



Government of India  
Ministry of Power  
Central Electricity Authority  
PSP&PA-I Division

Sewa Bhawan, R. K. Puram, New Delhi-110066



[ISO: 9001:2008]

No. 100/1/EC (35) 2015-PSP&PA-I/

Dated: 8<sup>th</sup> September, 2015

To

1. Member (Economic & Commercial),  
Central Electricity Authority  
Sewa Bhawan, R.K. Puram,  
New Delhi ó 110 066.
2. Joint Secretary (Transmission)  
Ministry of Power  
Shram Shakti Bhawan  
New Delhi-110001
3. Adviser (Energy),  
NITI Ayog,  
Parliament Street,  
New Delhi ó 110 001.
4. Director (Projects),  
Power Grid  
Saudamini,  
Plot No. 2, Sector-29,  
Gurgaon ó 122 001.
5. Shri V. V. R. K. Rao  
Former Chairperson, CEA  
B-9/C, DDA Flats, Maya Puri,  
New Delhi -110 064.
6. Shri Ravinder  
Former Member (Power System), CEA  
147, Bhagirathi Apartment,  
Sector-9, Rohini, Delhi ó 110 085.

**Subject: Agenda for the 35<sup>th</sup> meeting of the Empowered Committee on Transmission**

Madam/ Sir,

The 35<sup>th</sup> meeting of the Empowered Committee on Transmission is proposed to be held on **14<sup>th</sup> September, 2015 (Monday) at 3:30 PM** under the chairmanship of Shri S.D.Dubey, Member (Power System), CEA in the Conference Room of CEA, 2<sup>nd</sup> Floor, Sewa Bhawan, R.K. Puram, New Delhi.

The detailed Agenda is attached please. The same is also available at [http://www.cea.nic.in/reports/powersystems/35\\_emp\\_com\\_meeting.pdf](http://www.cea.nic.in/reports/powersystems/35_emp_com_meeting.pdf)

Kindly make it convenient to attend the meeting.

Enclosure : As above

Yours faithfully,

(K. K. Arya)  
Chief Engineer  
& Member Secretary (EC)

**Copy to:**

- (i) PPS to Member (PS), CEA
- (ii) Chief Engineer (PSP & PA-II)
- (iii) COO (CTU), POWERGRID, S-Saudaminiø Plot No.2, Sector ó 29, Gurgaon ó 122 001 (Haryana)
- (iv) CEO, RECTPCL, Core-4 SCOPE Complex, 7 Lodhi Road, New Delhi ó 110 003. (Fax- 011-24102576)
- (v) PFC Consulting Ltd, First Floor, Urjanidhi, 1 Barakhmba Lane, New Delhi -110001 (Fax- 011-23456170)

## Agenda note for the 35<sup>th</sup> meeting of the Empowered Committee on Transmission

Date and Time: 14<sup>th</sup> September, 2015 at 3:30 PM

Venue: Conference Room of CEA, 2<sup>nd</sup> Floor, Sewa Bhawan, R.K. Puram, New Delhi

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### 1.0 Confirmation of the minutes of 34<sup>th</sup> meeting of Empowered Committee

The minutes of 34<sup>th</sup> meeting of Empowered Committee on Transmission held on 13<sup>th</sup> April, 2015 was issued vide letter No. 100/ 1 / EC (34) /2013 ó SP&PA dated 12<sup>th</sup> May, 2015.

Members may confirm please.

### 2.0 Implementing of the transmission schemes after approval by 34<sup>th</sup> Empowered Committee on Transmission (EC):

The following transmission schemes approved in the 34<sup>th</sup> meeting of EC for implementation under TBCB has been notified vide Gazette notification dated 22<sup>nd</sup> July, 2015:

Sl. No.	Name of the schemes	Name of the BPCs
1.	System strengthening scheme in Northern Region (NRSS-XXXVI)	RECTPCL
2.	Creation of new 400 kV Substations in Gurgaon area and Palwal area as a part of ISTS	PFCCCL
3.	Transmission System for evacuation of power from 2x500 MW Neyveli Lignite Corp. Ltd. TS-I (Replacement) (NNTPS) in Neyveli, Tamil Nadu	De-notified from TBCB; To be implemented through regulated tariff mechanism

The following schemes approved in the 34<sup>th</sup> meeting of EC are to be implemented *under Regulated Tariff mechanism*:

1. LILO of 220 kV Dhauliganga - Pithoragarh (PG) for construction of Proposed 220kV GIS S/s at Jauljibi, Pithoragarh & Proposed 2x100 MVA, 220/132kV GIS s/s at Almora in Kumaon region
2. 132 kV Banka- Deoghar D/C lines (about 40 kms)

### 3.0 Constitution of the Committee for revision of Standard Bidding Documents for procurement of transmission services under Tariff Based Competitive Bidding (TBCB)

Ministry of Power vide Office Memorandum No.15/1/2010-Trans dated 31<sup>st</sup> August, 2015 has constituted a Committee under the Chairmanship of Member(E&C), CEA to discuss, deliberate and finalise changes required in the Standard bidding document for

procurement of Transmission Services under Tariff Based Competitive Bidding (TBCD). OM dated 31<sup>st</sup> August, 2015 is attached at **Annexure – I**.

#### **4.0 De-notification of Northern Region System Strengthening Scheme – XXXV**

This scheme was notified for implementation through TBCB route vide Gazette notification dated 15.7.2014 through the Bid Process Coordinator (BPC), PFC Consulting Limited (PFCCCL). The scope of the transmission scheme is as under:

Name of the Scheme	Estimated Line Length (km)	Estimated Cost (Rs. Crore)
Mohindergarh ó Bhiwani 400 kV D/C line with twin moose conductor	55	88

It is mentioned that the RfQ stage for the project has been completed and the following bidders have been declared qualified for participation in the RfP stage:

1. Power Grid Corporation of India Limited (PGCIL)
2. Essel Infra Projects Limited (Essel)
3. Kalpataru Power Transmission Limited (KPTL)

The RfP document was issued on April 21, 2015 and only one bidder, namely PGCIL had purchased the RfP document. Due to poor response from the bidders, the submission of RfP date was extended upto August 21, 2015, however, in spite of the extension, there was no further participation of the bidders.

Further, as per the operational feedback received from POSOCO, Mohindergarh-Bhiwani 400 kV D/C line is urgently required to decongest this section of the transmission corridor.

In view of above, the scheme Northern Region System Strengthening Scheme ó XXXV may be de-notified and may got implemented by CTU under compressed time schedule through regulated tariff mechanism.

***CEA vide letter dated 25<sup>th</sup> August, 2015 has written to MoP for de-notification and implementation by CTU under compressed time schedule through regulated tariff mechanism.***

#### **5.0 Difficulties faced by Bid Process Coordinators due to inclusion of construction of line bays in the scope of TBCB process:**

Both the BPCs have informed CEA that they are facing a lot of problems, due to inclusion of construction of line bays in the sub-stations not owned by CTU. Some of the problems are as under:

- (i) Delay in providing technical details of existing system for proper interfacing with new component which in turn delay the completion of bidding process
- (ii) Non availability of layout drawings to be provided to the prospective bidders with concerned STU/TSP.
- (iii) Non availability of standard formats in the Standard Bidding Documents for agreements to be entered between TSP and the S/s owners viz. Implementation and O&M Agreement.

