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केंद्रीय विद्युत प्राधिकरण / Central Electricity Authority
प्रणाली योजना एवं परियोजना मूल्यांकन विभाग
System Planning & Project Appraisal Division
सेवा भवन आर के पुरम / Sewa Bhawan, R.K. Puram
नई दिल्ली / New Delhi – 110 066
वेबसाइट / Website : www.cea.nic.in



No. 100/EC (32)) 2013-SP&PA/2074-2084

[ISO : 9001 : 2008]
November 12, 2014

To

1. Shri Major Singh,
Member (Power System)
Central Electricity Authority,
Sewa Bhawan, R.K. Puram,
New Delhi-110 066.
2. Dr. Jaipal Singh,
Member (Economic & Commercial),
Central Electricity Authority,
Sewa Bhawan, R.K. Puram,
New Delhi-110 066.
3. Shri Ghanshyam Prasad,
Director (Transmission),
Ministry of Power,
Shram Shakti Bhawan, Rafi Marg,
New Delhi-110 001.
4. Shri I.S. Jha,
Director (Projects), POWERGRID,
Saudamini, Plot No.2, Sector-29,
Gurgaon-122 001.
5. Shri Surinder Singh,
Joint Adviser (Planning),
Planning Commission,
Yojana Bhawan,
New Delhi-110 001.
6. Shri V.V.R.K. Rao,
Expert Member (Power System), CEA
B-9/C, DDA Flats, Maya Puri,
New Delhi-110 064.
7. Shri Ravinder,
Expert Member (Power System), CEA,
147, Bhagirathi Apartment,
Sector-9, Rohini, Delhi-110 085.

Subject: Minutes of the 33rd meeting of the Empowered Committee on Transmission held on 30th September, 2014

Sir,

The 33rd meeting of the Empowered Committee on Transmission was held on 30th September, 2014 in CEA under the Chairmanship of Shri Major Singh, Member (Planning & Power System), CEA. The minutes of the meeting are enclosed herewith.

Yours faithfully,


(K.K. Arya)

Member Secretary &
Chief Engineer (SP&PA)

Encl: As above.

Copy to:

- (i) Joint Secretary(Trans), Ministry of Power, Shram Shakti Bhawan, New Delhi-110 001.
- (ii) COO (CTU), POWERGRID, 'Saudamini', Plot No.2, Sector-29, Gurgaon-122 001 (Haryana).
- (iii) CEO, RECTPCL, 12-21, Upper Ground Floor, Anriksh Bhawan, 22, K.G. Marg, New Delhi-110 001.
- (iv) CEO, PFC Consulting Ltd, First Floor, Urjanidhi, 1 Barakhamba Lane, New Delhi-110 001. (Fax No.011-23456170)

Minutes of the 33rd meeting of the Empowered Committee (EC) on Transmission held on 30th September, 2014 (Tuesday) in CEA, Sewa Bhawan, R.K. Puram, New Delhi

The 33rd meeting of the EC was held on 30th September, 2014 (Tuesday) in CEA, Sewa Bhawan. The meeting was attended by the members from CEA, POWERGRID, MoP, Planning Commission and two expert members in Power System Shri VVRK Rao and Shri Ravinder. The list of Participants is given at **Annexure I**.

Chairperson, Empowered Committee on Transmission and Members (Power System), CEA welcomed the participants and requested Member Secretary and Chief Engineer (SP&PA), CEA to take up the Agenda.

Member Secretary and Chief Engineer (SP&PA), CEA informed that the 32nd EC meeting on Transmission was held on 17/01/2014 and the minutes of the meeting was circulated vide CEA letter no. 100/1/EC(32)/2014–SP&PA dated 6/2/2014. He requested members for confirmation of the minutes of the 32nd EC meeting on Transmission.

Shri Ravinder, Member of EC stated that for the implementation of the Renewable Energy corridors, information on long term access sought by the Renewable Energy generators, Power Purchase Agreement (PPA) signed by them along with the details of the prospective buyers may be furnished.

Member Secretary and Chief Engineer (SP&PA), CEA stated that as regards to the justification sought by the member of EC on the implementation of green energy corridors, it is intimated that the government has decided to implement the scheme with regulated tariff mechanism through PGCIL with compressed time schedule. The same was noted by the members. As no other comments on the minutes were received from any members, the minutes of the 32nd EC meeting on Transmission were confirmed.

1.0 Revised procedure for allocation of Inter State Transmission Project(s) under Tariff Based Competitive Bidding (TBCB)

The members were appraised of the Ministry of Power letter no. 10/89/2014-PG dated 16th July, 2014 vide which revised procedure was issued for allocation of Inter State Transmission Project(s) under Tariff Based Competitive Bidding (TBCB), which is as under:

Bid Process Coordinator (BPC)

A Bid Process Coordinator, herein after referred to as BPC, would be responsible for coordinating the bid process for procurement of required transmission services for each inter-state Transmission Project to be implemented under tariff based competitive bidding in accordance with these guidelines.

For procurement of transmission services, required for any inter-state transmission Projects, the Chairperson Central Electricity Authority has been authorized by MoP to allocate the Projects to BPCs on the recommendations of Empowered Committee. It will be open for Ministry of Power to review the nomination of BPC at any time.

For procurement of transmission services required for intra-state transmission, the appropriate State Government may notify any Organization/State Public Sector Undertaking especially engaged for this purpose by the appropriate state government or BPC notified by the Central Government to be the BPC for the state.

All the expenditure incurred by the BPC in the process of selection of the investor in accordance with the provisions of these guidelines shall be recovered from the developer who is finally identified and assigned the task of developing that project. The amount to be recovered shall be indicated in the RFP document so that bidders can take that amount into consideration in the tariff to be quoted by them.

The EC noted the same.

2.0 Cost estimates for the transmission projects to be implemented through tariff based competitive bidding (TBCB)

The members were informed about the formation of the cost committee as decided in the 32nd EC meeting on Transmission. The detail of cost committee is annexed at **Annexure – II.**

The EC noted the same.

3.0 Annulment of bidding process for Transmission System for connectivity for NCC Project (1320 MW) and Baira Suil – Sarna 220 kV D/C transmission line

(i) Transmission System for connectivity for NCC Project (1320 MW)

The EC on Transmission was intimated about the annulment of the bidding process for connectivity for NCC Project (1320MW) as the discovered tariff obtained through the bidding process was quite high. Accordingly, MoP vide its letter no. 15/9/2013-Trans dated 10th

December, 2013 has allocated the project to PGCIL for development through regulated tariff mechanism.

(ii) Baira Suil – Sarna 220 kV D/C transmission line

CE SP&PA informed that due to high cost of implication (about Rs. 250 Crore), ageing of Baira Suil HEP (38 year old hydro plant) and small period operation on full load (only for 2-3 months in a year) the 33rd & 34th Standing Committee of Power System Planning for Northern Region found the proposal of making huge investment for strengthening of transmission system from Barasuil HEP non justifiable. Accordingly, the proposal for implementation of Baira Suil- Sarna 220 kV D/C was dropped.

CE(SP&PA) further stated that for carrying out the bidding process for the above two transmission projects, the BPC (RECTPCL), stated that they incurred an expenditure of about **Rs. 1.89 Crore** and requested for reimbursement of this expenditure. The issue was discussed earlier in the 32nd meeting of the Empowered Committee on Transmission held on 17/1/2014 and it was decided that BPC may furnish the audited expenditure, which they have now furnished. He stated that presently, there is no methodology for reimbursement of this amount, however, for transfer of the SPV to the successful bidder, the BPCs are given a fee upto 15 Crore and one option could be that they recover the cost for unsuccessful award, from the profit money earned from other projects or as a second option a corpus fund may be created under Chairmanship, CEA, in which **0.01% of the project cost** could be taken from the concessionaire by the BPC upfront and deposited in the corpus. The money from the corpus would be given by the BPCs as reimbursement for the expenditure it incurs in case of annulment of the bidding process of the project. Accordingly, for creation of the corpus it is suggested that an additional amount of 0.01% of the project cost be deducted from the successful bidders of the future schemes.

The issue was discussed in details and the members were of the view that presently there is no need to burden the customer by loading the tariff with the corpus fund. Since there are only a few schemes where the bidding have been annulled, so the BPC may for the time being adjust the expenditure incurred by them for the annulled schemes from their profit margins.

The EC agreed for the same.

4.0 Abeyance of bidding process for Northern Region System Strengthening Scheme – XXXIII

(i) Northern Region System Strengthening Scheme – XXXIII

CE (SP&PA), CEA stated that this transmission project was kept in abeyance as there was a dispute of PPA between Essar Power (Jharkhand) Ltd (EPJL) and Noida Power Company Ltd (NPCL) for which the system strengthening scheme was agreed in the Standing Committee. Further, during the 33rd SCM meeting POWERGRID had informed that NPCL has applied for Long Term Access for 500 MW with target source from Western Region (400 MW) and Eastern Region (100 MW). However, connectivity to NPCL could not be provided as it is already connected to STU grid and for providing LTA to Noida Power Company, NOC from STU (UPPTCL) is required as per the CERC regulations.

UPPTCL was requested for early processing of NOC to M/s NPCL. However, UPPTCL vide their letter dated 11/03/2014 informed that M/s NPCL is not a consumer as it is a distribution Licensee operating at Greater Noida U.P. which does not qualify the condition of applicant for connectivity as per the conditions of connectivity of CERC regulations.

The matter was revisited in the 34th SCM of NR, wherein UPPTCL reiterated their stand that the establishment of 2x500 MVA, 400/220 kV GIS substation at Greater Noida (New) is not required as 765/400/220 kV UPPTCL S/S at Greater Noida is expected soon and the requirement of NPCL could easily be met from the new 765/400/220 kV Noida S/s of UPPTCL. As such, the Standing Committee of NR felt that option is now open for NPCL to take necessary action for adjudication of the matter.

The EC noted the same.

5.0 New Schemes Notified by MoP.

CE (SP&PA) informed that Ministry of Power vide notification dated 8th July, 2014 has notified the following schemes, which were agreed by the 32nd EC for implementation under TBCB route.

Sl. No.	Name of Transmission Scheme	Name of BPCs
1.	Northern Region Strengthening Scheme-XXXV	PFC Consulting Ltd.
2.	Additional System Strengthening for Sipat STPS	PFC Consulting Ltd.

3.	System Strengthening for IPPs in Chhattisgarh and other generation projects in Western Region	PFC Consulting Ltd.
4.	Additional System Strengthening Scheme for Chhattisgarh IPPs (Part-B)	PFC Consulting Ltd.
5.	Transmission system associated with Gadarwara STPS (2x800 MW) of NTPC (Part - A)	REC Transmission Project Company Ltd.
6.	Transmission system associated with Gadarwara STPS (2x800 MW) of NTPC (Part - B)	REC Transmission Project Company Ltd.
7.	Connectivity lines for Maheshwaram (hyderabad) 765/400kV pooling S/s	REC Transmission Project Company Ltd.
8.	Transmission System for LTA of 400 MW for 2x500 MW Neyveli Lignite Corp. Ltd. TS-I (Replacement) (NNTPS) in Neyveli	REC Transmission Project Company Ltd.
9.	Transmission system Strengthening associated with Vindhyachal-V	REC Transmission Project Company Ltd.

The EC noted the same.

6.0 New transmission schemes to be taken up through Tariff Based Competitive Bidding (TBCB)

6.1 Inter State Transmission System for Renewable in Northern Region

6.1.1 Director(SP&PA),NR, CEA stated that the for evacuating renewable generation, the following comprehensive inter state transmission systems were agreed in the 32nd Standing Committee on Power System Planning in Northern Region held on 31st August, 2013 and 36th Standing Committee meeting on Power System Planning of Western Region held on 29th August, 2013.

Western Region (Gujarat):

- i. Bhuj Pool–Banaskanta 765 kV D/c
- ii. Banaskanta -Chittorgarh 765 kV D/c
- iii. Banaskanta-Sankhari 400 kV D/c
- iv. 765/400/220kV (765/400 kV-2x1500 MVA & 400/220kV- 2x500MVA) substation each at Bhuj Pool and Banaskanta
- v. Associated reactive compensation (Bus reactors & line reactors)

Northern Region (Rajasthan):

- i. Chittorgarh-Ajmer (New) 765 kV D/C
- ii. Ajmer (New)-Suratgarh (New) 765 kV D/C
- iii. Suratgarh (New)-Moga (PG) 765 kV D/C
- iv. Chittorgarh-Chittorgarh (RVPN) 400 kV D/C (Quad)

- v. Ajmer (New)- Ajmer (RVPN) 400 kV D/C (Quad)
- vi. Suratgarh (New)- Suratgarh 400 kV D/C (Quad)
- vii. 2x1500 MVA, 765/400 kV sub-station each at Chittorgarh, Ajmer (New) and Suratgarh (New)
- viii. Associated reactive compensation (Bus reactors & line reactors)

6.1.2 All the above transmission elements except Ajmer (New)-Suratgarh (New) 765 kV D/C and Suratgarh (New)-Moga (PG) 765 kV D/C have been notified by Ministry of Power vide their letter no. 11/43/2012-PG dated 04th Feb. 2014 to be implemented by PGCIL through regulated tariff mechanism route under para 7.1 (6) (ii) of Ministry of Power resolution dated 08.07.2011. Accordingly, the following system is being put up for consideration of the committee.

