Central Electricity Authority
System Planning & Project Appraisal Division
Sewa Bhawan, R.K. Puram, New Delhi – 110066.

No. 51/4/SP&PA-2010/ 442 - 451 **Date: May 05, 2010**

To

1.The Member Secretary, Southern Regional Power Committee, 29, Race Course Cross Road, **Bangalore 560 009**. **FAX : 080-22259343**	2.The Director (Projects), Power Grid Corp. of India Ltd. "Saudamini", Plot No.2, Sector-29, **Gurgaon 122 001, Haryana**. **FAX : 95124-2571932**
3.The Director (Transmission), Transmission Corp. of Andhra Pradesh Ltd., Vidyut Soudha, **Hyderabad – 500 082.** **FAX : 040-66665137**	4.The Director (Transmission), Karnataka State Power Transmission Corp.Ltd., Cauvery Bhawan, **Bangalore 560 009**. **FAX : 080 -22228367**
5.The Member (Transmission), Kerala State Electricity Board, Vidyuthi Bhawanam, Pattom, P.B. No. 1028, **Thiruvananthapuram - 695 004.** **FAX : 0471-2444738**	6. Member (Distribution), Tamil Nadu electricity Board (TNEB), 6th Floor, Eastern Wing, 800 Anna Salai, **Chennai - 600002.** **FAX : 044-28516362**
7.The Director (Power), Corporate Office, Block – I, Neyveli Lignite Corp. Ltd., **Neyveli , Tamil Nadu – 607 801.** **FAX : 04142-252650**	8.The Superintending Engineer –I, First Floor, Electricity Department, Gingy Salai, **Puducherry – 605 001**. **FAX : 0413-2334277/2331556**
9. Director (Projects), National Thermal Power Corp. Ltd. (NTPC), NTPC Bhawan, Core-7, Scope Complex, Lodhi Road, **New Delhi-110003.** **FAX-011-24360912**	10. Director (Operations), NPCIL, 12th Floor,Vikram Sarabhai Bhawan, Anushakti Nagar, **Mumbai – 400 094.** **FAX : 022- 25991258**

Sub: 30th meeting of the Standing Committee on Power System Planning of Southern Region - **Minutes** of the meeting.

Sir,

The **30th meeting** of the Standing Committee on Power System Planning of Southern Region was **held on 13th April 2010** at PGCIL office, Sector-29, Gurgaon.

Minutes of the meeting are enclosed. The minutes are also available at CEA's website, **www.cea.nic.in**.

Yours faithfully,

Sd/-
(Pardeep Jindal)
Director (SP&PA)
(Telephone: 011 26198092, Fax No. 011 26102045)

Minutes of 30th Meeting of the
Standing Committee on Power System Planning of Southern Region (SCPSPSR)
Held on April 13, 2010 at PGCIL Office, Sector-29, Gurgaon

1.0 List of participants is given at Annex-I.

1.1 Welcoming the participants, Director(Projects), PGCIL stated that the new generation projects being set up by private sector were mainly inter-state in nature and required more of Inter State Transmission System and higher investment in the transmission sector. He further said that the uncertainty in generation was an issue for planning of transmission system and also that implementation was becoming more difficult.

1.2 Member(PS), CEA thanked PGCIL for arranging the meeting. Opening the discussions of the meeting, he stated that independent power producers were faster in putting up their generation projects, therefore, the transmission system needed to be planned well in advance so as to get sufficient time for its implementation. He advised for planning high capacity corridors wherever feasible so as to save Right of Way and optimize total investment in transmission system. He stated that, after unbundling of Electricity Boards, there was lack of a focal or nodal agency for integrated power system planning at State level. He expressed the need of establishing such an institution, which would also facilitate better coordination with States during the process of integrated planning of power system at all-India level.

1.3 CE(SP&PA),CEA welcomed ED(SO&NLDC) to the meeting and requested him to participate in future meetings of all Regions and give his feedback and proposals for system strengthening with a view to remove transmission congestion which was becoming a common problem with the increase in short term trading.

2.0 Confirmation of the minutes of 29th meeting of the Standing Committee

2.1 Chief Engineer, CEA stated that the minutes of 29th meeting of the Standing Committee on Power System Planning of Southern Region, held on 27th August 2010 at Hyderabad, were issued vide CEA's letter number 51/4/SP&PA-2009/ 920-929 dated September 04, 2009. Subsequently, it was observed that the establishment of a new 400/220 kV sub-station at Madhugiri with provision of establishing a 765/400 kV substation in the same switchyard which was agreed in the 28th Meeting of Standing Committee and also in the 10th Meeting of SRPC as regional project, got inadvertently covered under transmission system for IPP projects in Tuticorin area in the Para 12.3.2 of minutes of the 29th Meting of the Standing Committee. Accordingly, CEA issued a corrigendum to the minutes of the 29th meeting vide letter no. 51/4/SP&PA-2009/171-180 dated 30-11-2009.