- (iv) Absence of various cost data viz. O&M cost, supervision charges, spare cost, which are be reimbursed to S/s owner

In order to avoid above issues, following options can be used for construction of bays in the existing S/s of STUs or other Transmission Licensee after making some amendments in the regulations, if required:

- (i) Construction of bays by CTU in all the substations
- (ii) Construction of bays by concerned utility/ TSP. In such case they shall be entitled for Transmission charges from Central Pool (The possibility of this aspect needs to be examined from regulation point of view.) This shall ensure that Sub-station is owned & operated by one entity always.

**Members may like to deliberate.**

#### **6.0 Briefing by BPCs on the schemes under bidding process**

RECTPCL and PFCCL may brief the Empowered Committee about progress of schemes that are under bidding process.

#### **7.0 New transmission schemes to be taken up through Tariff Based Competitive Bidding (TBCB)**

##### **(1) Name of the Scheme: Transmission System for Khargone TPP (1320 MW)**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
(i) LILO of one ckt of Rajgarh-Khandwa 400kV D/C line at Khargone TPP (The LILO shall be used for startup power and commissioning activities requirement. After commissioning of balance transmission system, the LILO would be bypassed at Khargone generation switchyard and may be utilized only under contingency condition)	78	153
(ii) Khargone TPP Switchyard ó Khandwa pool 400 kV D/C (Quad) line	85	237

**Members may like to deliberate on the implementation of the scheme through TBCB route.**

**(2) Name of the Scheme: Transmission System Strengthening in WR associated with Khargone TPP (1320 MW)**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
<b>(i) Establishment of 765/400kV, 2x1500MVA pooling station at Khandwa pool</b> <u><b>765 kV</b></u> <ul style="list-style-type: none"> <li>• ICTs: 7x500MVA, 765/400 kV (1 spare unit)</li> <li>• ICT bays: 2 no.</li> <li>• Line bays: 4 no.</li> <li>• Space for line bays: 4 no.</li> <li>• Space for ICT bays: 2 no.</li> </ul> <u><b>400 kV</b></u> <ul style="list-style-type: none"> <li>• ICT bays: 2 no.</li> <li>• Line bays: 4 no.</li> <li>• Space for line bays: 4 no.</li> <li>• Space for ICT bays: 2 no.</li> </ul>	3000	129
(ii) Khandwa pool ó Indore 765kV D/C line	130	1915
(iii) Khandwa pool ó Dhule 765 kV D/C line	242	
(iv) 2 nos. of 765 kV bays at Dhule 765/400 kV substation		37
(v) 2 nos. of 765 kV bays at Indore 765/400 kV substation		37
<b>Total Estimated Cost (Rs. Crore)</b>		<b>2118</b>

**Members may like to deliberate on the implementation of the scheme through TBCB route.**

**(3) Name of the Scheme: Transmission System for connectivity of DEL TPP (1320 MW)**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
DEL TPP Switchyard ó Khandwa pool 400kV D/C (Quad) line		200

**Members may like to deliberate on the implementation of the scheme through TBCB route.**

**Note:** To be taken up only after signing of the connectivity agreement by the Project Developer.

**(4) Name of the Scheme: 765 kV System Strengthening Scheme in Eastern Region (ERSS-XVIII)**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
<p><b>(i) Establishment of 765/400kV, 2x1500MVA substation at Medinipur</b></p> <p><b><u>765 kV</u></b></p> <ul style="list-style-type: none"> <li>• ICTs: 7x500MVA, 765/400 kV (1 spare unit)</li> <li>• ICT bays: 2 no.</li> <li>• Line bays: 4 no.</li> <li>• Bus reactor: 2x330 MVAR</li> <li>• Bus reactor bay: 2 no.</li> <li>• Space for line bays: 4 no.</li> <li>• Space for ICT bays: 2 no.</li> </ul> <p><b><u>400 kV</u></b></p> <ul style="list-style-type: none"> <li>• ICT bays: 2 no.</li> <li>• Line bays: 6 no.</li> <li>• Bus reactor: 2x125 MVAR</li> <li>• Space for line bays: 4 no.</li> <li>• Space for ICT bays: 2 no.</li> </ul>	<p><b>3000 MVA</b></p>	<p><b>364</b></p>

<p><b>(ii) Establishment of 765/400kV, 2x1500MVA substations at Jeerat (New)</b></p> <p><b>765 kV</b></p> <ul style="list-style-type: none"> <li>• ICTs: 7x500MVA, 765/400 kV (1 spare unit)</li> <li>• ICT bays: 2 no.</li> <li>• Line bays: 2 no.</li> <li>• Bus reactor: 2x330 MVAR</li> <li>• Bus reactor bay: 2 no.</li> <li>• Space for line bays: 4 no.</li> <li>• Space for ICT bays: 2 no.</li> </ul> <p><b>400 kV</b></p> <ul style="list-style-type: none"> <li>• ICT bays: 2 no.</li> <li>• Line bays: 4 no.</li> <li>• Bus reactor: 2x125 MVAR</li> <li>• Space for line bays: 4 no.</li> <li>• Space for ICT bays: 2 no.</li> </ul>	<b>3000 MVA</b>	271
<b>(iii)</b> Ranchi (New) ó Medinipur 765kV D/C line with 2x330 MVAR switchable line reactor at both ends	<b>300 km</b>	1750
<b>(iv)</b> Medinipur ó Jeerat (New) 765kV D/C line	<b>200 km</b>	1166
<b>(v)</b> Medinipur ó Haldia New (NIZ) (WBSETCL) 400kV D/C line (quad / HTLS)	<b>130 km</b>	397
<b>(vi)</b> LILO of both circuits of Chandithala ó Kharagpur 400kV D/C line at Medinipur		10
<b>(vii)</b> Jeerat (New) ó Subhasgram 400 kV D/C line (quad/HTLS)	<b>120 km</b>	367
<b>(viii)</b> Jeerat (New) ó Jeerat (WB) 400 kV D/C line (quad/HTLS)		40
<b>(ix)</b> LILO of Jeerat (WB) ó Subhasgram (PG) 400 kV S/C section at Rajarhat (PG)		10
<b>(x)</b> 2 no. 400 kV line bays at Haldia New (NIZ) (WBSETCL)		16
<b>(xi)</b> 2 no. 400 kV line bays at Jeerat (WBSETCL)		16
<b>Total Estimated Cost (Rs. Crore)</b>	<b>4407</b>	

**Note:**

- Powergrid to provide 2 no. 400 kV line bays at Subhasgram (PG)
- Powergrid to provide 2 no. 400 kV line bays at Rajarhat (PG)

**Members may like to deliberate on the implementation of the scheme through TBCB route.**



**(5) Name of the Scheme: Creation of 400/220 kV sub-station at Dhanbad - Proposal of JUSNL (ERSS-XIX)**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
<p><b>(i) Establishment of 400/220 kV, 2x500 MVA sub-station at Dhanbad</b></p> <p><b><u>400 kV</u></b>  ICTs: 400/220 kV, 2x500 MVA  ICTs bays: 2 no.  line bays: 4 no.  bus reactor: 2x125 MVAR  space for future bays: 4 no.</p> <p><b><u>220 kV</u></b>  ICTs bays: 2 no.  line bays: 4 no.  space for future bays: 4 no.</p>		
<b>(ii) LILO of both circuits of Ranchi-Maithon RB 400 kV D/C line at Dhanbad</b>		
<b>Estimated Cost (Rs. Crore)</b>		<b>190</b>