Name of the line	Length (km)	Estd. Cost in Rs. (Cr.)
765 kV Ajmer (New)-Suratgarh (New) D/C	330	2439
765 kV Suratgarh (New)-Moga (PG) D/C	204	1507
Establishment of 2x1500 MVA, 765/400 kV sub-station at Suratgarh (New) 765 kV line Bays -6		494
Total		4440

6.1.3

Director (Projects), PGCIL stated that the funding for the above transmission elements is being tied up with ADB and hence should be implemented by PGCIL through regulated Tariff mechanism under compressed time schedule.

6.1.4 Shri VVRK Rao, Member EC & Power Sector Expert was of the view that the green energy corridor is flag ship scheme of Govt. of India and considering its importance, the whole scheme can be implemented by a single agency.

6.1.5 Shri Ravinder, Expert Member stated that CTU needs to furnish the details of LTA applied by the RE developers and PPA signed by them with the prospective buyers, so that it is ensured that the transmission infrastructure created is not under utilised.

6.1.6 Director (SP&PA-SR), CEA stated that the whole transmission system was agreed for mixed use i.e., for evacuation of RE generators as well as for transmission of power

from conventional generators from WR to NR for mixed use from conventional generators from WR to NR and vice versa, as such identifying a section of the transmission system to be constructed by a single agency does not hold.

6.1.7 Representative from Planning Commission stated as per the guidelines of the TBCB and towards the open policy Tariff Policy on transmission, all the transmission projects have to be mandatory implemented through TBCB route.

6.1.8 After detailed deliberation on the views expressed by the members and in line with the Provisions of the Tariff Policy, it is recommended that the following portion of Renewal transmission system may be implemented through TBCB route.

Name of the line	Length (km)	Estd. Cost in Rs. (Cr.)
765 kV Ajmer (New)-Suratgarh (New) D/C	330	2439
765 kV Suratgarh (New)-Moga (PG) D/C	204	1507
Establishment of 2x1500 MVA, 765/400 kV sub-station at Suratgarh (New) 765 kV line Bays -6		494
Total		4440

6.2 Creation of 400/220 kV substations in NCT of Delhi during 12th plan period.

6.2.1 Director (SP&PA),NR, CEA stated that the transmission scheme for creation of 400/220 kV substations in NCT of Delhi during 12th plan period was approved in the 34th SCM of NR held on 8th August, 2014. The scope of the transmission scheme is as under:

Sl. No	Transmission Scheme	Capacity in MVA/ ckt. km.	Estd. Cost In Rs(Crs.)
1	400/220 kV GIS at Rajghat <ul style="list-style-type: none"> • 8 nos. 400 kV bays (4 incomer, 4 ICT), with provision for future expansion • 23 nos. 220KV bays (220 kV split bus with 12 bays on each side = 2 incomer, 6 feeder bay, 1 B/C, 1 B/S(only one), 2 ICT) 	4x500	400
2	400/220 kV GIS at Tuglakabad <ul style="list-style-type: none"> • 8 nos. 400 kV bays (4 incomer, 4 ICT), with 	4 x 500	400

	<p>provision for future expansion</p> <ul style="list-style-type: none"> • 23 nos 220KV bays (220 kV split bus with 12 bays on each side = 2 incomer, 6 feeder bay, 1 B/C, 1 B/S(only one), 2 ICT) 		
3	<p>400/220 kV GIS at Karpura</p> <ul style="list-style-type: none"> • 8 nos. of 400KV bays (4 incomer, 4 ICT) with provision for future expansion • 23 nos 220KV bays (220 kV split bus with 12 bays on each side = 2 incomer, 6 feeder bay, 1 B/C, 1 B/S (only one), 2 ICT) 	4 x 500	400
4	<p>400/220 kV GIS at Papankalan-I</p> <p>The 400 KV Papankalan I S/S would be created by upgrading the existing 220kV Papankalan S/S to 400 kV with the following provisions.</p> <ul style="list-style-type: none"> • 6 nos. of 400KV bays (2 incomer, 4 ICT) with provision for future expansion • 23 nos 220KV bays (220 kV split bus with 12 bays on each side = 2 incomer, 6 feeder bay, 1 B/C, 1 B/S (only one), 2 ICT) 	4 x 500	340
	<p>LILO of Bawana –Mandola 400 kV D/C line on M/C tower at Rajghat.</p>	4x25 (appox.)	375
1	<p>LILO of 400 kV D/C Bamnauli – Samaypur O/H line at Tughlakabad</p> <ul style="list-style-type: none"> • 400KV M/C tower line from 400KV Tughlakabad to Dera Mandi Delhi Border, length = 15 kilometres • 400KV D/C tower line from Dera Mandi Delhi Border to LILO point at Alampur Village, Haryana length = 12 kilometres 	2 x 55 (appox.)	442
2	<p>400 kV Jatikalan More -Karpura O/H M/C</p>	2 x 40	

	Line	(approx.)	322
3	400 kV Bawana – Karpura O/H D/C on M/C line	2 x 30 (approx.)	242
4	LILO of one circuit of Bamanuli-Jhatikalan 400 kV line at Papankalan-I	2 x 20 (approx.)	131
	Total		3052

6.2.2 Director(SP&PA), NR, CEA stated that the above work of DTL are of high priority and has to be completed in a period of less than two years time i.e. before the summer peak of 2017. He stated that these schemes form a part of 24x7 power supply in Delhi and as such needs to be commissioned in compressed time schedule. Therefore it is proposed that the above works may be allocated to PGCIL on cost plus basis with compressed time schedule.

6.2.3 Director(Trans.) MoP agreed for consideration of the proposal for implementation under compressed time schedule by PGCIL

6.2.4 The EC agreed for recommending the above Scheme to MoP, for their consideration and approval of the proposal for implementation under regulated Tariff mechanism with compressed time schedule by PGCIL.

6.3 Establishment of 220/66kV, 2x160MVA GIS S/s at Sector 47, UT Chandigarh along with 220kV D/C line from Sector 47 to 400/220kV Panchkula substation of Powergrid as a inter state line.

6.3.1 Director(SP&PA), NR, CEA stated that the establishment of 220/66kV, 2x160MVA GIS S/s at Sector 47, UT Chandigarh along with 220kV D/C line from Sector 47 to 400/220kV Panchkula substation of POWERGRID as a inter state line was discussed and agreed in principle in the 31st SCM of NR. In that meeting it was also decided that scheme may be fine tuned later after discussion with Chandigarh, HVPNL and CTU. The issue was discussed in the 34th meeting of the Standing Committee of Northern Region, wherein the following systems were agreed

Sl. No.	Transmission Scheme	Estimated route length (km)	Estd. Cost In Rs(Crs.)
1.	Creation of 220/66 kV, GIS S/s at Sector 47, UT Chandigarh	2x160MVA	16
2.	220 kV D/C line from Sector 47 to 400/220kV Panchkula substation of POWERGRID	56	50.4
			66.4

6.3.2 Director (SP&PA), NR, CEA stated that the scheme is small and the line would need to be built as overhead as well as underground in some portion of the route from Sector 47 UT Chandigarh to 400/220kV Panchkula substation of POWERGRID. Moreover, HVPNL is also planning a sub-station along the transmission line, hence keeping in view the complexity involved, it is desirable that the transmission scheme may be built by PGCIL under compressed time schedule through regulated Tariff mechanism.

6.3.3 The EC agreed for recommending the above Scheme to MoP, for their consideration and approval of the proposal for implementation under regulated Tariff mechanism with compressed time schedule by PGCIL

6.4 Name of the Scheme: Shongtong Karcham HEP in Himanchal Pradesh

6.4.1 Director (SP&PA), NR, CEA stated that the transmission scheme has been approved in the 30th Standing Committee on Power System Planning in Northern Region held on 19th December, 2011. The scope of the transmission scheme is as under.

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)
1.	Shongtong Karcham HEP– Wangtoo 400 kV D/C (Quad HTLC conductor	18
2.	Creation of 400/220kV, GIS S/s at Wangtoo Provision for 400 kV line bays : <ul style="list-style-type: none"> • 2 nos at Shongtong Karcham HEP (to be provided by HPPCL) • 6 nos at Wangtoo The provision for 2 nos. of transformer bays	2x315

6.4.2 The Project developer M/s HPPCL has now indicated that the civil package has already been awarded to M/s Patel Engineering Limited on 3rd August, 2012 with the completion period of 60 months. The tendering for electro- mechanical package is under process.

6.4.3 It was decided to seek the status of generating project at site. Accordingly, the proposal was **deferred for the next meeting**

The EC agreed for the same.

6.5 Northern Region System Strengthening Scheme(NRSS)-XXXIV

6.5.1 Director(SP&PA), NR, CEA stated that the NRSS XXXIV Scheme was agreed in 32nd & 33rd meeting of Standing Committee on Power System Planning of Northern Region with the following scope of work:

- (i) LILO of Agra – Bharatpur 220kV S/c line at Agra (PG) along with 2 Nos. of 220kV line bays at Agra (PG) substation for termination of these lines.
- (ii) 1x315MVA, 400/220kV ICT at Agra (PG) along with associated 400kV and 220kV bays for termination of ICT (ICT shall be provided from the spared ICTs available after replacement of ICTs at Ballabgarh/Mandaula Substation and shall be refurbished before installation)
- (iii) 1x315MVA. 400/220kV ICT at 400Kv Kaithal substation along with associated 400kV and 220kV bays for termination of ICT (ICT shall be provided from the spared ICTs available after replacement of ICTs Ballabgarh/ Mandaula substation and shall be refurbished before installation)
- (iv) 220kV lines bays at Kaithal substation – 2 Nos.
- (v) 220kV lines bays at 400/220kV Bhinmal substation (PG) – 2 Nos.
- (vi) LILO of Sarna – Hiranagar 220kV S/c at 400/220kV Samba substation (the lines are to be terminated at existing 220 kV lines bays at Samba substation)
- (vii) LILO of one circuit of 400kV Parbati pooling station – Amritsar D/c lines at Jalandhar substation (PG) along with 2 Nos. of 400kV lines bays at Jalandhar (PG) substation for termination of these lines

6.5.2 MoP's vide letter dated 19th November, 2013 accorded prior approval of the GoI under section 68 of the Electricity Act, 2003 for the project (plus 2 nos. 400kV line bays at Bhiwani substation (PG) – matching with Mohindergarh – Bhiwani 400kV D/c line proposed through TBCB). Subsequently, in line with discussion held during 33rd meeting of the Standing Committee in NR on 23rd December, 2013, approval under Section 68 for the modified scope (i.e. excluding 2 nos. 400kV line bays at Bhiwani (PG) substation), was sought from MoP vide

letter dated 12th Feb, 2014. The transmission elements mentioned at Sl. No. (ii) to (v) above for up gradation/strengthening of existing sub-station, were exempted from tariff based competitive bidding route in line with the clarification issued by MoP vide letter dated December 9, 2010 (regarding clause 5.1 and 7.1 of Tariff Policy). However, for the LILO portion of the scope, i.e. elements at Sl No. (i), (vi) & (vii), approval for implementation is required.

6.5.3 Considering small works and difficulty to be encountered in the bidding process, it was, requested that approval for implementation of the transmission elements at Sl. No. (i), (vi) & (vii) above by the CTU (POWERGRID) under compressed time schedule through regulated tariff mechanism route may please be considered.

6.5.4 The EC agreed for recommending the following Scheme to MoP, for their consideration and approval of the proposal for implementation under regulated Tariff mechanism with compressed time schedule by PGCIL

Transmission Scheme	Estimated Line Length (ckm)	Estd. Estimated Cost (Rs. Crore)
Name of Scheme- : System Strengthening-XXXIV (Part) in Northern Region		
i) LILO of Agra – Bharatpur 220kV S/c line at Agra (PG) along with 2 Nos. of 220kV line bays at Agra (PG) substation for termination of these lines	40	26
ii) LILO of Sarna – Hiranagar 220kV S/c at 400/220kV Samba substation (the lines are to be terminated at existing 220 kV lines bays at Samba substation)	20	16
iii) LILO of one circuit of 400kV Parbati pooling station – Amritsar D/c lines at Jalandhar substation (PG) along with 2 Nos. of 400kV lines bays at Jalandhar (PG) substation for termination of these lines	100	345
		387

6.6 Constraints in 400kV bays extensions at 400 kV Vemagiri S/S.

6.6.1 Director(SP&PA), SR, CEA stated that due to space constraint at APTRANSCO's Vemagiri 400kV Sub- Station there is a difficulty in providing bay extension for bringing KV Kota-Vemagiri 400kV D/C line at Vemagiri. The line was agreed in the 36th meeting of the Standing Committee of Southern Region as a part of Transmission System for evacuation of power from 1040MW Hinduja (HNPCL) power project. APTRANSCO had proposed to remove LILO at 400 kV Vemagiri Substation and make through one circuit of 400 kV Simhadri-II – Nunna D/C line (PGCIL) LILOed at 400kV Vemagiri SS. The issue was discussed in the 37th SCM of SR and following systems were agreed:

Sl. No.	Transmission Scheme	Estd. Line Length (km)	Estd. Cost In Rs(Crs.)
1.	LILO of both circuits of Gazuwaka/Simhadri-II – Vemagiri(AP) 400kV D/C line at Vemagiri-II.	48	194
2.	Straighten Nunna- Gazuwaka 400kV D/C line (by disconnecting the LILO at Vemagiri-I) so as to make Nunna – Vemagriri-II 400 D/C link	300	1207
3.	Use one LILO D/C portion (of Gazuwaka-Nunna at Vemagiri-I) to connect with K.V. Kota. APTARNSCO is implementing kV Kota-Vemagiri 400 kV DC line agreed 36th meeting.	10	25
4.	Second LILO D/C portion to be extended to Vemagiri-II (by PGCIL	10	25
5.	400 kV Bay Provisions: <ul style="list-style-type: none">• 2 bays at Vemagiri-I• 6 bays at Vemagiri-II		75
			1526

6.6.2 It was intimated that as the transmission elements are required on urgent basis the system may be implemented under regulated Tariff mechanism with compress time schedule by PGCIL.

