220 kV line. This line would be connected at Daltonganj (PG).

12.2 The proposal of JUSNL involves provision of 1x160 MVA 220/132 kV Auto transformer at proposed 400/220 kV GSS of POWERGRID at Daltonganj along with 02 nos. 132 kV bays.

12.3 Members may discuss.

**13 Extension of under construction of Latehar-ESSAR 400 kV D/C line to Chandwa pooling station of POWERGRID - Proposal of JUSNL**

13.1 JUSNL vide above referred letter has informed that due to cancellation of coal blocks of M/s Essar Power Ltd., the generation project of M/s Essar would be considerably delayed. JUSNL is constructing 400 kV D/C line from

Essar to Latehar (about 45 km) and has requested for extension of this line to Jharkhand Pooling station of POWERGRID at Chandwa. The proposal of JUSNL involves construction of 400 kV D/C line from Essar to Chandwa, which is about 10 km.

13.2 Member may discuss.

#### **14 Creation of 400/220 kV sub-station at Dhanbad - Proposal of JUSNL**

14.1 JUSNL vide above referred letter has informed that under 24x7 power for all, their distribution companies has projected a requirement of about 1000 MW at Dhanbad region. To meet the load requirement of Dhanbad region, JUSNL is also constructing 220/132 kV sub-stations at Govindpur and Jainamore (Bokaro). In order to feed these 220 kV sub-stations JUSNL has proposed the establishment of 400/220 kV sub-station at Dhanbad by LILO of Maithon-Ranchi 400 kV D/C line.

14.2 Member may discuss.

#### **15 Evacuation of power from (2x48 MW) Jorethang HEP in Sikkim : Interim arrangement**

15.1 As per the approved plan, DEPL (Dans Energy Private Limited) was to construct its dedicated transmission line from Jorethang HEP (JHEP) switchyard to the New Melli (PG) sub-station along with 2 nos. 220 kV GIS line bays at New Melli (PG) sub-station. DEPL has informed that due to contractor related issues, the transmission line works of DEPL got delayed. Further, they informed that the generation project is expected to be commissioned by May/June 2015.

15.2 DEPL has informed that a section of the dedicated line about 4 km up to tower no. 14 would be completed by them in May / June 2015. They have intimated that POWERGRID 220 kV D/C line from New Melli sub-station to Rangpo is also expected to be completed by May 2015. As DEPL would not be able to complete the line up to New Melli sub-station of POWERGRID by May 2015, DEPL has requested that they may be allowed to connect completed section of their dedicated line (from tower no. 14) to the POWERGRID line (tower no. 87) as an interim arrangement. They also informed that DEPL is fully committed towards completion of the entire stretch of transmission line. In this regard, order of 2 nos. 220 kV GIS bays at New Melli S/S has already been placed with Alstom in March 2015. DEPL has intimated that they had taken up upon themselves to complete the entire stretch of transmission line up to New Melli S/S matching with the commissioning of 220 kV bays at New Melli.

15.3 In view of the above, DEPL has requested permission for granting intermediate connection at its 14<sup>th</sup> tower to PGCIL 220 kV D/C Rangpo-New Melli line at 87<sup>th</sup> tower as an interim arrangement.

15.4 Members may discuss.

- 16 LILO of both circuits of 220 KV D/C Ara (PG) - Sasaram (PG) line at 220/132 KV Pusauli (New) being constructed by BSPTCL.**
- 16.1 Bihar State Power Transmission Company Ltd. (BSPTCL) vide their letter of even no. dated 13.04.2015 and 20.04.2015 has informed that they are constructing 220/132 kV 2x150 MVA sub-station at Pusauli by LILO of both circuits of Ara (PG) – Sasaram (PG) 220 KV D/C of POWERGRID. The 220/132 kV Pasauli sub-station is covered under in “addendum to DPR of phase Part II” envisaged in Rastriya Sam Vikas Yojna (RSVY) later on known as BRGF (Backward Region Grant Fund) in Bihar, which is being implemented through ADB funding. The DPR was prepared by POWERGRID and concurred by CEA.
- 16.2 BSPTCL has informed that the LILO and the sub-station works are nearing completion. The line being ISTS in nature, BSPTCL has requested for approval of the works in the forthcoming standing committee meeting.
- 16.3 Members may discuss and approve.