**Members may like to deliberate on the implementation of the scheme through TBCB route.**

**(6) Name of the Scheme: North Eastern Region Strengthening Scheme – II (NERSS–II): Part B**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning of North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) Biswanath Chariali - Itanagar (Zebra conductor) 132 kV D/C line	95	55
(ii) Silchar - Misa 400kV D/C line (Quad) line	200	606
(iii) 2 no. 132 kV line bays at Itanagar for termination of Biswanath Chariali - Itanagar (Zebra conductor) 132 kV D/C line		9

<b>Estimated Cost (Rs. Crore)</b>	<b>670</b>
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**Note:**

- CTU (POWERGRID) would provide 2 no. 400kV GIS line bays each at Silchar and Misa for termination of Silchar - Misa 400kV D/C line (Quad) line
- CTU (POWERGRID) would provide 2 no. 132 kV line bays at Biswanath Chariali for termination of Biswanath Chariali - Itanagar (Zebra conductor) 132 kV D/C line. In case there is a space constraint, GIS bays would be provided.
- 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 Silcharó Misa 400kV D/C line

**Members may like to deliberate on the implementation of the scheme.**

**(7) Name of the Scheme: North Eastern Region Strengthening Scheme –V (NERSS-V)**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning of North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
<p><b>(i) Establishment of 400/132 kV, 2x315 MVA S/s at Surajmaninagar</b></p> <p><b><u>400 kV</u></b></p> <p>ICTs: 400/132 kV, 2x315 MVA  ICTs bays: 2 no.  line bays: 4 no.  bus reactor: 2x125 MVAR  space for future bays: 6 no.</p> <p><b><u>132 kV</u></b></p> <p>ICTs bays: 2 no.  line bays: 4 no.  space for future bays: 4 no.</p> <p><i>Land for the Surajmaninagar 400/132kV S/s is identified and available with Tripura and the same would be provided to the TSP at cost.</i></p>		<b>100</b>
<p><b>(ii) Establishment of 400/132 kV, 2x315 MVA S/s at P. K. Bari</b></p> <p><b><u>400 kV</u></b></p> <p>ICTs: 400/132 kV, 2x315 MVA  ICTs bays: 2 no.  line bays: 4 no.  bus reactor: 2x125 MVAR  space for future bays: 6 no.</p> <p><b><u>132 kV</u></b></p>		<b>100</b>

ICTs bays: 2 no. line bays: 4 no. space for future bays: 4 no.		
<b>(iii)</b> Surajmaninagar - P. K. Bari 400 kV D/C line	<b>65</b>	<b>200</b>
<b>(iv)</b> 2 no. 400 kV line bays at Palatana GBPP switchyard for termination of Palatana ó Surajmaninagar 400kV D/C line		<b>32</b>
<b>(v)</b> Construction of 132 kV D/C line with high capacity HTLS conductor (equivalent to single moose) from AGTPP (NEEPCO) to P. K. Bari (TSECL)		<b>10</b>
<b>(vi)</b> 2 no. 132 kV bays each at AGTPP (NEEPCO) and P. K. Bari (TSECL)		<b>6</b>
<b>Estimated Cost (Rs. Crore)</b>		<b>448</b>

**Members may like to deliberate on the implementation of the scheme through TBCB route.**

**(8) Name of the Scheme: Maharaniabagh – Rajghat 400kV D/C additional line**

The transmission scheme has been approved in the 36<sup>th</sup> Standing Committee on Power System Planning of Northern Region held on 13<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
(i) 400 kV Rajghat ó Maharaniabagh D/C line with HTLS conductor	8	55
(ii) Two nos. of 400kV GIS bays each at Rajghat and Maharaniabagh		

**Members may like to deliberate on the implementation of the scheme through TBCB route.**

**(9) Name of the Scheme: North Eastern Region Strengthening Scheme (NERSS)-VI**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning of North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) <b>Establishment of 400/220 kV, 2x500 MVA S/S at New Kohima</b>  <b>400 kV</b> ICTs: 400/220 kV, 2x500 MVA ICTs bays: 2 no. line bays: 4 no. bus reactor: 2x125 MVAR space for future bays: 4 no.  <b>220 kV</b> ICTs bays: 2 no. line bays: 4 no. space for future bays: 4 no.	1000 MVA	83
(ii) Imphal ó New Kohima 400 kV D/C line	120	297
(iii) New Kohima ó New Mariani 400kV D/C line	110	273
<b>Estimated Cost (Rs. Crore)</b>		<b>653</b>

**Note:**

- Powergrid to provide 2 no. 400 kV line bays at Imphal (PG) S/s for termination of Imphal ó New Kohima 400kV D/C line and 1x125 MVAR bus reactor (2<sup>nd</sup>) at Imphal (PG)
- Powergrid to provide 2 no. 400kV line bays at New Mariani S/s for termination of New Kohima ó New Mariani 400kV D/C line

**Members may like to deliberate on the implementation of the scheme through TBCB route.**

**8.0 New transmission schemes to be taken up under compressed time schedule through regulated tariff mechanism**

As per the extant Tariff Policy, except for few exceptions provided, all the transmission schemes w.e.f. 6<sup>th</sup> January, 2011, are to be implemented through TBCB route. In this light, CTU may indicate the timelines for implementation of transmission schemes under compressed time schedule.

- (1) **Name of the Scheme: LILO of 220 kV Dhauliganga - Pithoragarh (PG) for construction of 400/220kV GIS S/S at Jauljibi, Pithoragarh and proposed 2x100 MVA, 220/132kV GIS S/S at Almora.**

The transmission scheme has been approved in the 36<sup>th</sup> Standing Committee on Power System Planning in Northern Region held on 13<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
Creation of 220/33 kV S/s Jauljivi by PTCUL by LILO of one circuit of 220kV Dhauliganga-Pithoragarh (PGCIL) line at 220kV S/s Jauljivi (PTCUL).		<b>30</b>

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism**

**(2) Name of the Scheme: Modification of Suratgarh Substation Location in Green Energy Corridor**

The transmission scheme has been approved in the 36<sup>th</sup> Standing Committee on Power System Planning of Northern Region held on 13<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) Establishment of 2x1500 MVA, 765/400 kV substation at Bikaner (New)		
(ii) Ajmer (New) ó Bikaner (New) 765kV D/C		
(iii) Bikaner (New) ó Moga 765kV D/C		
(iv) Bikaner (New) ó Bikaner (RVPN) 400kV D/C (Quad)		
<b>Total Estimated Cost (Rs. Crore)</b>		<b>4000</b>

**Members may like to note.**

**(3) Name of the Scheme: Provision of 400/220 kV ICTs at Parbati Pooling Station**

The transmission scheme has been approved in the 36<sup>th</sup> Standing Committee on Power System Planning of Northern Region held on 13<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Name & Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
Provision of 2 nos. of 400/220kV, 315MVA ICTs (7x105 MVA single phase units) at Parbati Pooling Station along with 2 nos. of 220 kV line bays.		60

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism**

**(4) Name of the Scheme: Provision of ICTs at Parli (PG) switching station**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
2 x 500MVA, 400/220kV ICTs along with 8 no. of 220 kV bays	1000	70