6.6.3 The EC agreed to recommend the proposal to MoP, for their consideration for approval of the proposal for implementation under regulated Tariff mechanism with compressed time schedule by PGCIL.

6.7 System for increasing capacity of Inter-State Transmission system for import of power into SR up to 2018-19

6.7.1 Director(SP&PA), SR, CEA stated that Southern Region is facing power deficit which has arisen mainly due to – (i) delay/deferment of anticipated generation projects, for example, Krishnapattam UMPP (4000 MW), Cheyyur UMPP(4000 MW), Udangudi TPS, IPP projects in Nagapattanam/ Cuddalore area (3000 to 4000 MW), Kundankulam APP (2000 MW), Kalpakkam PFPR (500 MW), East coast project in Srikakulam (1320 MW), Gas based projects in Vemagiri (about 3000 MW) etc. and (ii) also due to non-availability of gas for existing gas projects in Southern Region.

6.7.2 Some of the constraints in import of power into Southern Region and delivering up to Kerala and Tamil Nadu has also been due to long delay in commissioning of important 400 kV transmission lines, for example, Mysore - Kozikode 400 kV D/C line (delayed by more than 7 years), Tirunelveli-Edamon-Cochin 400 kV D/c line (delayed by about 4 years) and Narendera-Kolhapur inter-regional 765 kV D/C line. Some constraints have also been caused due to delay in the transmission systems of states, for example, the system associated with Narsaropeta, Vijaywada, Hyderabad & Kakatiya TPS in Andhra Pradesh, system associated with Yermarus TPS and non-finalisation of land for New Narendera in Karnataka and transmission system for wind projects and North Chennai TPS in Tamil Nadu.

6.7.3 Joint studies were carried out by CTU and CEA to facilitate import of 16000 MW power to Southern region by 2018-19 based on the pessimistic scenario of non-availability/ delay in commissioning of some of the generation projects in Southern region. The system was tested for contingencies including total outage of an entire inter-regional link and other critical regional lines for reliability.

6.7.4 The issues were discussed in the 36th and 37th SCM of SR and the following transmission schemes were agreed:

(A) Scheme-I: Additional inter-Regional AC link for import into Southern Region i.e. Warora – Warangal and Chilakaluripeta - Hyderabad - Kurnool 765kV link

Sl. No.	Transmission Scheme	Est. Line Length (km)	Est. Cost In Rs(Crs.)
1.	Establishment of 765/400kV substations at Warangal (New) with 2x1500 MVA transformer and 2x240 MVAR bus reactors.		640

2.	Warora Pool -Warangal (New) 765 kV D/c line with 240 MVAR switchable line reactor at both ends.	350	2618
3.	Warangal (New) – Hyderabad 765 kV D/c line with 330 MVAR switchable line reactor at Warangal end.	160	1310
4.	Warangal (New) – Warangal (existing) 400 kV (quad) D/c line.	10	40
5.	Hyderabad– Kurnool 765 kV D/c line with 240 MVAR switchable line reactor at Kurnool end.	170	1279
6.	Warangal (New) – Chilakaluripeta 765kV D/c line with 240 MVAR switchable line reactor at both ends.	250	1873
7.	LILO of Kurnool-Thiruvalam 765 kV D/C at Cuddapah	50	
8.	Cuddapah- Hoodi 400kV (quad) D/c line with 63 MVAR switchable line reactor at both ends.	200	810
9.	<u>765 kV line Bay Provisions:</u> <ul style="list-style-type: none"> • Warora Pool - 2 • Warangal (New) – 6 • Hyderabad - 4 • Kurnool - 2 • Chilakaluripeta - 2 • Cuddapah - 4 <u>400 kV line Bay Provisions</u> <ul style="list-style-type: none"> • Warangal (Existing) – 2 • Warangal (New) – 2 • Cuddapah - 2 • Hoodi - 2 		Cost included
			8570

6.7.5 The EC agreed to recommend the implementation of the above transmission elements (**except for element at item No. 7**) through TBCB route. The EC decided to recommend MoP for implementation of the transmission elements mentioned at Sl no. 7 i.e. LILO of Kurnool - Thiruvalam 765 kV D/C at Cuddapah 760/400 kV S/s under compressed time schedule through regulated Tariff mechanism by PGCIL. .

(B) Scheme-II: HVDC Bipole link between Western region (Raigarh, Chhattisgarh) and Southern region (Pugalur, Tamil Nadu)

Sl. No.	Transmission Scheme	Est. Line Length (km)	Estd. Cost In Rs(Crs.)
1.	Raigarh(HVDC Stn) – Pugalur (HVDC Stn) 6000 MW HVDC bipole	1750	9443
2.	Establishment of Raigarh HVDC Stn with 6000 MW HVDC terminals		6958
3.	Establishment of Pugalur HVDC Stn with 6000 MW HVDC terminals (or Alternatively: (i) with Pugalur HVDC Stn with 4000 MW terminal, and (ii) Madakkathara, in Kerala HVDC Stn with 2000 MW terminal and inter-connection with existing 400kV AC S/S at Madakkathara)		6958
4.	Raigarh HVDC Station – Raigarh(Existing) 400kV (quad) 2xD/c lines (or with bay extension)	20	80
5.	Pugalur HVDC Station – Pugalur (Existing) 400kV (quad) D/c line.	10	41
6.	Pugalur HVDC Station – Arasur 400kV (quad) D/c line with 80 MVAR switchable line reactor at Arasur end.	150	634

7	Pugalur HVDC Station – Thiruvallam 400kV (quad) D/c line with 80 MVAR switchable line reactor at both ends.	330	1358
8	Pugalur HVDC Station – Edayarpalayam 400 kV (quad) D/c line with 63 MVAR switchable line reactor at Edayarpalayam end.	160	666
9	Edayarpalayam – Udumulpeta 400 kV (quad) D/c line.	85	342
1	Establishment of 400/220kV substation with 2x500 MVA transformers at Edayarpalayam and 2x125 MVAR bus reactors.		340
	<u>400 kV line Bay Provisions</u> <ul style="list-style-type: none"> • Raigarh(Existing) – 2 • Pugalur (Existing) – 2 • Arasur - 2 • Thiruvallam -2 • Edayarpalayam -2 • Udumulpeta -2 		Cost Included
	Total		26820

6.7.6 Director (Projects) PGCIL stated that in regard to technology there is no ± 800 kV, 6000 MW multi terminal HVDC in operation. However, POWERGRID is implementing two numbers of ± 800 kV HVDC systems out of which one is having multi terminal facility. Further CTU opined that this transmission system shall involve transmission lines of the order of 2000 kms including some portion in Kerala, land acquisition in North Trichur (Kerala), where getting land for substation and right of way for laying transmission lines in Kerala is extremely difficult. Therefore because of such type of uncertainties any unforeseen complications at a later date shall generate litigations thereby causing delay in availability of such an urgent transmission system. A similar instance has been faced in the case of implementation of backup system for Talcher-II transmission system which could not be implemented till date due to litigation. This is causing severe constraints in import of power through Gazuwala HVDC Back-to-back. Therefore it is necessary that such projects fraught with uncertainties should be implemented under cost plus so as to avoid litigation and ultimately non-availability of such critical element. CTU further stressed that the high capacity HVDC systems of the order of 6000 MW having complex control systems are very critical for the Grid Security. ± 800 kV, 6000 MW HVDC bipole system with multi terminal configuration is under development process which involves high technical and complex issues as well as operation grid security issues; hence it should be implemented by PGCIL.

6.7.7 Director (Trans), MoP stated that the southern region beneficiaries in the recently concluded Power Minister's conference have requested for early implementation of the HVDC to mitigate the shortages.

6.7.8 The Joint Advisor Planning Commission stated that as per MoP Guidelines for encouraging competition in Development of Transmission projects and Tariff Based Competitive Bidding, competition in transmission sector through wider participation in providing transmission services and tariff determination through a process of tariff based competitive bidding has been encouraged. MoP has also directed that since 06.01.2011, all the Inter State Transmission System (ISTS) transmission schemes are to be implemented through Tariff Based Competitive Bidding (TBCB) as given in Tariff Policy. He stated that HVDC system has already been built and is under operation in private sector and no such problems as indicated by CTU has been observed so far. As such, he is of the view the projects should be implemented through TBCB route.

6.7.9 Shri V. V. R. K. Rao, expert Member stated that as per current extant Tariff Policy, all the transmission projects have to be implemented through TBCB route. However, CTU has expressed certain apprehension as Technical, Complexity and Operational grid security issues, which also needs to be considered.

6.7.10 Shri Ravinder, expert Member stated that as per current extant Tariff Policy, all the transmission projects have to be implement through TBCB route. Further, for implementing HVDC system, whether built by CTU or a private developer, the time taken would remain the same as all the developers would get it implemented through some specialized agencies. As such, there is no advantage in implementing the HVDC with compressed time schedule

6.7.11 Member Secretary and CE (SP&PA) stated that construction of HVDC lines are not exempted from Tariff based competitive bidding process. The issue of grid security as raised by CTU is also not very relevant as 765 kV lines are being implemented through TBCB route by private developers.

6.7.12 Chairperson was of the opinion that the scheme II as indicated above with HVDC elements along with the remaining AC Transmission elements may be implemented through TBCB route.

6.7.13 After detailed deliberation on the views expressed by the members of the EC and in line with the provisions of the Tariff Policy, it is recommended that Scheme II i.e.

HVDC elements along with the AC Transmission systems may be implemented through TBCB route.

(C) Scheme-III: Strengthening of transmission system beyond Vemagiri

Sl. No.	Transmission Scheme		Est. Line Length (km)
1.	Vemagiri-II – Chilakaluripeta 765kV D/c line with 240 MVAR switchable line reactor at both ends.	270	2038
2.	Chilakaluripeta – Cuddapah 765kV D/c line with 240 MVAR switchable line reactor at both ends.	270	2038
3.	Chilakaluripeta – Narsaraopeta 400kV (quad) D/c line	21	84
4.	Cuddapah – Madhugiri 400kV (quad) D/C line with 80 MVAR switchable line reactor at both ends.	240	973
5.	Cuddapah-Hindupur 400 kV (quad) D/C line with 80 MVAR switchable line reactor at Hindupur end.(to be implemented by APTRANSCO)	180	732
6.	Srikakulam Pooling Station – Garividi 400 kV (Quad) D/c line with 80 MVAR switchable line reactor at Garividi end.	130	527
7.	Establishment of 765/400kV substations at Chilakaluripeta and Cuddapah with 2x1500 MVA transformers and 2x240 MVAR bus reactors each.		640
	<u>765 kV line Bay Provisions:</u> <ul style="list-style-type: none"> • Vemagiri II - 2 • Chilakaluripeta - 4 • Cuddapah - 2 <u>400 kV line Bay Provisions</u> <ul style="list-style-type: none"> • Narsaraopeta - 2 • Chilakaluripeta - 2 • Cuddapah - 4 • Srikakulam -2 • Modhugiri 2 • Girivodoi -2 		
			7032

6.7.14 The EC agreed to recommend the implementation of the above transmission elements (**except for element at item No. 5**) through TBCB route. The EC decided to recommend MoP for implementation of the transmission elements mentioned at Sl no. 5 i.e. Cuddapah-Hindupur 400 kV (quad) D/C line along with 765/400kV substation at Cuddapah with 2x1500 MVA transformers and 2x240 MVAR bus reactors each under compressed time schedule through regulated Tariff mechanism by PGCIL.