2.2 There were no further comments and the minutes as circulated and amended as per the corrigendum were confirmed by the Standing Committee.

3.0 Status of Under Construction / Approved Schemes:

PGCIL Schemes:

3.1.1 Status of the ISTS projects being implemented by POWERGRID in Southern Region is given at **Annex-II**.

3.1.2 Regarding the Mysore-Kozhikode 400kV D/C line PGCIL informed that RoW problem in Kerala portion had been resolved, but the RoW problem in Karnataka portion was still there. However, they said that now the RoW and Forest issues in Karnataka had been separated and PGCIL was pursuing early clearance from Ministry of Forest and Environment for this line.

3.1.3 Regarding the Edamon-Muvattupuzha-North Trissur section of the Tirunelveli-Edamon-Muvattupuzha-North Trissur 400kV Quad D/C line, it was informed that the Row issue had been resolved and the lines would be completed in 2011. Member Secretary(SRPC) stated that because of delay in commissioning of the Kudankulam APP, IDC on its transmission system was increasing.

3.1.4 NTPC asked about status of transmission system for providing start-up power for their Vallur JV TPS. First unit of the project was scheduled for commissioning in February 2011 and accordingly NTPC needed start-up power by September 2010. PGCIL informed that the lines for start-up were likely to be made available by September 2010 as required by NTPC.

APTRANSCO Schemes:

3.2.1 APTRANSCO informed that Bhoopalapally – Warangal line had been completed and the Bhoopalapally – Gazwel 400kV D/C line would be completed by March 2012 matching second stage of the Bhoopalapally (Kakatiya) TPS.

3.2.2 Regarding transmission system for evacuation of power from Vijayawada Stage-IV, APTRANSCO said that the LILO of Nunna- Srisailam 400kV line at Vijayawada had been completed. Work on the Vijayawada-Malkaram 400kV D/C line was yet to commence, which they would complete by March 2012.

KPTCL Schemes:

3.3.1 First unit of Uduppi TPS(UTPS) generation project was expected to be commissioned in May 2010 and the second unit in September 2010. KPTCL informed that the Nagarjuna TPS(Uduppi TPS) - Hassan 400kV Quad D/C line required for evacuation of power from Uduppi TPS(UTPS) was facing forest clearance problem, however, they were trying to complete this line matching with commissioning of unit-2 of UTPS. KPTCL said that a UTPS-Khemar 220kV line with AAAC Moose conductors had been completed which would transmit some power from unit-1 and in case there were congestion/overloading of 220kV network due to Varahi HEP generation they would back-down the generations as per instructions from SLDC.

3.3.2 KPTCL also said that the Uduppi TPS had revised their install capacity from 2x507.5 MW to 2x600 MW. CE, CEA stated that in such case PGCIL might issue notice to generation project developer and confirm if any additions/modifications were needed to be carried out in their transmission network. Notice might also be issued to Karnataka and Punjab if they were taking more power in proportion to the increased capacity.

TNEB Schemes:

3.4.1 TNEB informed that the Alamathy – SVChatram 400kV D/C line would be completed by June 2010. The transmission system for NCTPS Stage-II would be completed by March 2011 and that for Mettur TPS Ext by June 2011 matching with commissioning of the generation projects.

3.4.2 Regarding the Udangudi TPS (JV project of TNEB and BHEL) TNEB stated to check and confirm status of the generation project.

KSEB Schemes:

3.5 KSEB inform that they would complete their 220kV lines inter-linking with PGCIL's Pallakad, Cochin and Kozhikode 400kV S/Ss matching with commissioning of the 400kV Substations.

4.0 Madhugiri 400kV S/S with provision of upgrading to 765/400kV in future:

Chief Engineer, CEA informed that KSEB vide their letter no. CP/LFS/SRPC/Madhugirir/2010-11/5 dated 06-04-2010 had conveyed their agreement for establishing Madhugiri 400/220kV 2x500 MVA sub-station as regional project. Accordingly, following transmission system was agreed to be implemented by PGCIL as regional system under their scheme - "System Strengthening in Southern Region-XIII":

a) Establishment of new 400/220kV substation at Madhugiri with 2x500 MVA transformers. While establishing the 400/220kV S/S at Madhugiri, provision of upgrading this S/S to 765kV level in future in the same switchyard would be kept. Upgradation of Madhugiri S/S to 765kV level by establishing 765/400kV part would be associated with transmission system for IPP generation projects in Southern Region.
b) Gooty – Madhugiri 400kV D/C line
c) Madhugiri – Yelahanka 400kV D/C Quad line

5.0 Transmission System Associated with the Coastal Energen Pvt Ltd(2x600 MW) and IND Barath Power Ltd (2x660 MW) projects in Tuticorin area of Tamil Nadu:

5.1 Chief Engineer, CEA explained that the Tuticorin Pooling Station – Tuticorin JV Station (of NLC) 400kV D/C Quad line was inter-alia agreed as part of the transmission system associated with the Coastal Energen Pvt Ltd(2x600 MW) and IND Barath Power Ltd (2x660 MW) projects in Tuticorin area of Tamil Nadu. Later, NLC informed that they could spare only one bay at their Tuticorin JV station. As such, considering space constraint and better capacity utilization of the 400kV quad D/C line, it is now proposed that instead of the Tuticorin Pooling Station – Tuticorin JV Station 400kV D/C line, both the circuits of Tuticorin JV – Madurai 400kV Quad D/C line may be LILOed at Tuticorin Pooling Station.