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism**

**(5) Name of the Scheme: Provision of bays for LILO of Khedamara – Borjhara line at 220kV Raipur PGCIL substation**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
2 no. of 220 kV Bays at 400/220 kV Raipur (PG) substation		10

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism.**

**(6) Name of the Scheme: Additional 2<sup>nd</sup> ICT at Itarsi (PG) 400 kV substation**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
1 X 500 MVA, 400/220 ICT with 2 no. of 220 kV bays at Itarsi (PG) substation		40

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism.**

**(7) Name of the Scheme: Provision of 400 kV GIS bays for termination of Gwalior-Morena 400 kV D/C quad line at Gwalior substation**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
2 no. of 400 kV GIS bays at Gwalior (PG) substation		50

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism**

**(8) Name of the Scheme: Provision of 400 kV bays for termination of Indore (PG) – Ujjain D/C 400 kV D/C line at Indore (765/400) S/S**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
2 no. of 400 kV bays at Indore (765/400) S/S		30

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism**

**(9) Name of the Scheme: Additional 3rd 500MVA, 400/220kV ICT at Satna (PG) S/s**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
1 X 500 MVA, 400/220 kV ICT along with 2 no. of 220 kV bays at Satna (PG) substation	500	40

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism**

- (10) Name of the Scheme: Provision of 220 kV bays at Mapusa (Colvale) 400/220 kV substation for termination of the proposed Mapusa (Colvale) - Teum 220 kV D/C line of GED.**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA ckt. km)	Estimated Cost (Rs. Crore)
2 no. of 220 kV bays at Mapusa (Colvale) 400/220 kV substation		15

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism**

- (11) Name of the Scheme: Provision of line reactors for Vindhyachal Pooling station – Jabalpur pool 765 kV D/C line.**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA ckt. km)	Estimated Cost (Rs. Crore)
330 MVAR, 765 kV Line Reactor with reactor bays along with 850 á NGR for Vindhyachal (PS) - Jabalpur D/C (in each circuit at both ends )		25

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism.**

- (12) Name of the Scheme: Transmission system for Ultra Mega Solar Power Parks in Rewa, MP**

The transmission scheme has been approved in the 38<sup>th</sup> Standing Committee on Power System Planning of Western Region held on 17<sup>th</sup> July, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) Establishment of 400/220kV, 3x500 MVA Pooling station at Rewa		54
(ii) LILO of Vindhyachal ó Jabalpur 400kV 2 <sup>nd</sup> D/C line (circuit-3&4) at Rewa Pooling Station		56
(iii) 6 x 220kV Line bays (for its interconnection with solar park)		23



(iv) 1 X 125 MVA bus reactor		7
<b>Total Estimated Cost (Rs. Crore)</b>		<b>140</b>

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism**

**(13) Name of the Scheme: Eastern Region Strengthening Scheme-XV (ERSS-XV): System strengthening in Eastern Region for transfer of additional 500MW power to Bangladesh**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
<b>Transmission Line</b>		
(i) Farakka - Baharampur 400kV D/C (HTLS) line		
(ii) Removal of the existing LILO of Farakka - Jeerat 400 kV S/C line at Baharampur		
(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		
<b>Substation</b>		
(i) Extension at 400/220 kV Farakka S/s of NTPC: 2 nos. 400kV line bays for Farakka ó Behrampur 400kV D/C (HTLS) line		
(ii) Extension at 400/220 kV Sagardighi S/s of West Bengal: 2 nos. 400 kV line bays for LILO of Farakka ó Jeerat 400kV S/C line (formed after removal of the existing LILO of Farakka ó Jeerat 400kV S/C line at Baharampur) at Sagardighi		
(iii) Extension at 400/220 kV Jeerat S/s of West Bengal - 2 nos. 400 kV GIS line bays for LILO of Sagardighi ó Subhasgram 400 kV S/C line		
(iv) Extension at 400 kV Baharampur s/s of POWERGRID - 2 nos. 400 kV line bays for termination of Farakka ó Baharampur 400 kV D/C (HTLS) line - 125 MVA bus reactor at 400kV at Baharampur substation		
(v) Extension at 400 kV Subhasgram S/s of POWERGRID- Conversion of 50 MVA fixed line reactor at Subhasgram end of Sagaradighi - Subhasgram 400 kV S/C line to switchable line reactor		
<b>Total Estimated Cost (Rs. Crore)</b>		<b>950</b>

*Note: 2 nos. of 400 kV line bays released after removal of existing LILO of Farakka - Jeerat 400 kV S/C line at Baharampur are proposed to be utilized for connection of one existing bus reactor which is presently connected to one end of the bus due to space constraint and one new bus reactor mentioned above.*

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism**

**(14) Name of the Scheme: Re-conductoring of Maithon RB - Maithon 400kV D/C line of POWERGRID (ERSS-XVII)**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
Re-conductoring of Maithon RB-Maithon 400 kV D/C line with HTLS conductor		20

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

**(15) Name of the Scheme: Immediate evacuation for North Karanpura (3x660MW) generation project of NTPC**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

Name & Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) North Karanpura ó Gaya 400 kV D/C with quad moose conductor.	140	
(ii) North Karanpura ó Chandwa (Jharkhand) Pooling Station 400 kV D/C with quad moose conductor.	255	
<b>Total Estimated Cost (Rs. Crore)</b>		<b>1200</b>

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

**(16) Name of the Scheme: Transformer augmentation requirements in Eastern Region - XVII (ERSS-XVII)**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) Installation of 3rd 400/220 kV, 1x315 MVA ICT at Durgapur Substation.		<b>200</b>
(ii) Replacement of 400/220kV, 2x315 MVA ICTs at Malda Substation with 400/220 kV, 2x500 MVA ICTs.		
(iii) Installation of 3rd 400/220 kV, 1x315 MVA ICT at New Siliguri Substation.		
(iv) Replacement of 400/220 kV, 2x315 MVA ICTs at Jeypore Substation with 400/220 kV, 2x500 MVA ICTs.		
(v) Replacement of 400/220 kV, 2x315 MVA ICTs at Rourkela Substation with 400/220 kV, 2x500 MVA ICTs.		
(vi) Installation of 400/220 kV, 1x500 MVA ICT at Gaya Substation.		