6.7.15 Accordingly Scheme- I to III shall be modified to as Under.

(A) **Scheme-I: Additional inter-Regional AC link for import into Southern Region i.e. Warora – Warangal and Chilakaluripeta - Hyderabad - Kurnool 765kV link**

(Through TBCB Route)

Transmission Scheme	Estimated Line Length (km)	Estd. Estimated Cost (Rs. Crore)
Name of Scheme-I : Additional inter-Regional AC link for import of Power to Southern Region i.e. Warora-Warangal - Hyderabad- Kurnool 765kV link		
i) Establishment of 765/400kV substations at Warangal (New) with 2x1500 MVA transformers and 2x240 MVAR bus reactors.		640
ii) Warora Pool – Warangal (New) 765kV D/c line with 240 MVAR switchable line reactor at both ends.	350	2618
iii) Warangal (New) –Hyderabad 765 kV D/c line with 330 MVAR switchable line reactor at Warangal end.	160	1310
iv) Warangal (New) – Warangal (existing) 400 kV (quad) D/c line.	10	40
v) Hyderabad – Kurnool 765 kV D/c line with 240 MVAR switchable line reactor at Kurnool end.	170	1279
vi) Warangal (New) – Chilakaluripeta 765kV D/c line with 240 MVAR switchable line reactor at both ends.	250	1873
vii) Cuddapah – Hoodi 400kV (quad) D/c line with 63 MVAR switchable line reactor at both ends.	200	810
<u>765 & 400 kV Bay Requirements</u>		
i) 765 kV line bays at Warangal (New)	8	
ii) 765/400 kV Transformer bays at Warangal (New)	2	
iii) 400 kV line bays Warangal (New)	2	
iv) Space for future 765 kV line bays at Warangal (New)	6	
v) Space for future 400 kV line bays at Warangal (New)	8	
		8570

(B) Scheme-II: HVDC Bipole link between Western region (Raigarh, Chhattisgarh) and Southern region (Pugalur, Tamil Nadu)

(Through TBCB route)

Sl. No.	Transmission Scheme	Est. Line Length (km)	Estd. Cost In Rs(Crs.)
1.	Raigarh(HVDC Stn) – Pugalur (HVDC Stn) 6000 MW HVDC bipole	1750	9443
2.	Establishment of Raigarh HVDC Stn with 6000 MW HVDC terminals		6958
3.	Establishment of Pugalur HVDC Stn with 6000 MW HVDC terminals (or Alternatively: (i) with Pugalur HVDC Stn with 4000 MW terminal, <u>and</u> (ii) Madakkathara, in Kerala HVDC Stn with 2000 MW terminal and inter-connection with existing 400kV AC S/S at Madakkathara)		6958
4	Raigarh HVDC Station – Raigarh(Existing) 400kV (quad) 2xD/c lines (or with bay extension)	20	80
5	Pugalur HVDC Station – Pugalur (Existing) 400kV (quad) D/c line.	10	41
6	Pugalur HVDC Station – Arasur 400kV (quad) D/c line with 80 MVAR switchable line reactor at Arasur end.	150	634
7	Pugalur HVDC Station – Thiruvalam 400kV (quad) D/c line with 80 MVAR switchable line reactor at both ends.	330	1358
8	Pugalur HVDC Station – Edayarpalayam 400 kV (quad) D/c line with 63 MVAR switchable line reactor at Edayarpalayam end.	160	666
9	Edayarpalayam – Udumulpeta 400 kV (quad) D/c line.	85	342
1	Establishment of 400/220kV substation with 2x500 MVA transformers at Edayarpalayam and 2x125 MVAR bus reactors.		340
	<u>400 kV line Bay Provisions</u> <ul style="list-style-type: none"> • Raigarh(Existing) – 2 • Pugalur (Existing) – 2 • Arasur - 2 • Thiruvalam -2 • Edayarpalayam -2 • Udumulpeta -2 		Cost Included
			26820

(C) **Scheme-III: Strengthening of transmission system beyond Vemagiri**

(Through TBCB route)

Transmission Scheme	Estimated Line Length (km)	Estd. Estimated Cost (Rs. Crore)
Name of Scheme-III : Strengthening of transmission system in Southern region beyond Vemagiri		
i) Vemagiri-II – Chilakaluripeta 765kV D/c line with 240 MVAR switchable line reactor at both ends.	270	2038
ii) Chilakaluripeta – Cuddapah 765kV D/c line with 240 MVAR switchable line reactor at both ends.	270	2038
iii) Chilakaluripeta – Narsaraopeta 400kV (quad) D/c line	21	84
iv) Cuddapah – Madhugiri 400kV (quad) D/c line with 80 MVAR switchable line reactor at both ends.	240	973
v) Cuddapah – Hindupur 400kV (quad) D/c line with 80 MVAR switchable line reactor at Hindupur end.	180	732
vi) Srikaukulam Pooling Station – Garividi 400 kV (Quad) D/c line with 80 MVAR switchable line reactor at Garividi end.	130	527
vii) Establishment of 765/400kV substation at Chilakaluripeta with 2x1500 MVA transformers and 2x240 MVAR bus reactors each.		640
<u>765 & 400 kV Bay Requirements</u>		
i) 765 kV line bays at Chilakaluripeta	4	
ii) 765/400 kV Transformer bays at Chilakaluripeta	2	
iii) 400 kV line bays Chilakaluripeta	2	
iv) Space for future 765 kV line bays at Chilakaluripeta	6	
v) Space for future 400 kV line bays at Chilakaluripeta	8	
		7032

Note: Two nos. 765kV bays at Vemagiri-II Pooling station for Vemagiri-II – Chilakaluripeta 765kV D/c line shall be provided by POWERGRID

Requisite nos. 765kV & 400kV bays & line reactors for termination of transmission lines at Cuddapah shall be provided by POWERGRID

Two nos. 400kV bays & line reactors at Madhugiri 400kV substation for Cuddapah – Madhugiri 400kV (quad) D/c line shall be provided by POWERGRID

Two nos. 400kV bays at Srikaukulam 400kV substation for Srikaukulam Pooling Station – Garividi 400 kV (Quad) D/c line shall be provided by POWERGRID

D The scope of works from the Scheme-I & III to be implemented by POWERGRID under regulated tariff mechanism.

Transmission Scheme	Estimated Line Length (km)	Estd. Cost (Rs. Crore)
Name of Scheme- : System Strengthening-XXIV in Southern Region		
i) LILO of Kurnool-Thiruvallam 765 kV D/c at Cuddapah	50	370
ii) Establishment of 765/400kV substation at Cuddapah with 2x1500 MVA transformers and 2x240 MVAR bus reactors each and requisite line bays & line reactors for transmission schemes-I & III	--	640
iii) Cuddapah-Hindupur 400 kV (quad) D/C line with 80 MVAR switchable line reactor at Hindupur end.(to be implemented by APTRANSCO)	180	732
		1742

6.8 Connectivity for Kudankulam 3&4 (2x1000MW) with interstate transmission system.

6.8.1 Director (SP&PA), SR, CEA stated that the following connectivity arrangement for the Kudankulam units was agreed in the 36th Standing Committee meeting:

6.8.2 In the present Kudankulam APP transmission system all the four circuits are terminating at Tirunelveli substation. It has been seen that under the complete Tirunelveli substation outage there shall be complete back down of Kudankulam 2x1000 MW generation. To address this eventuality it has been proposed to extend one of the Kudankulam APP – Tirunelveli 400kV Quad D/c line to Tuticorin Pooling Station. This shall enable evacuation of power from Kudankulam APP to two different substations.

6.8.3 As the present Kudankulam – Tirunelveli 400kV Quad D/c line is owned & operated by POWERGRID and the proposed modification is only extension of the existing line, and also the proposed modification is required on urgent basis to inculcate reliability into the existing system.

6.8.4 The issue was discussed in details and the EC recommended that the above modification involving extension of Kudankulam APP – Tirunelveli 400kV Quad D/c line to Tuticorin Pooling Station along with necessary bay modification works at Tuticorin Pooling station and Tirunelveli may be implemented by POWERGRID. Accordingly, the EC agreed to recommend the scheme to MoP, for their consideration for approval and implementation of the proposal under regulated Tariff mechanism with compressed time schedule by PGCIL.

Transmission Scheme	Estimated Line Length (km)	Estd. Estimated Cost (Rs. Crore)
Name of Scheme- : Connectivity for Kudankulam 3&4 (2x1000MW) with interstate transmission system.		
i) Extension of Kudankulam APP – Tirunelveli 400kV Quad D/c line to Tuticorin Pooling Station along with necessary bay modification works at Tuticorin Pooling station	10	40
ii) bay modification works at Tuticorin Pooling station and Tirunelveli		5
		45

6.9 Proposal of Electricity Department, Puducherry for erection of 230 kV line to Karaikal

6.9.1 Director(SP&PA), SR, CEA stated that the implementation of a direct 220 kV D/c line from NLC TS-I switchyard or any other switchyard/substation in NLC complex to the proposed Karaikal S/s as regional system strengthening scheme was decided in the 35th meeting of the Standing Committee of SR. For this, it was also decided that CTU would coordinate with Puducherry, TNEB and NLC to confirm the 220 kV S/s, from where this line may be built. But Electricity Department, Puducherry informed that during their visit to Neyveli it was found that there is no vacant 220 kV bay available at NLC TS-II at present. The TS-I switchyard would be dismantled after 2015. Thus there is no scope of bays availability at TS-I also. PGCIL in their visit report has also said that no bay is available at present. However, in the time frame of establishment of new NNTPS, bays may be available at NNTPS and Neyveli TANTRANSCO 220 kV new S/S. In view of this, it was proposed to again consider the original proposal i.e. LILO of existing 230kV Neyveli- Bahour line to proposed 230kV Auto S/s at Karaikal.

6.9.2 In the Standing committee, it was agreed to LILO of the 220 kV Neyveli- Bahour line at proposed 220 kV S/s at Karaikal in such a way that in future as per the bay availability at NLC the 220kV Karaikal S/S may directly be connected to NLC and 230kV Neyveli- Bahour line may be restored.

6.9.3 Director (Projects), POWERGRID stated that the implementation of the LILO may be considered through TBCB route. After detailed deliberation the EC decided that Karaikal S/s would be implemented by Electricity Department, Puducherry and NLC – Karaikal 220 kV D/C line (or initially in the form of LILO of the 230kV Neyveli- Bahour line at Karaikal) may be clubbed with the scheme for transmission system for evacuation of power from 2x500 MW Neyveli Lignite Corp. Ltd. TS-I (Replacement) (NNTPS) in Neyveli, Tamil Nadu (being a small scheme) and implemented through TBCB route.

Transmission Scheme	Estimated Line Length (km)	Estd. Estimated Cost (Rs. Crore)
Name of Scheme- : Erection of 220 kV line to Karaikal		
i) NLC – Karaikal 220 kV D/C line	56	45
ii) bay modification works at Tuticorin Pooling station and Tirunelveli		5
		50

6.10 Name of the Scheme: NER System Strengthening Scheme – II.

6.10.1 Director(SP&PA), ER, CEA stated that the scheme was earlier a part of comprehensive scheme for strengthening of transmission and distribution system in NER and Sikkim. Later on the intra state works for six states of NER (excl. Arunachal Pradesh and Sikkim) are being taken up through World Bank funding and that for Arunachal Pradesh and Sikkim through Government of India funding (NLCPR Central). The inter State works has been approved by constituents of NER in joint standing committee meeting of ER and NER held on 03.01.2014 at Guwahati. Following is the scope under this scheme:

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Biswanath Chariyalli (NER PP) – Itanagar (Zebra conductor) 132 kV D/C	95	126
2.	Silchar– Misa 400kV D/C (Quad) line	200	864
3.	Ranganadi - Nirjuli 132 kV D/C line	40	41
4.	Imphal - New Kohima 400 kV D/C line (to be initially operated at 132 kV)	150	360
5.	Surajmaninagar-P. K. Bari 400 kV D/C (initially op. at 132 kV)	65	261
	Estimated Cost		1652

Note:

- CTU to provide 2 no. of 132kV line bays each at Bishwanath Chariyali (PGCIL), Nirjuli (PGCIL) and Imphal (PGCIL) S/Ss
- Transmission project developer to provide space for 2 no. of 132kV line bays at Itanagar S/s (of DoP, Arunachal Pradesh)
- CTU to provide 2 no. of 400kV line bays each at Silchar (PGCIL) and Misa (PGCIL)
- CTU to provide 80 MVAR bus reactor at Misa (PG) along with GIS bay
- CTU to provide Switchable line reactors, 1x80 MVAR at Misa ends of the each circuit of the Silchar– Misa 400kV D/C line
- Transmission project developer to provide 2 no. of 132 kV line bays (GIS) at Ranganadi Switchyard (of NEEPCO)
- Transmission project developer to provide space for 2 no. of 132kV line bays at its New Kohima S/s (of DoP, Nagaland)
- Transmission project developer to provide 2 no. 132 kV line bays at Surajmaninagar (TSECL) and P. K. Bari
- Respective Power Dept of States & NEEPCO to provide space for bays

6.10.2 The EC agreed for implementation of the above system through TBCB route.

6.11 Scheme: Transmission system for phase-I generation projects in Arunachal Pradesh.

6.11.1 Director(SP&PA), ER, CEA stated that the scheme was approved in the 3rd Standing Committee Meeting of Power System Planning in North Eastern Region held on 21st December, 2011 at NRPC, New Delhi as evacuation system from 4 no. of hydro projects in Arunachal Pradesh in Kameng basin. Subsequently, the scheme was reviewed in a meeting among CEA, CTU and the project developers held on 30.10.2013. Based on the progress of generation projects, it was decided in the meeting that the scheme would be taken up for evacuation of power from 2 no. of generation projects viz. Dirang Energy Pvt. Ltd. (Patel Hydro Power Pvt. Ltd.) (189 MW) and Sew Nafra Power Corporation Ltd. (120MW). The same system would also be utilized subsequently for evacuation of power from other 2 generation projects viz. Adishankar Khuitam Power Pvt. Ltd. (66 MW) and KSK Dibbin Hydro Power Pvt. Ltd. (120 MW), as and when they materialize. Following is the scope under this scheme:

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Dinchang-Rangia / Rowta Pooling Point 400 kV D/C (Quad)	120	518
2.	LILO of both ckts of Balipara-Bongaigaon 400 kV D/C (TM) line at Rangia / Rowta [2xD/C]	10	48

3.	<p>Establishment of 7x105 MVA 400/220 kV Pooling station (GIS) at Dinchang</p> <p><u>400 kV</u></p> <ul style="list-style-type: none"> • ICTs - 7x105 MVA, 400/220 kV (1 spare unit) • ICT Bays – 2 nos. • Line bays – 2 nos. • Bus Reactor - 80 MVAR– 2 nos. • Bus Reactor bays – 2 nos. • Space for 400 kV bays – 4 nos. <p><u>220 kV</u></p> <ul style="list-style-type: none"> • ICT Bays – 2 nos. • Space for bays – 16 nos. 	-	127
4.	<p>Establishment of 2x315 MVA, 400/220 kV Pooling station at Rangia / Rowta in Upper Assam</p> <p><u>400 kV</u></p> <ul style="list-style-type: none"> • ICTs: 2x315 MVA, 400/220 kV • ICT Bays – 2 nos. • Line bays – 6 nos. • Bus Reactor: 125 MVAR– 2 nos. • Bus Reactor bays – 2 nos. • Line Reactor: 50 MVAR at Rangia / Rowta end - 2 nos. • Space for Line bays – 6 nos. <p><u>220 kV</u></p> <ul style="list-style-type: none"> • ICT Bays – 2 nos. • Line bays – 4 nos. • Space for Line bays – 2 nos. 	-	180
Estimated Cost			873

Note:

- M/s Sew Nafra Power Corporation Ltd. and Patel Hydro Power Pvt. Ltd. to provide 2 no. 220 kV bays each at Dinchang pooling station).
- The issue may be taken up depending upon the outcome of the meeting of CTU with the Developers scheduled on 25/11/4014

6.11.2 EC was of the view to seek the actual status of the hydroelectric projects through field visit. **The matter of implementation was deferred to the next meeting.**

6.12 Common Transmission System for Phase-II Generation Projects in Odisha

6.12.1 Director(SP&PA), ER, CEA stated that 4 no. generation projects in Odisha with total installed capacity of 3270MW and LTA quantum of about 2600MW have been granted connectivity /LTA under Phase-II. It was reiterated that the 765 kV Angul-Jharsuguda-Dharamjayagarh D/C (2nd) line, which has already been taken up for implementation by POWERGRID as part of transmission system associated with evacuation of power from generation project of East Coast Energy Pvt. Ltd. at Srikakulum (1320 MW) in Andhra Pradesh would also be utilized to facilitate evacuation of about 4 no. generation projects in Odisha.

6.12.2 In addition, the following scheme for Phase-II projects was approved in the meeting with the constituents of Eastern Region regarding connectivity and LTA on 05-01-2013, 24th TCC/ERPC meeting on 26-27 April, 2013 and meeting of Standing Committee on Power System Planning for Eastern Region held on 02-05-2014 at New Delhi. The scheme was also approved in 18th meeting of WR constituents regarding Connectivity/Open Access held at NRPC, New Delhi on 29-08-2013, 24th meeting of WRPC held on 09-10-2013 at Goa and 37th meeting of Standing Committee on Power System Planning for Western Region held on 05-09-2014 at Mumbai.

Scope:

Transmission Scheme	Estimated Line Length (km)	Estd. Cost Rs. (Crs.)
i) Jharsuguda (Sundargarh) – Raipur Pool 765 kV D/C line	350	2596
ii) LILO of both circuits of Rourkela - Raigarh 400 kV D/C (2 nd line) at Jharsuguda (Sundargarh)	2x400kV D/c line : each about 30 km	240
		2736

Note:

- CTU to provide 2x240 MVar switchable line reactor alongwith 700 Ohm NGR at Jharsuguda (Sundargarh) end on Jharsuguda (Sundargarh) – Raipur Pool 765 kV D/c line.
- CTU to provide 2x240 MVar switchable line reactor alongwith 700 Ohm NGR at Raipur Pool end on Jharsuguda (Sundargarh) – Raipur Pool 765 kV D/c line.
- CTU to provide 2 no. of 765kV line bays each at Jharsuguda (Sundargarh) and Raipur Pool for termination of Jharsuguda (Sundargarh) – Raipur Pool 765 kV D/c line.
- CTU to provide 4 nos. of 400kV line bays at Jharsuguda (Sundargarh) for termination of LILO of both circuits of Rourkela - Raigarh 400 kV D/c (2nd line).

6.12.3 The following decisions were taken by EC:

- i. Jharsuguda (Sundargarh) – Raipur Pool 765 kV D/C line was agreed to be implemented through TBCB.

- ii. The transmission elements under LILO of both circuits of Rourkela - Raigarh 400 kV D/C (2nd line) at Jharsuguda (Sundargarh) was agreed for implementation under compressed time schedule through regulated Tariff mechanism by PGCIL.

6.12.4 Accordingly, MoP may consider item ii of the scope for approval and implementation under regulated Tariff mechanism with compressed time schedule by PGCIL.

6.13 Immediate Evacuation System for OPGC (1320 MW) Project in Odisha

6.13.1 Director(SP&PA), ER, CEA stated that the following immediate evacuation system for OPGC generation project, which is a part of phase-II generation projects in Odisha is proposed to be implemented through Tariff based Competitive Bidding Route.

Scope:

Transmission Scheme	Estimated Line Length (km)	Estd. Cost Rs. (Cr.)
i) OPGC (IB TPS) – Jharsuguda (Sundargarh) 400kV D/C line with Triple Snowbird Conductor alongwith 2 no. 400kV line bays at Jharsuguda (Sundargarh) substation of POWERGRID. Bays at OPGC end of the line would be under the scope of the generation developer.	50	152

Note:

- CTU to provide 2 nos. 400 kV line bays at Jharsuguda (Sundargarh) of POWERGRID

6.13.2 The scheme has been approved in the meeting with constituents of Eastern Region regarding connectivity and LTA on 05-01-2013, 24th TCC/ERPC meeting on 26-27 April, 2013 and meeting of Standing Committee on Power System Planning for Eastern Region held on 02-05-2014 at New Delhi.

6.13.3 It was agreed to implement the system through **TBCB route**.

6.14 Transmission System Strengthening in Indian System for transfer of power from new HEPs in Bhutan

6.14.1 Director(SP&PA), ER, CEA stated that the transmission system for evacuation of power from upcoming hydro projects in Bhutan viz. Punatsangchhu-I (1200MW), Punatsangchhu II (990MW), Mangdechhu (720MW) and Wangchhu (570MW) HEPs was discussed and agreed in the meeting of Standing Committee on

Power System Planning held at New Delhi on 02-05-2014 wherein the following transmission system strengthening requirements on the Indian side were agreed:

Sl. No.	Transmission Scheme	Estimated Line Length (km)	Estd. Cost Rs. (Cr.)
1.	Jigmeling - Alipurduar 400kV D/C line with Quad moose conductor (Indian Portion)	100	402
2.	Alipurduar - Siliguri 400kV D/C line (2 nd) with Quad moose conductor	150	603
3.	Kishanganj - Darbhanga 400kV D/C line with Quad moose conductor alongwith: <ul style="list-style-type: none"> ➤ 2 nos. 400 kV line bays at Darbhanga ➤ 80 MVAR switchable line reactors (400 Ohm NGR) in each circuit at Darbhanga end of Kishanganj - Darbhanga 400kV D/c (quad) line 	300	1206
			2240

- CTU to provide 4 nos. 400 kV line bays at Alipurduar, 2 nos. 400 kV line bays at Siliguri and 2 nos. 400 kV line bays (GIS) at Kishanganj sub-stations of POWERGRID
- CTU to provide 80 MVAR switchable line reactors (400 Ohm NGR) in each circuit at Kishanganj end of Kishanganj - Darbhanga 400kV D/c line with Quad moose conductor

6.14.2 It is to mention that the 2nd Alipurduar-Siliguri 400kV D/c quad line was considered under system strengthening works associated with Punatsangchu-II and Mangdechhu projects instead of LILO of 400 Tala-Siliguri D/C twin moose D/C line at Alipurduar and with deletion of the following works by POWERGRID in the approved scheme of “Transmission System for development of pooling station in Northern part of West Bengal and transfer of power from Bhutan to NR/WR”:

- LILO of Tala-Siliguri 400kV D/c line at Alipurduar
- 4 nos. 400 kV line bays associated with above LILO at Alipurduar

The above modification was concurred by BPC, Bhutan. Also, the scheme has been agreed in the 27th meeting of TCC/ERPC held on 30-31 May, 2014 at Gangtok.

6.14.3 Member of the EC was of the view that the above HEPs in Bhutan would likely to slip in 2018-19 and accordingly, **the following decisions were taken:**

- (i) As the transmission element at **sl. no. 1** is a cross border transmission line and it is urgently required so that the evacuation from generating projects in Bhutan could not get bottled up. The scheme was decided to be implemented under regulated tariff mechanism with compressed time schedule by PGCIL, and would be **recommended to MoP for their consideration for approval for**

implementation of the Jigmeling - Alipurduar 400kV D/C line with Quad moose conductor (Indian Portion about 100 kms.) under regulated Tariff mechanism with compress time schedule by PGCIL.

(ii) The transmission works at sl. No. 2 and 3 were agreed to be implemented through TBCB.

7 Proposed Modification in the transmission schemes already notified for implementation through TBCB route

7.1 Name of the Scheme: Additional System Strengthening for Sipat STPS

7.1.1 D.D(SP&PA), WR, CEA stated that the scheme was agreed in the 32nd meeting of the Empowered Committee on Transmission held on 17.01.2014. The scheme was allocated to PFCCL to be implemented through TBCB route:

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Sipat – Bilaspur Pooling Station 3rd 765 kV S/C line	25	57
2.	Bilaspur Pooling Station – Dhanwahi pooling station 765 kV D/C line	300	1343
3.	LILLO of both circuits of Jabalpur - Orai 765 kV D/C at Dhanwahi pooling station [2XD/C]	50	448
4.	LILLO of all circuits of Vindhyachal – Jabalpur 400 kV 2xD/C line at Dhanwahi pooling station – [4XD/C]	20	127
5.	<p>Establishment of new 2X1500, 765/400 kV Dhanwahi Pooling Station</p> <p><u>765 kV</u></p> <ul style="list-style-type: none"> • Line bays – 6 nos. • ICTs: 7x500MVA, 765/400 kV (1 spare unit) • ICT bays – 2 nos. • Space for 765 bays – 4 nos. • Bus reactor: 3 x 110 MVAR • Line reactors: 7 x 110 MVAR (1 unit spare) • Bus reactor bay – 1 no. <p><u>400 kV</u></p> <ul style="list-style-type: none"> • Line bays – 8 nos. • ICT bays- 2 nos. • Space for 400 kV bays – 4 nos. 		538
	Estimated Cost		2473

Note:

- CTU to provide 3 no. of 765 kV line bays at exiting Bilaspur 765/400 kV pooling station along with 2X330 MVAR switchable line reactors for Bilaspur Pooling Station – Dhanwahi pooling station 765 kV D/C line along with bays.
- CTU to provide 1 no. of 765 kV line bays at switchyard of Sipat STPP of NTPC – NTPC to provide bay space.

7.1.2 The modified scheme as given below was agreed in the 37th Standing Committee meeting on Power System Planning of Western Region held on 5th September, 2014. The scope of the transmission scheme is as under:

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Sipat – Bilaspur Pooling Station 3rd 765 kV S/C line	25	57
2.	Bilaspur Pooling Station - Rajnandgaon 765 kV D/C line	180	810
Estimated Cost			867

Note:

- CTU to provide 1 no. of 765 kV line bay at exiting Bilaspur 765/400 kV pooling station for termination of Sipat – Bilaspur Pooling Station 3rd 765 kV S/C line
- CTU to provide 2 no. of 765 kV line bays at exiting Bilaspur 765/400 kV pooling station along with 2X240 MVAR switchable line reactors for Bilaspur Pooling Station – Rajnandgaon switching station 765 kV D/C line along with bays.
- Successful bidder to provide 1 no. of 765 kV line bays at switchyard of Sipat STPP of NTPC – NTPC to provide space for one bay.

7.1.3 EC noted and agreed for the change in scope

7.2 Name of the Scheme: Additional System Strengthening Scheme for Chhattisgarh IPPs – Part B

7.2.1 D.D(SP&PA), WR, CEA stated that the scheme was agreed in the 32nd meeting of the Empowered Committee on Transmission held on 17.01.2014. The scheme was allocated to PFCCL to be implemented through TBCB route:

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Raipur (Pool) – Rajnandgaon 765 kV D/C line	150	671
2.	Rajnandgaon – New Pooling station near Warora 765 kV D/C line	200	895
3.	LILO of all (4) circuits of Raipur/Bhilai – Bhadrawati 400 kV lines at Rajnandgaon	20	127

4.	<p>Establishment of new substation near Rajnandgaon 765/400 kV, 2x1500 MVA substation</p> <p><u>765 kV</u></p> <ul style="list-style-type: none"> • ICTs - 7x500MVA 765/400 kV (1 spare unit) • ICT bays – 2 no. • Line bays – 4 no. • Bus reactor – 3x110 MVAR • Bus reactor bay - 1 no. • Line reactors - 7x110 MVAR (1 unit spare) (switchable for Warora line) • Space for 765 kV bays – 4 nos. <p><u>400 kV</u></p> <ul style="list-style-type: none"> • ICT bays – 2 no. • Line bays – 8 no. • Space for 400 kV bays – 4 nos. 		498
Estimated Cost			2191

Note:

- CTU to provide 2 no. of 765 kV line bays at Raipur 765/400 kV pooling station of PGCIL.