*Note: Replacement of transformers at Malda, Jeypore and Rourkela would create 6 units of 315 MVA transformers as spare and out of which 2 would be utilised at Durgapur and New Siliguri. The other 4 would be kept as regional spare.*

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

**(17) Name of the Scheme: Conversion of fixed Line Reactors to switchable Line Reactors (ERSS-XVII)**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
Conversion of the fixed line reactors into switchable line reactors at one end (to be used as Bus Reactors) for two no. 400 kV lines as given below:  1. Lakhisarai ó Biharsharif 400kV D/C 2. Keonjhar ó Rengali 400 kV S/C		<b>35</b>

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

- (18) Name of the Scheme: 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 POWERGRID at Daltonganj with provision of 02 nos. 132 kV bays for JUSNL (POWERGRID Scope)**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
2x160 MVA, 220/132 kV Auto transformer at Daltonganj substation (PG) along with 4 number of 132 kV line bays		20

**Members may like to deliberate on the implementation of the scheme.**

- (19) Name of the Scheme: Bypassing arrangement of LILO of 400kV lines at Angul (ERSS-17) (POWERGRID Scope)**

The transmission scheme has been approved in the 17<sup>th</sup> Standing Committee on Power System Planning of Eastern Region held on 25<sup>th</sup> May, 2015. The scope of the transmission scheme is as under:

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) LILO of Meramundali ó Bolangir / Jeypore 400 kV S/C line at Angul pooling station	50	
(ii) LILO of one ckt of Talcher - Meramundali 400 kV D/C line at Angul pooling station	40	
<b>Total Estimated Cost (Rs. Crore)</b>		<b>210</b>

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

- (20) Name of the Scheme: North Eastern Region Strengthening Scheme – V (NERSS - V)**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning in North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under

Scope of the Transmission Scheme	Capacity (MVA/ ckt. km)	Estimated Cost (Rs. Crore)
(i) Additional 400 kV D/C line at Palatana end for termination of Palatana-Surajmaninagar 400 kV D/C line (op. at 132 kV) at 400 kV Palatana switchyard		190

(ii) Additional 400 kV D/C line at Surajmaninagar end for termination of Palatana-Surajmaninagar 400 kV D/C line (op. at 132 kV) at 400 kV Surajmaninagar S/s		
(iii) Additional 400 kV D/C line at P. K. Bari end for termination of P. K. Bari-Silchar 400 kV D/C line (initially op. at 132 kV) at 400 kV P. K. Bari S/s		
(iv) Additional 400 kV D/C line at Silchar end for termination of P .K. Bari-Silchar 400 kV D/C line (initially op. at 132 kV) at 400 kV Silchar S/s		
(v) 2 no. 400 kV GIS line bays at Silchar for termination of P .K .Bari ó Silchar 400kV D/C line		
(vi) Re-conductoring of Agartala-Agartala 132 kV D/C line		

**Members may like to deliberate on the implementation of the scheme through regulated tariff mechanism.**

**(21) Name of the Scheme: North Eastern Region Strengthening Scheme – VI (NERSS-VI)**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning in North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
(i) Up-gradation of New Mariani substation to 400/220 kV with 2x500 MVA transformer along with associated bays.		
(ii) 2 no. 400kV line bays at New Mariani for termination of Misa-New Mariani 400 kV D/C (op. at 220 kV) at 400kV		
(iii) Termination of Misa-New Mariani section of existing LILO of Kathalguri-Misa 400 kV D/C line (circuit-1) (op. at 220 kV) at New Mariani from 220 kV to 400 kV		
(iv) Disconnection of Kathalguri - Mariani (AEGCL) - Misa line from Mariani (AEGCL) S/s and LILO of the same at New Mariani (POWERGRID) with Misa-New Mariani section connected at 400kV and Kathalguri ó New Mariani section connected at 220kV at New Mariani		
(v) 2 no. 400 kV line bays (GIS) at Misa for termination of New Mariani ó Misa 400kV		

D/C line (presently charged at 220kV) at 400kV (vi) Operation of New Mariani ó Misa 400kV D/C line (presently charged at 220kV) at 400kV along with termination at Misa at 400kV (vii) Operation of New Mariani ó Kathalguri 400kV D/C line (presently charged at 220kV) at 220kV		
<b>Total Estimated Cost (Rs. Crore)</b>		<b>200</b>

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

**(22) Name of the Scheme: Upgradation of existing inter-state 132 kV link between Imphal (PG) and Imphal (State)**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning in North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under:

<b>Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
(i) Re-conductoring of Imphal (PG)-Yurembam 132 kV S/C POWERGRID line with high capacity conductor  (ii) Up gradation / modification of bay equipment at Imphal (PG) by POWERGRID because of the re-conductoring.		<b>20</b>

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

**(23) Name of the Scheme: Installation of 3rd Transformer at 400/132/33kV at Silchar Sub Station**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning in North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under:

<b>Name &amp; Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
Installation of 3 <sup>rd</sup> 315 MVA 400/132 kV transformer at Silchar along with associated bays in GIS		<b>30</b>

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism**

**(24) Name of the Scheme: Installation of 31.5 MVAR, 220 kV bus reactor at Mokokchung sub-station of POWERGRID**

The transmission scheme has been approved in the 5<sup>th</sup> Standing Committee on Power System Planning in North Eastern Region held on 8<sup>th</sup> August, 2015. The scope of the transmission scheme is as under:

<b>Name &amp; Scope of the Transmission Scheme</b>	<b>Capacity (MVA/ ckt. km)</b>	<b>Estimated Cost (Rs. Crore)</b>
Installation of 31.5 MVAR 220kV bus reactor at 220/132kV Mokokchung Sub-station (PG).		10

**Members may like to deliberate on the implementation of the scheme by PGCIL through regulated tariff mechanism.**

**9.0 Change in scope of transmission schemes already awarded/ under award through TBCB route**

**(1) Name of the Scheme: Connectivity Lines for Maheshwaram (Hyderabad) 765/400 kV Pooling S/s**

The scope of the scheme agreed in the 32<sup>nd</sup> meeting of EC is as under:

<b>Scope as per Gazette Notification</b>	<b>Estimated Cost as per EC (in Rs. Crore)</b>
(i) Maheshwaram (PG) - Mehboob Nagar 400 kV D/C line	396
(ii) 2 No. of 400 kV line bays at Mehboob Nagar S/S of TSTRANSCO	
(iii) Nizamabad -- Yeddumailaram Shankarpalli) 400kV D/C line	

As decided in the 32<sup>nd</sup> meeting of EC, the bays at the existing sub-station of the STUs were under the scope of the transmission developer. Accordingly, modified scope of the scheme awarded to the successful bidder is as under:

<b>Revised Scope</b>	<b>Estimated Cost as per EC (in Rs. Crore)</b>
<ul style="list-style-type: none"> <li>• Maheshwaram (PG) - Mehboob Nagar 400 kV D/C line</li> <li>• 2 No. of 400 kV line bays at Mehboob Nagar S/S of TSTRANSCO</li> </ul>	396
<ul style="list-style-type: none"> <li>• Nizamabad -- Yeddumailaram (Shankarpalli) 400kV D/C line</li> <li>• 2 No. of 400 kV line bays at Yeddumailaram (Shankarpalli) S/S of TSTRANSCO</li> </ul>	

**Members may like to note.**

(2) **Name of the Scheme: Strengthening of Transmission System beyond Vemagiri**

The scope of the scheme agreed in the 33<sup>rd</sup> meeting of EC is as under:

<b>Scope as per Gazette Notification</b>	<b>Estimated Cost as per EC (in Rs. Crore)</b>
(i) Vemagiri-II ó Chilakaluripeta 765kV D/C line with 240 MVAR switchable line reactors at both ends	6300
(ii) Chilakaluripeta ó Cuddapah 765kV D/C line with 240 MVAR switchable line reactors at both ends.	
(iii) Chilakaluripeta ó Narsaraopeta 400kV (quad) D/C line	
(iv) Cuddapah ó Madhugiri 400kV (quad) D/C line with 80 MVAR switchable line reactors at both ends	
(v) Cuddapah ó Hindupur 400kV (quad) D/C line with 80 MVAR switchable line reactors at Hindupur end.	
(vi) Srikakulam Pooling Station ó Garividi 400 kV (Quad) D/C line with 80 MVAR switchable line reactor at Garividi end.	
(vii) Establishment of 765/400 kV substation at Chilakaluripeta with 2x1500 MVA transformers and 2x240 MVAR bus reactors each. Transformers: 765/400 kV, 7 x 500 MVA ( One unit spare)	
<p><b><u>765 &amp; 400 kV Bays</u></b>            765 kV line bays at Chilakaluripeta: 4 no.            765/400 kV Transformer bays at Chilakaluripeta: 2 no.            400 kV line bays Chilakaluripeta : 2 no.            Space for future 765 kV line bays at Chilakaluripeta: 6 no.            Space for future 400 kV line bays at Chilakaluripeta: 8 no.  <b>Note:</b>            CTU to provide two nos. 765 kV bays at Vemagiri-II Pooling station for Vemagiri-II ó Chilakaluripeta 765 kV D/C line            CTU to provide requisite no. of 765 kV and 400 kV bays and line reactors for termination of transmission lines at Cuddapah            CTU to provide two nos. 400kV bays &amp; line reactors at Madhugiri 400 kV substation for Cuddapah ó Madhugiri 400kV (quad) D/C line            CTU to provide two nos. 400 kV bays at Srikakulam 400kV substation for Srikakulam Pooling Station ó Garividi 400 kV (Quad) D/C line</p>	

The scope of the scheme was discussed by CEA and CTU and accordingly modified scope of the scheme awarded to the successful bidder is as under:

<b>Revised Scope</b>	<b>Estimated Cost as per EC (in Rs. Crore)</b>
(i) Vemagiri-II ó Chilakaluripeta 765kV D/C line with 240 MVAR switchable line reactors at both ends of each circuit. (The line bays and line reactors at Chilakaluripeta to be in the scope of TSP and those at Vemagiri end in the scope of CTU).	
(ii) Chilakaluripeta ó Cuddapah 765kV D/C line with 240 MVAR switchable line reactors at both ends of each circuit.	



(The line bays and line reactors at Chilakaluripetato be in the scope of TSP and those at Cuddapah end in the scope of CTU).	
(iii) Chilakaluripeta ó Narsaraopeta (Sattenapalli) 400kV (quad) D/C line (The line bays at both ends to be in the scope of TSP)	
(iv) Cuddapah ó Madhugiri 400kV (quad) D/C line with 50 MVAR switchable line reactors at both ends of each circuit. (The line bays and reactors at both ends to be in the scope of CTU)	
(v) Srikakulam Pooling Station ó Garividi 400 kV (Quad) D/C line (The line bays at Garividi end to be in the scope of TSP and those at Srikakulam Pooling Station end in the scope of CTU).	
(vi) Establishment of 765/400 kV substation at Chilakaluripeta with 2x1500 MVA transformers and 2x240 MVAR bus reactors each.  Transformers:765/400 kV, 7x500 MVA (Single-Phase units with one spare)  <u>765 kV Bays (at Chilakaluripeta)</u> ICT bays : 2 nos. Line bays : 4 nos. 765 kV Bus Reactor Bays : 2 nos. Spare bays (Space) : 6 nos.  <u>400 kV Bays</u> ICT bays : 2 nos. Line bays : 2 nos. Spare bays (Space) : 8 nos.  <u>Note about provision of line reactors and bays:</u>  <ul style="list-style-type: none"> <li>• CTU to provide 2 nos. 765kV line bays along with 240 MVAR switchable line reactors at Vemagiri-II Pooling station for termination of Vemagiri-II óChilakaluripeta 765kV D/C line.</li> <li>• CTU to provide 2 nos. 765kV line bays along with 240 MVAR switchable line reactors at Cuddapah 765/400kV substation for termination of Chilakaluripeta ó Cuddapah 765kV D/C line.</li> <li>• CTU to provide 2 nos. 400kV line bays along with 50 MVAR switchable line reactors at Cuddapah 765/400kV substation for termination of Cuddapah ó Madhugiri 400kV (quad) D/C line.</li> <li>• CTU to provide 2 nos of 400kV line bays along with 50 MVAR switchable line reactors at Madhugiri 400kV substation for termination of Cuddapah ó Madhugiri 400kV (quad) D/C line.</li> <li>• CTU to provide 2 nos. 400kV line bays at Srikakulam 400kV substation for termination of Srikakulam Pooling Station ó Garividi 400 kV (Quad) D/C line.</li> <li>• APTRANSCO to provide space for 2 no 400 kV line bays at Narsaraopeta (Sattenapalli) 400kV sub- station</li> <li>• APTRANSCO to provide space for 2 no 400 kV line bays at Garividi 400kV sub-station</li> </ul>	

**Members may like to note.**

(3) **Name of the Scheme: Transmission System associated with Gadarwara STPS (2x800 MW) of NTPC Part-A**

The scope of the scheme agreed in the 33<sup>rd</sup> meeting of EC is as under:

Scope as per Gazette Notification	Estimated Cost as per EC (in Rs. Crore)
(i) As per the interim arrangement, LILO of existing Seoni-Bina 765kV S/C line at Gadarwara STPP would be established. At a later date, LILO portion would be delinked from Seoni-Bina 765kV S/C line to restore the Seoni-Bina 765kV S/C direct line, and the LILO portion would be extended to the Jabalapur 765/400kV Pooling Station to form the proposed Gadarwara 765/400kV Pooling Station to form the proposed Gadarwara-Jabalpur Pool 765kv D/C line	2525
(ii) Gadarwara STPS- Jabalpur Pool 765kv D/C line	
(iii) Gadarwara STPS- New Pooling Station within the jurisdiction/boundary of Warora 765kv D/C line	
(iv) LILO of both circuits of Wardha- Parli (PG) 400 kV D/C line at Warora* Pooling Station (Quad)	
<p>(v) Establishment of 2X1500 MVA 765/400 kV (New Pooling Station within the jurisdiction/boundary Warora)</p> <p><b><u>765 kV:</u></b></p> <ul style="list-style-type: none"> <li>• ICTs: 7X500 MVA 765/400 kV (1 spare unit )</li> <li>• ICT bays: 2 no</li> <li>• Line bays: 6 no (2 no bays for Gadarwara STPS ó Warora PS D/C line; 2 no bays for Warora PS ó Parli (New) S/s D/C line covered under Transmission System Associated with Gadarwara STPS (2X800 MW) of NTPC (Part-B); 2 no bays for Rajnandgaon ó Warora PS D/C line covered under additional system strengthening scheme for Chhattisgarh IPPs)</li> <li>• Bus Reactor: 3X110 MVAR</li> <li>• Bus Reactor Bay: 1 no</li> <li>• Line Reactors: 7X110 MVAR (1 unit spare) along with associated NGR and its auxiliaries (for Gadarwara line)</li> <li>• Line Reactors switchable: 6X110 MVAR along with associated NGR and its auxiliaries (for Parli line)</li> <li>• Space for future bays: 4 nos</li> </ul> <p><b><u>400kV</u></b></p> <ul style="list-style-type: none"> <li>• ICT Bays: 2 Nos.</li> <li>• Line Bays: 4 Nos.</li> <li>• Provision for future Bays: 4 Nos</li> </ul> <p><b>NTPC to provide following at Gadarwara STPS switchyard</b></p> <ul style="list-style-type: none"> <li>• 765 kV line bay: 4 No</li> <li>• Bus Reactor Bay:1 No</li> <li>• Bus Reactor: 1X330MVAR</li> </ul> <p>Switchable line reactor : 2X330MVAR along with associated</p>	