7.2.2 **The modified scheme as given below** was agreed in the 37th Standing Committee meeting on Power System Planning of Western Region held on 5th September, 2014. The scope of the transmission scheme is as under:

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Raipur (Pool) – Rajnandgaon 765 kV D/C line	60	270
2.	Rajnandgaon – New Pooling station near Warora 765 kV D/C line	270	1210
3.	<p>Establishment of new switching station near Rajnandgaon</p> <p><u>765 kV</u></p> <ul style="list-style-type: none"> • Line bays – 6 no. • Bus reactor – 3x110 MVAR • Bus reactor bay - 1 no. • Line reactors - 7x110 MVAR (1 unit spare) (switchable for Warora line) • Space for 765 kV bays – 4 nos. • Space for 765 kV ICT bays – 3 nos <p><u>400 kV</u></p> <ul style="list-style-type: none"> • Space for 400 kV ICT bays – 3 nos • Space for 400 kV line bays – 4 nos. 		450
Estimated Cost			1930

Note:

- CTU to provide 2 no. of 765 kV line bays at Raipur 765/400 kV pooling station of PGCIL.

7.2.3 The EC noted and agreed with the change in scope

7.3 Name of the Scheme: Transmission system associated with Gadarwara STPS (2x800 MW) of NTPC (Part - A).

7.3.1 This scheme was agreed in the 32nd meeting of the Empowered Committee on Transmission held on 17.01.2014. The project has been allocated to M/S RECTPCL to be implemented through TBCB route:

Scope:

Sl. No	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Gadarwara STPS - Jabalpur Pool 765 kV D/C line As per the interim arrangement, LILO of existing Seoni-Bina 765 kV S/C line at Gadarwara STPP would be established. At a later date, LILO portion would be delinked from Seoni-Bina 765 kV S/C line to restore the Seoni-Bina 765 kV S/C direct line, and the LILO portion would be extended to the Jabalpur 765/400 kV Polling Station to form the proposed Gadarwara STPS – Jabalpur Pool 765 kV D/C line.	120	537
2.	Gadarwara STPS-New Pooling Station near Warora 765 kV D/C line	300	1343
3.	LILO of both circuits of Wardha-Parli (PG) 400 kV D/C line at Warora (Pooling Station) (Quad) line [2xD/C]	20	114
4.	Establishment of 2x1500 MVA 765/400 kV New Pooling Station near Warora 765 kV <ul style="list-style-type: none"> • ICTs: 7x500MVA 765/400 kV (1 spare unit) • ICT bays – 2 no. • Line bays – 6 no. • Bus reactor – 3x110 MVAR • Bus reactor bay – 1 no. • Line reactors - 7x110 MVAR (1 unit spare) (for Gadarwara line) • Line reactors switchable - 6x110 MVAR (for Parli line) • Space for 765 kV bays – 4 no. 400 kV <ul style="list-style-type: none"> • ICT bays – 2 no. • Line bays – 4 no. • Space for 400 kV bays – 4 no. 		531
Estimated Cost			2525

Note:

- Transmission system associated with Gadarwara STPS (2x800 MW) both Part – A and Part – B transmission systems are to be implemented in the same time frame.
- CTU to provide 2 no. of 765 kV line bay at under construction Jabalpur 765/400 kV pooling station of POWERGRID,
- NTPC to provide to provide 4 no. of 765 kV line bay, 1X330 MVAR bus reactor and 2X330 MVAR switchable line reactor at their Gadarwara TPS switchyard for Gadarwara – Warora 765 kV D/C line.
- 6 nos. of 765 kV line bays includes 2 no. 765 kV line bays for Rajnandgaon-Warora Pooling s/s 765 kV D/C line.

7.3.2 **The modified scheme** as given below was agreed in the 37th Standing Committee meeting on Power System Planning of Western Region held on 5th September, 2014 subject to confirmation of 2 no. 400 kV bays at Warora (MSETCL). The scope of the transmission scheme is as under:

Scope:

Sl. No.	Transmission Scheme	Estimated route length (km)	Estimated Cost (Rs. Crore)
1.	Gadarwara STPS - Jabalpur Pool 765 kV D/C line As per the interim arrangement, LILO of existing Seoni-Bina 765 kV S/C line at Gadarwara STPP would be established. At a later date, LILO portion would be delinked from Seoni-Bina 765 kV S/C line to restore the Seoni-Bina 765 kV S/C direct line, and the LILO portion would be extended to the Jabalpur 765/400 kV Polling Station to form the proposed Gadarwara STPS – Jabalpur Pool 765 kV D/C line.	120	537
2.	Gadarwara STPS-Warora (Pooling Station) (New) 765 kV D/C line	300	1343
3.	Warora 765/400 kV (Pooling Station) – Warora (MSETCL) 400 kV D/C Quad line	20	60

4.	Establishment of 2x1500 MVA 765/400 kV Warora (Pooling Station) (New) <u>765 kV</u> <ul style="list-style-type: none"> • ICTs: 7x500MVA 765/400 kV (1 spare unit) • ICT bays – 2 no. • Line bays – 6 no. • Bus reactor – 3x110 MVAR • Bus reactor bay – 1 no. • Line reactors - 7x110 MVAR (1 unit spare) (for Gadarwara line) • Line reactors - 6x110 MVAR (for Rajnandangaon line) • Line reactors switchable - 6x110 MVAR (for Parli line) • Space for 765 kV bays – 4 no. <u>400 kV</u> <ul style="list-style-type: none"> • ICT bays – 2 no. • Line bays – 2 no. • Space for 400 kV bays – 4 no. 		590
Estimated Cost			2530

Note:

- **Transmission system associated with Gadarwara STPS (2x800 MW) both Part – A and Part – B transmission systems are to be implemented in the same time frame.**
- CTU to provide 2 no. of 765 kV line bay at under construction Jabalpur 765/400 kV pooling station of POWERGRID,
- NTPC to provide to provide 4 no. of 765 kV line bay, 1X330 MVAR bus reactor and 2X330 MVAR switchable line reactor at their Gadarwara TPS switchyard for Gadarwara – Warora 765 kV D/C line.
- 6 nos. of 765 kV line bays includes 2 no. 765 kV line bays for Rajnandgaon-Warora Pooling s/s 765 kV D/C line.
- Successful bidder to provide 2 no. 400 kV bays at Warora (MSETCL) – MSETCL to provide space for 2 no. 400 kV line bays.

7.3.3 MSETCL vide their letter dated 24.09.2014 informed that there is space constraint at their Warora 400 kV S/S. and has suggested to explore the possibility of LILO of both circuits of Wardha (PG)-Warora (MSETCL) 400 kV D/C at Warora (PG) 765/400 kV S/S.

7.3.4 In view of space constraint at Warora (MSETCL) 400 kV S/S, no modification is suggested in Transmission system associated with Gadarwara STPS (2x800 MW) both Part – A as agreed in the previous Empowered Committee meeting.

7.3.5 The EC noted and agreed with the change in scope

7.4 Transmission System for evacuation of power from 2x500 MW Neyveli Lignite Corp. Ltd. TS-I (Replacement) (NNTPS) in Neyveli, Tamil Nadu:

7.4.1 Director (SP&PA), SR, CEA stated that the transmission system for evacuation of power from 2x500 MW Neyveli Lignite Corporation Ltd. TS-I (Replacement) (NNTPS) in Neyveli, Tamil Nadu, as agreed in 35th SCM of SR and was allocated to RECTPCL to be implemented through TBCB route. Some small modification was envisaged in the scheme and the same was discussed in the 37th SCM of NR. The system as agreed almost remains same except for minor modification in terms of type of conductor of Neyveli TPS-II – Neyveli (TANTRANSCO 220kV S/S), 220 kV D/C line (by TNEB) which shall also be with HTLS conductor. Accordingly, the following scope of System Strengthening in Tamil Nadu was agreed:

Sl. No.	Transmission Scheme	Est. Line Length (km)	
1.	NNTPS switchyard – Ariyalur (Villupuram) 400kV D/c line with	80	
	<u>400 kV line Bay Provisions</u> • Ariyalur – 2		15

Note:

- The 400 kV Ariyalur (Villupuram) S/S with 2x500 MVA S/S would be implemented by TRANSCO, along with the bays for termination of line from NNTPS at Ariyalur

7.4.2 The EC agreed for the change in scope.

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

The details given in Annexure III

Members noted the same.

9 Briefing by BPCs on the schemes under bidding process

RECTPCL and PFCCL briefed the committee about progress of schemes that are under bidding process. The same is at annexure -IV

Meeting ended with thanks to Chair.

**List of Participants in the 33rd meeting of Empowered Committee on Transmission
Chaired by Member (PS), CEA on 30th September, 2014**

Sl. No.	Name & Designation Shri/Smt.	Organization	e-mail/ mobile
1.	Major Singh, Member (PS), CEA – in Chair	CEA	
2.	KK Arya, Chief Engineer (SP&PA)- Member Secretary	CEA	9810455760
3.	Surinder Singh Suri, Joint Adviser (Energy) – Representative Member	Planning Commission	01123096545
4.	Ghanshyam Prasad, Director - Member	MoP	9968301928
5.	I. S. Jha, Director (Projects) - Member	Power Grid	9971711886
6.	V. V. R. K. Rao, Ex Chairman, CEA - Expert Member	CEA	9810227551
7.	Ravinder, Ex Member (PS), CEA - Expert Member	CEA	9971568444
8.	Rajesh Kumar Shah, Vice President Special Invitees	PFCCCL	9868399043
9.	Bhupender Gupta, Addl. CEO Special Invitees	RECTPCL	9910027256
10.	Dr. R. Saha, Chief Engineer	CEA	9968291136
11.	Goutam Roy, Director	CEA	8376817933
12.	Pardeep Jindal, Director	CEA	9818768460
13.	B. K. Arya, Director	CEA	9868438594
14.	Irfan Ahmad, Director	CEA	9818332410
15.	Awdhesh Kumar Yadav, Dy. Director	CEA	9868664087
16.	Chandra Prakash, Dy. Director	CEA	9868807917
17.	Anita Ghalot Dy. Director	CEA	9013017360
18.	S. Chandra Sekhar Rao, Dy. Director	CEA	
19.	Santosh Kumar, Dy. Director	CEA	8860754509
20.	Noopur Chaudhary Astd. Director	CEA	9015629478
21.	Y. K. Sehgal, CEO (CTU-Planning)	Power Grid	9650293194
22.	Ashok Pal, AGM	Power Grid	9910378105
23.	Mukesh Khanna, AGM (CTU- Planning)	Power Grid	9910378098
24.	Dilip Rozekar, DGM	Power Grid	9910378106
25.	Sanjay Nayak, Asst. Vice President	PFCCCL	9871611467
26.	S. N. Gaikward, CEO	RECTPCL	9868549075
27.	J. K. Nayak, CFO	RECTPCL	9650086955
28.	Sanjay Nayak, Associate Vice President	PFCCCL	9871611467

Details of cost committee for estimated the transmission project cost

	Name (Shri/Smt.)	Designation/ Organisation	
1.	Shri K K Arya,	Chief Engineer (SP&PA), CEA	– Chairman
2.	Shri Goutam Roy	Director(SP&PA), CEA	– Member
3.	Shri S K Roy Mohapatra	Director(SETD), CEA	– Member
4.	Shri D K Sarkar	General Manager (Cost Engg), PGCIL	– Member
5.	Shri R K Shahi	AVP, PFCCCL	– Member
6.	Shri Bupender Gupta	ACEO, RECTPCL	– Member

Annexure-III

1. Bid Evaluation Committee (BEC) for “Northern Region System Strengthening Scheme, NRSS-XXXV” - (PFCCL)

S. 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.	Shri Anil Kaplush, Chief Engineer (TS) Punjab State Transmission Corporation Ltd., The Mall, PATIALA-147 001. Tel.No. 0175-2303676, Fax No. 0175-2301536 Mob. No. 9646117802	Member
3.	Shri S.B. Moudgil, Chief Engineer (SO&Comml.) Haryana Vidyut Prasaran Nigam Ltd., Shakti Bhawan, Sector-6, PANCHKULA-134 109. Tel.No. 0172-2560547, Fax No. 0172-2560622 Mob. No. 09316369240	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCL Transmission Projects Limited	Convener - Member

2. Bid Evaluation Committee (BEC) for “Additional System Strengthening for Sipat STPS” - (PFCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCL Transmission Projects Limited	Convener - Member

3. Bid Evaluation Committee (BEC) for “System strengthening for IPPs in Chhattisgarh and other generation projects in Western Region” - (PFCCL)

S. No.	Name	Designation
1.	Head, SBI Capital Markets, 6 th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCL Transmission Projects Limited	Convener - Member

4. Bid Evaluation Committee (BEC) for “Additional System Strengthening Scheme for Chhattisgarh IPPs (Part – B)” - (PFCCL)

S. No.	Name	Designation
1.	Head, SBI Capital Markets, 6 th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCL Transmission Projects Limited	Convener - Member

5. Bid Evaluation Committee (BEC) for “Transmission system associated with Gadarwara STPS (2x800 MW) of NTPC (Part - A)” - (RECPTCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

6. Bid Evaluation Committee (BEC) for “Transmission system associated with Gadarwara STPS (2x800 MW) of NTPC (Part - B)” - (RECPTCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

7. Bid Evaluation Committee (BEC) for “Transmission System Strengthening associated with Vindhyachal-V” - (RECPTCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy, Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