NGR and its auxiliaries (for Gadarwara-Warora 765 kV D/C line)	
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The scope of the scheme was discussed by CEA and CTU and accordingly modified scope of the scheme awarded to the successful bidder is as under:

<b>Revised Scope</b>	<b>Estimated Cost as per EC (in Rs. Crore)</b>
(i) As per the interim arrangement, LILO of existing Seoni-Bina 765kV S/C line at Gadarwara STPP would be established. At a later date, LILO portion would be delinked from Seoni-Bina 765kV S/C line to restore the Seoni-Bina 765kV S/C direct line, and the LILO portion would be extended to the Jabalapur765/400kV Pooling Station to form the proposed Gadarwara 765/400kV Pooling Station to form the proposed Gadarwara-Jabalpur Pool 765kv D/C line	2525
(ii) Gadarwara STPS- Jabalpur Pool 765kv D/C line	
(iii) Gadarwara STPS- New Pooling Station within the jurisdiction/boundary of Warora 765kv D/C line	
(iv) LILO of both circuits of Wardha- Parli (PG) 400 kV D/C line at Warora* Pooling Station (Quad)	
(v) Establishment of 2X1500 MVA 765/400 kV (New Pooling Station within the jurisdiction/boundary Warora)	
<p><b><u>765 kV</u></b></p> <ul style="list-style-type: none"> <li>• ICTs: 7X500 MVA 765/400 kV (1 spare unit )</li> <li>• ICT bays: 2 no</li> <li>• Line bays: 6 no (2 no bays for Gadarwara STPS ó Warora PS D/C line; 2 no bays for Warora PS ó Parli (New) S/s D/C line covered under Transmission System Associated with Gadarwara STPS (2X800 MW) of NTPC (Part-B); 2 no bays for Rajnandgaon ó Warora PS D/C line covered under additional system strengthening scheme for Chhattisgarh IPPs)</li> <li>• Bus Reactor: 3X110 MVAR</li> <li>• Bus Reactor Bay: 1 no</li> <li>• Line Reactors: 7X110 MVAR (1 unit spare) along with associated NGR and its auxiliaries (for Gadarwara line)</li> <li>• Line Reactors switchable: 6X110 MVAR along with associated NGR and its auxiliaries (for Parli line)</li> <li>• 2x80 MVAR switchable line reactor along with 500 ohm NGR at Warora Pool end of Parli (PG) ó Warora Pool 400 kV D/C line (Quad0 (one reactor at each ckt) (formed after LILO of Wardha-Parli (PG) 400 kV D/C quad line at Warora pool substation)</li> <li>• Space for future bays: 4 nos</li> </ul> <p><b><u>400kV</u></b></p> <ul style="list-style-type: none"> <li>• ICT Bays: 2 Nos.</li> <li>• Line Bays: 4 Nos.</li> <li>• Provision for future Bays: 4 Nos</li> </ul> <p><b>NTPC to provide following at Gadarwara STPS</b></p>	

<b>switchyard</b> <ul style="list-style-type: none"> <li>• 765 kV line bay: 4 No</li> <li>• Bus Reactor Bay:1 No</li> <li>• Bus Reactor: 1X330MVAR</li> </ul> Switchable line reactor : 2X330MVAR along with associated NGR and its auxiliaries (for Gadarwara-Warora 765 kV D/C line)	
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**Members may like to note.**

**(4) Name of Scheme: Additional inter-Regional AC link for import of Power to Southern Region i.e. Warora-Warangal - Hyderabad- Kurnool 765kV link**

The scope of the scheme agreed in the 33<sup>rd</sup> meeting of EC is as under:

<b>Scope as per Gazette Notification</b>	<b>Estimated Cost as per EC (in Rs. Crore)</b>
(i) Establishment of 765/400kV substations at Warangal (New) with 2x1500 MVA transformers and 2x240 MVAR bus reactors	8570
(ii) Warora Pool ó Warangal (New) 765kV D/c line with 240 MVAR switchable line reactor at both ends	
(iii) Warangal (New) óHyderabad 765 kV D/c line with 330 MVAR switchable line reactor at Warangal end	
(iv) Warangal (New) ó Warangal (existing) 400 kV (quad) D/c line	
(v) Hyderabad ó Kurnool 765 kV D/c line with 240 MVAR switchable line reactor at Kurnool end	
(vi) Warangal (New) ó Chilakaluripeta 765kV D/c line with 240 MVAR switchable line reactor at both ends	
(vii) Cuddapah ó Hoodi 400kV (quad) D/c line with 63 MVAR switchable line reactor at both ends	
<b><u>765 &amp; 400 kV Bay Requirements</u></b>	
(i) 765 kV line bays at Warangal (New)	
(ii) 765/400 kV Transformer bays at Warangal (New)	
(iii) 400 kV line bays Warangal (New)	
(iv) Space for future 765 kV line bays at Warangal (New)	
(v) Space for future 400 kV line bays at Warangal (New)	

**Note:**

- Warora Pool developer to provide space for 2 nos. 765 kV line bays at Warora Pool for termination of Warora Pool ó Warangal (New) 765kV D/c line with 240 MVAR switchable line reactor
- CTU (Powergrid) to provide 2 nos. 765 kV bays at Hyderabad for termination of Warangal (New) ó Hyderabad 765 kV D/c line
- CTU (Powergrid) to provide 2 nos. 765 kV bays at Hyderabad for termination of Hyderabad ó Kurnool 765 kV D/c line
- CTU (Powergrid) to provide 2 nos. 765 kV line bays at Kurnool for Hyderabad ó Kurnool 765 kV D/c line with 240 MVAR switchable line reactor at Kurnool end
- CTU (Powergrid) to provide 4 nos. 400 kV bays at Warangal (existing) for Warangal (New) ó Warangal (existing) 400 kV (quad) D/c line

- M/s KPTL to provide 2 nos. 400 kV bays at Hoody for termination of Cuddapah ó Hoodi 400kV (quad) D/c line along with 63 MVAR switchable line reactors

The scope of the scheme was discussed by CEA and CTU due to difficulty in obtaining RoW at existing Hoody 400 kV S/S for Chuddappah - Hoody 400 kV Line (200 kms). CEA has modified the scope and has advised the BPC to redo the RfP with modified scheme with the following scope:

<b>Revised Scope</b>	<b>Estimated Cost as per EC (in Rs. Crore)</b>
(i) Establishment of 765/400kV substations at Warangal (New) with 2x1500 MVA transformers and 2x240 MVAR bus reactors. (ii) Warora Pool ó Warangal (New) 765kV D/c line with 240 MVAR switchable line reactor at both ends. (iii) Warangal (New) óHyderabad 765 kV D/c line with 330 MVAR switchable line reactor at Warangal end. (iv) Warangal (New) ó Warangal (existing) 400 kV (quad) D/c line. (v) Hyderabad ó Kurnool 765 kV D/c line with 240 MVAR switchable line reactor at Kurnool end. (vi) Warangal (New) ó Chilakaluripeta 765kV D/c line with 240 MVAR switchable line reactor at both ends.	
<b><u>765 &amp; 400 kV Bay Requirements</u></b> (i) 765 kV line bays at Warangal (New) (ii) 765/400 kV Transformer bays at Warangal (New) (iii) 400 kV line bays Warangal (New) (iv) Space for future 765 kV line bays at Warangal (New) (v) Space for future 400 kV line bays at Warangal (New)	
	7760