8. Bid Evaluation Committee (BEC) for “Connectivity lines for Maheshwaram (Hyderabad) 765/400kV Pooling S/s” - (RECPTCCL)

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.	Director (Grid, Transmission & Management), Telangana TRANSCO Hyderabad	Member
3.	Director (Transmission), Karnataka Power Transmission Company Ltd., Bengaluru, Karnataka	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

9. Bid Evaluation Committee (BEC) for “Transmission System for LTA of 400 MW for 2x500 MW Neyveli Lignite Corporation Ltd. TS-I (Replacement) (NNTPS) in Neyveli” - (RECPTCCL)

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.	Director Transmission Projects, TANTRANSCO Chennai, Tamil Nadu	Member
3.	Director (Transmission), Karnataka Power Transmission Company Ltd., Bengaluru, Karnataka	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

**List of Participants in the 33rd meeting of Empowered Committee on Transmission
Chaired by Member (PS), CEA on 30th September, 2014**

Sl. No.	Name & Designation Shri/Smt.	Organization	e-mail/ mobile
1.	Major Singh, Member (PS), CEA – in Chair	CEA	
2.	KK Arya, Chief Engineer (SP&PA)- Member Secretary	CEA	9810455760
3.	Surinder Singh Suri, Joint Adviser (Energy) – Representative Member	Planning Commission	01123096545
4.	Ghanshyam Prasad, Director - Member	MoP	9968301928
5.	I. S. Jha, Director (Projects) - Member	Power Grid	9971711886
6.	V. V. R. K. Rao, Ex Chairman, CEA - Expert Member	CEA	9810227551
7.	Ravinder, Ex Member (PS), CEA - Expert Member	CEA	9971568444
8.	Rajesh Kumar Shah, Vice President Special Invitees	PFCCL	9868399043
9.	Bhupender Gupta, Addl. CEO Special Invitees	RECTPCL	9910027256
10.	Dr. R. Saha, Chief Engineer	CEA	9968291136
11.	Goutam Roy, Director	CEA	8376817933
12.	Pardeep Jindal, Director	CEA	9818768460
13.	B. K. Arya, Director	CEA	9868438594
14.	Irfan Ahmad, Director	CEA	9818332410
15.	Awdhesh Kumar Yadav, Dy. Director	CEA	9868664087
16.	Chandra Prakash, Dy. Director	CEA	9868807917
17.	Anita Ghalot Dy. Director	CEA	9013017360
18.	S. Chandra Sekhar Rao, Dy. Director	CEA	
19.	Santosh Kumar, Dy. Director	CEA	8860754509
20.	Noopur Chaudhary Astt. Director	CEA	9015629478
21.	Y. K. Sehgal, CEO (CTU-Planning)	Power Grid	9650293194
22.	Ashok Pal, AGM	Power Grid	9910378105
23.	Mukesh Khanna, AGM (CTU- Planning)	Power Grid	9910378098
24.	Dilip Rozekar, DGM	Power Grid	9910378106
25.	Sanjay Nayak, Asst. Vice President	PFCCL	9871611467
26.	S. N. Gaikward, CEO	RECTPCL	9868549075
27.	J. K. Nayak, CFO	RECTPCL	9650086955
28.	Sanjay Nayak, Associate Vice President	PFCCL	9871611467

Details of cost committee for estimated the transmission project cost

	Name (Shri/Smt.)	Designation/ Organisation	
1.	Shri K K Arya,	Chief Engineer (SP&PA), CEA	– Chairman
2.	Shri Goutam Roy	Director(SP&PA), CEA	– Member
3.	Shri S K Roy Mohapatra	Director(SETD), CEA	– Member
4.	Shri D K Sarkar	General Manager (Cost Engg), PGCIL	– Member
5.	Shri R K Shahi	AVP, PFCCL	– Member
6.	Shri Bupender Gupta	ACEO, RECTPCL	– Member

Annexure-III

1. Bid Evaluation Committee (BEC) for “Northern Region System Strengthening Scheme, NRSS-XXXV” - (PFCCCL)

S. 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.	Shri Anil Kaplush, Chief Engineer (TS) Punjab State Transmission Corporation Ltd., The Mall, PATIALA-147 001. Tel.No. 0175-2303676, Fax No. 0175-2301536 Mob. No. 9646117802	Member
3.	Shri S.B. Moudgil, Chief Engineer (SO&Comml.) Haryana Vidyut Prasaran Nigam Ltd., Shakti Bhawan, Sector-6, PANCHKULA-134 109. Tel.No. 0172-2560547, Fax No. 0172-2560622 Mob. No. 09316369240	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCCL Transmission Projects Limited	Convener - Member

2. Bid Evaluation Committee (BEC) for “Additional System Strengthening for Sipat STPS” - (PFCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCL Transmission Projects Limited	Convener - Member

3. Bid Evaluation Committee (BEC) for “System strengthening for IPPs in Chhattisgarh and other generation projects in Western Region” - (PFCCL)

S. No.	Name	Designation
1.	Head, SBI Capital Markets, 6 th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCL Transmission Projects Limited	Convener - Member

4. Bid Evaluation Committee (BEC) for “Additional System Strengthening Scheme for Chhattisgarh IPPs (Part – B)” - (PFCCL)

S. No.	Name	Designation
1.	Head, SBI Capital Markets, 6 th floor, World Trade Tower, Barakhamba Lane, Connaught Place, New Delhi- 110001 Phone No. 011-23418770 Fax: 011 -23418773	Chairman
2.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by PFCCL Transmission Projects Limited	Convener - Member

5. Bid Evaluation Committee (BEC) for “Transmission system associated with Gadarwara STPS (2x800 MW) of NTPC (Part - A)” - (RECPTCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

6. Bid Evaluation Committee (BEC) for “Transmission system associated with Gadawara STPS (2x800 MW) of NTPC (Part - B)” - (RECPTCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

7. Bid Evaluation Committee (BEC) for “Transmission System Strengthening associated with Vindhyachal-V” - (RECPTCCL)

S. 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.	Shri SK Nagesh, Director (Technical), M.P. Power Transmission Company Ltd., Shakti Bhawan, Rampur, Jabalpur Madhya Pradesh - 482 008	Member
3.	Shri O.K. Yempal, Director (Operation), MSETCL, Prakashganga, Plot No. C-19, E-Block, Bandra Kurla Compex, Bandra (East), Mumbai – 400 051 (M) 9920174232, Tel No. 022-2659 5403, 2659 5003, Fax 022-2659 0383, 2659 1254 e-mail: dirop@mahatransco.in	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 Goutam Roy, Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

8. Bid Evaluation Committee (BEC) for “Connectivity lines for Maheshwaram (Hyderabad) 765/400kV Pooling S/s” - (RECPTCCL)

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.	Director (Grid, Transmission & Management), Telangana TRANSCO Hyderabad	Member
3.	Director (Transmission), Karnataka Power Transmission Company Ltd., Bengaluru, Karnataka	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

9. Bid Evaluation Committee (BEC) for “Transmission System for LTA of 400 MW for 2x500 MW Neyveli Lignite Corporation Ltd. TS-I (Replacement) (NNTPS) in Neyveli” - (RECPTCCL)

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.	Director Transmission Projects, TANTRANSCO Chennai, Tamil Nadu	Member
3.	Director (Transmission), Karnataka Power Transmission Company Ltd., Bengaluru, Karnataka	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 Goutam Roy Director (SP&PA) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi-110066 Phone No. 011-26711015, Mobile: 8376817933	Member
6.	Chairman of SPV constituted by RECPTCCL Transmission Projects Limited	Convener - Member

Annexure IV

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
1	Scheme for enabling import of NER/ER surplus by NR Estimated Cost as provided by CEA: Rs. 1700 crore	PFC	Successful Bidder - Sterlite Technologies Ltd. Address – C-2 Mira Corporate Suite, Ishwar Nagar, Mathura Road, New Delhi-110065 Transmission Service Provider – East North Interconnection Company Ltd. Address- C/o BALCO, Core-6, 2nd Floor, Scope Office Complex 7, Lodhi Road, New Delhi - 110003	Bongaigaon – Siliguri	400 kV D/C (Quad)	218 km	(i) LOI placed on 07.01.2010 (ii) Special Purpose Vehicle acquired on 31.03.2010 (iii) Approval under section 68 on 25.03.2009 (iv) Scheduled Completion Date is 31.03.2013. (v) Transmission License granted on 28.10.2010. (vi) Tariff adoption approval on 28.10.2010 Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.
				Purnia – Biharsharif	400 kV D/C (Quad)	210 km	
2	System strengthening common for WR and NR Estimated Cost as provided by CEA:	PFCCL	Successful Bidder - Sterlite Transmission Projects Ltd.	Dhramjaygarh-Jabalpur	765 kV 1xD/C	384 km	(i) LOI placed on 31.01.2011 (ii) Special Purpose Vehicle acquired on 31.03.2011 (iii) Approval under section 68 on 25.11.2010.
				Jabalpur-Bina	765 kV 1xS/C	250 km	

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
	Rs. 1720 crore		Transmission Service Provider – Jabalpur Transmission Company Ltd. Address - C/o BALCO, Core-6, 2nd Floor, Scope Office Complex 7, Lodhi Road, New Delhi - 110003				(iv) (vii) Scheduled Completion Date is 31.03.2014. (v) Transmission License granted on 12.10.2011. (vi) Tariff adoption approval on 28.10.2011. Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.
3	System strengthening for WR Estimated Cost as provided by CEA: Rs. 2900 crore	PFCCCL	Successful Bidder - Sterlite Transmission Projects Ltd. Address – C-2 Mira Corporate Suite, Ishwar Nagar, Mathura Road, New Delhi-110065 Transmission Service Provider – Bhopal Dhule Transmission Company Ltd.	Jabalpur-Bhopal Bhopal-Indore 765/400 kV substation at Bhopal, with 2x1500 MVA 765/400 kV and interconnecting 400 kV lines/LILO Aurangabad-Dhule Dhule-Vadodara 765/400 kV substation at Dhule with 2x1500 MVA 765/400 kV and interconnecting 400 kV lines/LILO	765 kV S/C 765 kV S/C 765/400 kV substation 10ckm 765 kV S/C 765 kV S/C 765/400 kV substation 20ckm	286 181 2x1500 MVA 232 276 2x1500 MVA	(i) LOI placed on 19.01.2011 (ii) Special Purpose Vehicle acquired on 31.03.2011. (iii) Approval under section 68 on 25.11.2010. (iv) Scheduled Completion Date is 31.03.2014. (v) Transmission License granted on 12.10.2011. (vi) Tariff adoption approval on 28.10.2011. Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
			Address - C/o BALCO, Core-6, 2nd Floor, Scope Office Complex 7, Lodhi Road, New Delhi - 110003				
4	Transmission System associated with IPPs of Nagapattinam/ Cuddalore Area – Package A Estimated Cost as provided by Empowered Committee: Rs. 1025 crore	PFCCCL	Successful Bidder - Power Grid Corporation of India Ltd. Address – “Saudamini”, Plot No. 2, Sector-29 Gurgaon – 122001 Transmission Service Provider	Nagapattinam Pooling Station-Salem Salem-Madhugiri	765 kV D/C 765 kV S/C	250 KM 250 KM	(i) LOI placed on 06.03.2012. (ii) Special Purpose Vehicle acquired on 29.03.2012. (iii) Approval under section 68 on 08.10.2011. (iv) Scheduled Completion Date is 29.03.2015. (v) Transmission License – Details not available. (vi) Tariff adoption approval on 09.05.2013. Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
			<p>– Nagapattinam</p> <p>-Madhugiri Transmission Company Ltd.</p> <p>Address – B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110016</p>				
5.	<p>Transmission System for Patran 400 kV S/S</p> <p>Estimated Cost as provided by Empowered Committee: Rs. 200 crore</p>	PFCCCL	<p>Successful Bidder - Techno Electric and Engineering Company Ltd.</p> <p>Address – 3F, Park Plaza, 71, Park Street Kolkata– 700016</p>	<p>LILO of both circuits of Patiala-Kaithal 400kV D/c at Patran (Triple snow Bird Conductor)</p> <p>Creation of 2x500 MVA, 400/220 kV Substation at Patran</p>	<p>400 kV D/C</p> <p>400/220 kV Substation</p>	<p>30 KM</p> <p>2x500 MVA.</p>	<p>(i) LOI placed on 17.09.2013</p> <p>(ii) Special Purpose Vehicle acquired on 13.11.2013</p> <p>(iii) Approval under section 68 on 16.05.2013.</p> <p>(iv) Scheduled Completion Date is 13.05.2016.</p> <p>(v) Application for adoption of tariff filed in CERC. Hearing held on 27.05.2014.</p> <p>(vi) Tariff adoption approval on 05.08.2014.</p> <p>(vii) Application for grant of</p>

Annexure IV

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
			Transmission Service Provider – Patran Transmission Company Ltd. Address – 409, 4th Floor, Skipper Corner, 88, Nehru Place, New Delhi - 110019				License filed in CERC. Hearing held on 18.03.2014, 27.05.2014 & 08.07.2014. (viii) License granted on 14.07.2014 Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.
6	Eastern Region System Strengthening Scheme – VII Estimated Cost as provided by Empowered Committee: Rs. 370 crore	PFCCCL	Successful Bidder - Sterlite Grid Ltd. Address – C-2 Mira Corporate Suite, Ishwar Nagar, Mathura Road, New Delhi-110065	Purulia PSP(WB) – Ranchi (PG) Kharagpur (WBSTCL) – Chaibasa (PG)	400kV D/c 400kV D/c	140 KM 170 KM	(i) LOI placed on 17.09.2013 (ii) Special Purpose Vehicle acquired on 09.12.2013 (iii) Approval under section 68 on 29.05.2013. (iv) Scheduled Completion Date is 09.03.2016. (v) Application for adoption of tariff filed in CERC. Hearing held on 27.02.2014. (vi) Tariff adoption approval on 20.08.2014 (ix) Application for grant of

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
			Transmission Service Provider – Purulia & Kharagpur Transmission Company Ltd. Address – C-2 Mira Corporate Suite, Ishwar Nagar, Mathura Road, New Delhi-110065				License filed in CERC. Hearing held on 27.02.2014 & 20.05.2014. (x) License granted on 30.05.2014. Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.
7	Eastern Region System Strengthening Scheme – VI Estimated Cost as provided by Empowered Committee: Rs. 540 crore	PFCCCL	Successful Bidder - Essel Infraprojects Ltd. Address – 513/A, 5th Floor, Kohinoor	Creation of 2x500 MVA, 400/220 kV GIS Substation at Darbhanga with space for future extension (1x500 MVA) Creation of 2x200 MVA, 400/132 kV GIS Substation at Mothihari with space for future extension (1x200 MVA)	400/220 kV GIS Substation 400/220 kV GIS Substation	2x500 MVA 2x200 MVA	(i) LOI placed on 17.10.2013 (ii) Special Purpose Vehicle acquired on 10.12.2013 (iii) Approval under section 68 on 24.07.2013. (iv) Scheduled Completion Date is 01.07.2016. (v) Application for adoption of tariff filed in CERC on Hearing on 27.02.2014. (vi) Tariff adoption approval on 20.05.2014.

Annexure IV

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
			City, Kirol Road, LBS Marg, Off Bandra-Kurla Complex, Kurla (West), Mumbai - 400070 Transmission Service Provider - Darbhanga - Motihari Transmission Company Ltd. Address – Essel House, B-10, Lawrence Road, Industrial Area, New Delhi - 110035	Muzaffarpur(PG)- Darbhanga 400 kV D/c line with triple snowbird conductor LILO of Barh – Gorakhpur 400 kV D/c line at Motihari, 400kV 2xD/C quad	400 kV D/C	70 KM	(vii) Transmission License granted on 30.05.2014. Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.
8	Part ATS of RAPP U-7&8 in Rajasthan Estimated Cost as	PFCCCL	Successful	RAPP - Shujalpur 400kV D/C line	400 kV D/c	260 KM	(i) LOI placed on 17.09.2013 (ii) Special Purpose Vehicle acquired on 12.03.2014 (iii) Approval under section 68 on 16.05.2013.

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
	provided by Empowered Committee: Rs. 310 crore		<p>Bidder - Sterlite Grid Ltd.</p> <p>Address – C-2 Mira Corporate Suite, Ishwar Nagar, Mathura Road, New Delhi-110065</p> <p>Transmission Service Provider</p> <p>– RAPP</p> <p>Transmission Company Ltd.</p> <p>Address – C-2 Mira Corporate Suite, Ishwar Nagar, Mathura Road, New Delhi-110065</p>				<p>(iv) Scheduled Completion Date is 28.02.2016.</p> <p>(v) Application for adoption of tariff filed in CERC on Hearing on 27.05.2014.</p> <p>(vi) Tariff adoption approval on 05.08.2014.</p> <p>(vii) Transmission License granted on 31.07.2014.</p> <p>Status of approval under section 164 and Actual Project Implementation Status may be obtained from CEA.</p>
9	Transmission System	PFCCL	Successful	DGEN TPS – Vadodara	400 kV D/c	114 KM	Levellized Tariff: Rs. 584.01

Annexure IV

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

SI No	Name of the project	Nodal agency for the bidding process	Implementing Agency/ Transmission service provider	Scope of work	Nominal Voltage (kV) / type	Length (km) / MVA	Remarks
	Associated with DGEN TPS (1200 MW) of Torrent Power Ltd. Estimated Cost as provided by CEA: Rs. 275 crore		Bidder: Instalaciones Inabensa S.A. Address: C/Energia Solar, 1 41014 – Sevilla Spain	400 kV D/C, Twin Moose line Navsari – Bhestan 220 kV D/C line Establishment of 2x500 MVA, 400/220 kV GIS Substation at Greater Noida (New)		19 KM 2x500 MVA	Million per Annum (i) Lol issued on 19.05.2014 (ii) Approval under section 68 on 30.01.2014. (iii) Process of SPV transfer in progress
10	ATS for Tanda Expansion TPS (2X660 MW) Estimated Cost as provided by Empowered Committee: Rs. 245 crore	PFCCL		Tanda TPS –Sohawal 400 kV D/C Line Sohawal-Lucknow (New) (PG) 400 kV D/C Line.	400 kV D/c 400 kV D/c	80 KM 120 KM	(i) RfQ submitted on 31.10.2014 (ii) Evaluation in Progress
11	Northern Region System Strengthening Scheme – XXXIII Estimated Cost as provided by Empowered Committee: Rs. 260 crore	PFCCL		Ballabgarh-Greater Noida (New) 400 kV D/C line 5 km on multi circuit towers from Ballabgarh S/s.	220 kV D/c	50+5 M/c	Under Abeyance CEA vide letter dated 19.11.2013 intimated to keep the bidding process in abeyance till, the dispute in PPA between Essar Power (Jharkhand) Ltd and Noida Power Company Ltd. is resolved

Details of Transmission Projects Through Tariff Based Competitive Bidding Route

BPC – PFC Consulting Ltd.

Details of inter-State Transmission Schemes awarded through tariff based competitive bidding process

Sr. No	Transmission Project	Gazette Notification No. & Date	Scope of Work (Transmission Lines & Sub-stations	Completion Period (in Months from Effective Date)	Name of SPV	Date of Incorporation	RFQ Start Date	RFQ End Date (Shortlisting)	Details of Short-listed Bidders	RFP Start Date	RFP End Date (SPV Transfer Date)	Total Time of Bidding Process (Days)	Details of Bidders who submitted Financial Bids	Acquisition Price (In Rs. Crore)	Date of Issue of Lot	Total Value of CPG	Date of Transfer of SPV (Effective Date)	Date of grant of transmission license	Date of adoption of tariff	Date of grant of approval u/s 68 by MoP	Date of grant of approval u/s 164 by MoP
1	NRSS XXXI (B)	1263, 20-May-2011	(i) Kurukshetra- Malerkotla 400 kv D/c line. (ii) Malerkotla- Amritsar 400 kv D/c Line	28 Months	NRSS XXXI (B) Transmission on Limited	29-Jul-13	31-Jul-13	16-Sep-13	(i) Power Grid Corporation of India Limited (ii) Isolux Corsan Power Concessions India Pvt. Ltd. (iii) IBPGL- MEIL Consortium (iv) TATA Projects Limited (v) Essel Infraprojects Limited (vi) Sterlite Grid Ltd. (vii) Gammon Infrastructure Projects Ltd.	9-Dec-13			(i) Power Grid Corporation of India Limited (ii) Essel Infraprojects Limited (iii) Sterlite Grid Ltd.	5.29	26-Feb-14	27.45				16-Sep-13	
2	NRSS XXXI (A)	1263, 20-May-2011	(i)GIS Substation at Kala Amb (ii) LLO (iii) 40% Series compensation	38 Months	NRSS XXXI (A) Transmission on Limited	29-Jul-13	1-Aug-13	16-Sep-13	(i) Power Grid Corporation of India Limited (ii) Isolux Corsan Power Concessions India Pvt. Ltd. (iii) IBPGL- MEIL Consortium (iv) Ashoksa Bulcon Ltd (v) Essel Infraprojects Limited (vi) Sterlite Grid Ltd. (vii) Techno Electric and Engineering Company Ltd	9-Dec-13			(i) Power Grid Corporation of India Limited (ii) Essel Infraprojects Limited (iii) Sterlite Grid Ltd. (iv) Techno Electric and Engineering Company Ltd	3.597	26-Feb-14	5.9625				16-Sep-13	
3	NRSS XXIX	1263, 20-May-2011	(i) LLO (ii) Jhalandhar- Samba 400 kv D/c Line (iii) Samba- Amargarh 400 kv D/c Line (iv) GIS Substation at Amargarh	44 Months	NRSS XXIX Transmission on Limited	29-Jul-13	2-Aug-13	17-Sep-13	(i) Power Grid Corporation of India Limited (ii) Isolux Corsan Power Concessions India Pvt. Ltd. (iii) TATA Projects Limited (iv) Essel Infraprojects Limited (v) Sterlite Grid Ltd. (vi) Gammon Infrastructure Projects Ltd.	9-Dec-13						44.2125				19-Sep-13	
5	Kudgi TPS	2000, 8-Oct-2012	(i) Kudgi TPS- Narendra (New) 400 kv (ii) Narendra (New)- Madhugiri 765 kv (iii) Madhugiri- Bidadi 400 kv	28 Months	Kudgi Transmission on Limited	#####	5-Dec-12	22-Jan-13	(i) L&T Infrastructure Development Projects Limited (ii) Sterlite Grid Limited (iii) Gammon Infrastructure Projects Limited (iv) Power Grid Corporation of India Limited (v) Balfour Beatty Infrastructure Investments Limited - Tata Projects Limited Consortium (vi) Reliance Power Transmission Limited (vii) Navayuga Engineering Co. Ltd (viii)	#####	30-Aug-13	268	(i) Power Grid Corporation of India Limited (ii) L&T Infrastructure Development Projects Limited (iii) Sterlite Grid Limited (iv) Gammon Infrastructure Projects Limited	15.2	31-Jul-13	41.4	30-Aug-13	21-Nov-13		26-Feb-13	
7	SSSR	2000, 8-Oct-2012	(i) Srikalakulam PP-Vemagiri-II Pooling Station 765k V D/c line (ii) Khammam(new)- Nagarjuna Sagar 400k V D/c line	(i) 36 Months (ii) 28 Months	Vizag Trans	#####	26-Dec-12	21-Dec-12	(i) L&T Infrastructure Development Projects Limited (ii) Power Grid Corporation of India Limited (iii) Sterlite Grid Limited (iv) NCC Limited (v) IVRCL Limited (vi) Reliance Power Transmission Limited (vii) Adani Power Limited (viii) Navayuga Engineering Company Limited (ix) Gammon Infrastructure Projects Limited (x) Consortium of Patel Engineering Limited and GRC Projects Limited (xi) Consortium of Techno Electric Engg Co. Ltd. & Kalpataru Power Transmission Limited (xii) Consortium of Balfour Beatty Infrastructure Investments Limited and Tata Projects Limited (xiii) Isolux Corsan Power Concessions India Private Limited	6-Mar-13	30-Aug-13	247	(i) Power Grid Corporation of India Limited (ii) Sterlite Grid Limited (iii) Gammon Infrastructure Projects Limited	15.4	31-Jul-13	45	30-Aug-13		8-Mar-12		
8	ATS of Unchahar	2000, 8-Oct-2012	Unchahar- Fatehpur 400k V D/c	30 Months	Unchahar T	#####	1-Jan-13	26-Feb-13	(i) Power Grid Corporation of India Limited (ii) Sterlite Grid Limited (iii) Consortium of Techno Electric & Engineering Company Limited and Kalpataru Power Transmission Limited (iv) Ashok Bulcon limited (v) Consortium of Patel Engineering Ltd and GRC Projects Limited (vi) Jyoti Energy Ltd.	#####	24-Mar-14	447	(i) Sterlite Grid Limited (ii) Power Grid Corporation Limited	24.5	14-Feb-13	5.4	24-Mar-14		18-Feb-13		
9	IPPs of Vimag	406, 15-Mar-2011	(i) Vemagiri Pooling Station-Khammam 765kV D/c Line (ii) Khammam-Hyderabad 765kV D/c Line	36 Months	Vemagiri Transmission on System Limited	#####	29-Apr-11	14-Jun-11	(i) Adani Power Limited, Ahmadabad (ii) Consortium of Elecnor, SA Madrid, Spain- KEC International Limited, Gurgaon (iii) Essel Infra Projects Limited, Mumbai (iv) Consortium of EMCO Limited, Pune- IL & FS Energy Development Company Limited, Gurgaon (v) GMR Energy Limited, Bangalore (vi) Gujarat Paguthan Energy Corporation Pvt Limited, Mumbai (vii) Ind- Bharath Power Gencom Limited, Hyderabad (viii) Instalaciones Isabensa, S.A, Spain (ix) Isolux Corsan Concesiones S.A, Spain (x) IVRCL Limited, Hyderabad (xi) Lanco Infratech Limited, Gurgaon	5-Sep-11	18-Apr-12	355	(i) Consortium of Elecnor, SA Madrid, Spain- KEC International Limited, Gurgaon (ii) Ind- Bharath Power Gencom Limited, Megha Engineering & Infrastructures Ltd. (iii) IVRCL Limited (iv) L & T Infrastructure Development Projects Limited (v) NCC Infrastructure Holding Limited, BS TransComm Ltd. (vi) Power Grid Corporation of India Limited (vii) Sterlite Grid Limited	18.3		36	18-Apr-12		28-Jul-11		