**Note:**

- Warora Pool developer to provide space for 2 nos. 765 kV line bays at Warora Pool for termination of Warora Pool ó Warangal (New) 765kV D/c line with 240 MVAr switchable line reactor
- CTU to provide 2 nos. 765 kV bays at Hyderabad for termination of Warangal (New) óHyderabad 765 kV D/c line
- CTU to provide 2 nos. 765 kV bays at Hyderabad for termination of Hyderabad ó Kurnool 765 kV D/c line
- CTU to provide 2 nos. 765 kV line bays along with 240 MVAr switchable line reactor at Kurnool end for Hyderabad ó Kurnool 765 kV D/c line.
- CTU to provide 2 nos. 400 kV bays at Warangal (existing) for Warangal (New) ó Warangal (existing) 400 kV (quad) D/c line

**Members may like to note.**

### 10.0 Cost of the Project as per the Cost Committee

Empowered Committee during its 32<sup>nd</sup> meeting held on 17.01.2014, decided that a realistic assessment of the cost estimates of transmission scheme under TBCB route may be worked out by a committee, which will be formed with the representative from CEA, POWERGRID/CTU and Bid Process Coordinators (BPCs).

The cost committee constituted for this purpose has estimated the cost of the following transmission schemes:

Sl. No.	Independent Transmission Projects	Cost as per Empowered Committee (in Rs. Crore)	Estimated Cost of the Project as per Cost Committee (in Rs. Crore)
1.	ATS of Tanda Expansion TPS (2 x 660 MW)	345	336
2.	Additional System Strengthening for Sipat STPS	867	1097
3.	System Strengthening for IPPs in Chhattisgarh and other Generation Projects in Western Region	823	1285
4.	Additional System Strengthening Scheme for Chhattisgarh IPPs (Part-B)	1930	2260
5.	Northern Region System Strengthening Scheme ó XXXV	88	90
6.	Transmission System Strengthening in India System for transfer of power from new HEPs in Bhutan	1809	1272
7.	Transmission system associated with Gadarwara STPS (2x800 MW) of NTPC (Part ó B)	2360	3684
8.	Transmission System Strengthening associated with Vindhyachal - V	1200	2845
9.	Additional inter-Regional AC link for import into Southern Region i.e. Warora ó Warangal and Chilakaluripeta - Hyderabad - Kurnool 765kV link	8570	N.A.
10.	Common Transmission System for Phase-II Generation Projects in Odisha and Immediate Evacuation system for OPGC (1320 MW) Project in Odisha	2596	N.A.

#### 11.0 Constitution of the Bid Evaluation Committees (BEC's) for the new transmission schemes

##### (1) Bid Evaluation Committee (BEC) for "System strengthening scheme in Northern Region (NRSS-XXXVI)" - RECTPCL

Sl. No.	Name	Designation
1.	Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770	Chairman

	Fax: 011 -23418773	
2.	Representative from NRPC	Member
3.	Representative from NRPC	Member
4.	Shri Pankaj Batra, Chief Engineer (F&CA) Central Electricity Authority Room No. 626, 6th floor, Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26732688, 26732668, Mobile: 9350981062	Member (CEA)
5.	Shri Chandra Prakash Director (PSP&PA - I) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-2671 1015, Mobile: 9868807917	Member (CEA)
6.	Chairman of SPV constituted by RECPTCCL	Convener - Member

**(2) Bid Evaluation Committee (BEC) for “Creation of new 400kV Substations in Gurgaon area and Palwal area as a part of ISTS” - PFCCL**

Sl. No.	Name	Designation
1.	Head, SBI Capital Markets, 6th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Representative from NRPC	Member
3.	Representative from NRPC	Member
4.	Shri Pankaj Batra, Chief Engineer (F&CA) Central Electricity Authority Room No. 626, 6th floor, Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26732688, 26732668, Mobile: 9350981062	Member
5.	Shri Chandra Prakash	Member

	Director (PSP&PA - I) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-2671 1015, Mobile: 9868807917	
6.	Chairman of SPV constituted by <b>PFCL</b>	Convener - Member

**12.0 Any other item.**

Any other item with the permission of Chair.

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No.15/1/2010-Trans  
Government of India  
Ministry of Power  
Shram Shakti Bhawan, Rafi Marg, New Delhi

Dated, the 31<sup>st</sup> August, 2015

OFFICE MEMORANDUM

Subject:- Constitution of the Committee for revision of Standard Bidding Documents for procurement of transmission services under Tariff Based Competitive Bidding (TBCB).

The undersigned is directed to say that Competent Authority in the Ministry of Power has approved to constitute a Committee to discuss, deliberate and finalize the changes required in the Standing Bidding Documents with the following members:

- |                                                                      |                    |
|----------------------------------------------------------------------|--------------------|
| 1) Member (E&C), CEA                                                 | - Chairman         |
| 2) Chief Engineer (System Planning and Appraisal Division), CEA      | - Member           |
| 3) Chief Engineer (Financial and Commercial Appraisal Division), CEA | - Member           |
| 4) Chief Operation Officer (CTU), PGCIL                              | - Member           |
| 5) Chief Executive Officer, PFCCL                                    | - Member           |
| 6) Representation from CERC                                          | - Member           |
| 7) Director (Trans), Ministry of Power                               | - Member           |
| 8) Director (R&R), Ministry of Power                                 | - Member           |
| 9) Chief Executive officer, RECTPCL                                  | - Member-Secretary |


Terms of Reference

To finalize the draft documents prepared by the Consultant i.e M/s PwC appointed by M/s RECTPCL. These documents should be aligned to facilitate the following:

- (i) Introduction of e-bidding in TBCB process.
- (ii) The e-reverse Auction is to be carried out on the transmission tariff derived from L-1 bidder discovered through TBCB Process.
- (iii) CTU to act as the counter-party to sign the Transmission Service Agreement (TSA), now renamed as Implementation & Service Agreement (ISA), on behalf of all Designated Inter-State Customers (DICs) due to introduction of PoC mechanism as per CERC regulations
- (iv) Provisions related to CERC, CEA, Companies Act, 2013 and any other changes due to change in regulation/ law.
- (v) To modify provisions of Penalty & Termination clauses.
- (vi) To deliberate on the role of BPCs after handing over of SPV till start of physical execution of transmission system.
- (vii) To modify the document w.r.t. practical difficulties being faced by BPCs during bidding process of concluded.
- (viii) Any other suggestions for facilitating development of transmission system under TBCB.

The Committee may also informally consult EPTA (Electric Power Transmission Association).

2. The Committee would expeditiously finalize the documents and submit its report to Ministry of Power within four weeks.

  
(S. Venkateshwarlu)  
Under Secretary (Trans)  
Telefax No. 23325242  
E-mail : transdesk-mop@nic.in

To

All the concerned.

Copy to PPS to Secretary (Power) / AS (BNS) / JS (Trans) / Director (Trans) / Director (R&R).