He further stated that a new 765/400kV Substation at Salem Pooling Station (to be initially operated at 400kV) was also inter-alia agreed as part of the above transmission system. Connectivity of this new Salem S/S with existing grid was yet to be firmed up depending upon location of the new Salem Pooling Station. It is now proposed that Salem Pooling Station be connected with existing Salem 400kV S/S with a 400kV Quad D/C line.

5.2 After discussions, the above proposed modifications in the transmission system for the Coastal Energen Pvt Ltd(2x600 MW) and IND Barath Power Ltd (2x660 MW) projects in Tuticorin area of Tamil Nadu were agreed.

6.0 System Strengthening Proposals in Southern Region:

6.1 CE, CEA said that following transmission additions were proposed to be implemented for strengthening of the electric transmission grid of Southern Region:

(i) Salem – Somanahalli 400kV Quad D/C line.
(ii) 1x500 MVA 400/220kV Transformer Augmentation at Hosur 400/230 kV S/S
(iii) Tiruvalam – Kolar 400kV D/C Quad D/C line.
(iv) North Trissur – Kozhikode 400kV Quad D/C line

He asked the members to discuss the proposed transmission additions. ED(SO&NLDC) said that due to heavy demand by Southern Region states especially by Tamil Nadu, the Salem-Somanahalli, and Hosur-Salem lines were getting overloaded. These lines were also crucial in the event SR constituents wanted to export power during good monsoon period. PGCIL said that as the Singarapet-Hosur 400kV D/C line considered in the studies was never approved in the Standing Committee/SRPC, therefore, instead of Singarapet-Hosur 400kV D/C line, the Salem-Hosur link should also be strengthened by adding a 400kV D/C line.

Following were highlights of the discussions:

6.2 Salem – Somanahalli 400kV Quad D/C line: All the members agreed for taking up this line as regional system strengthening scheme of Southern Region.

6.3 1x500 MVA 400/220kV Transformer Augmentation at Hosur 400/230 kV S/S: All the members agreed for augmentation of transformer capacity by adding 1x500 MVA transformer at the Hosur 400/230 kV S/S as regional system strengthening scheme of Southern Region. It was clarified that as per the prevalent CERC regulation, transmission charges in respect of this transformer augmentation would be borne by TNEB.

6.4 North Trissur – Kozhikode 400kV Quad D/C line: All the members agreed for taking up this line as regional system strengthening scheme of Southern Region. Regarding using Right of Way (RoW) of existing Trissur-Kozhikode 220kV S/C line of KSEB for implementation of this line Member (Transmission), KSEB said that the North Trissur-Kozhikode 400 kV Quad D/C line might be implemented with fresh RoW and in case PGCIL faces difficulty in obtaining fresh RoW then KSEB would spare RoW of its Trissur-Kozhikode 220 kV S/C line for constructing the North Trissur- Kozhikode 400 kV D/C line.

6.5 Salem – Hosur 400kV D/C line: APTRANSCO stated that the Salem-Hosur 400kV D/C line was a new proposal and was not indicated in the studies given in the Agenda. As such, it should be considered after revised studies. However, all the other constituents agreed for taking up these transmission additions as system strengthening scheme for Southern Region. It was decided that further studies would be done by PGCIL, CEA and APTRANSCO for which APTRANSCO would inform CEA about their availability for jointly carrying out the studies. Based on result of the studies, the Salem – Hosur 400kV D/C line would be re-discussed in the next meeting of the Standing Committee.

6.6 **Tiruvalam – Kolar 400kV D/C Quad D/C line:** APTRANSCO stated that the Tiruvalam-Kolar 400kV D/C line would cause less utilization of already planned Tiruvalam-Kurnool 765kV D/C line as was indicated in the studies given with the Agenda. However, all the other constituents agreed for taking up these transmission additions as system strengthening scheme for Southern Region. It was decided that further studies would be done by PGCIL, CEA and APTRANSCO for which APTRANSCO would inform CEA about their availability for jointly carrying out the studies. Based on result of the studies, the Tiruvalam – Kolar 400kV Quad D/C line would be re-discussed in the next meeting of the Standing Committee.

7.0 Hosur – Electronic City 400kV D/C line:

7.1 The Hosur – Electronic City 400kV D/C line was agreed in the 28th meeting of the Standing Committee held on 15-06-2009. It was also decided that the line could be built using Right of Way of the existing Peenya-Singarapet 220kV line (presently Yerandahally-Hosur line). This RoW could be used for building few multi-circuit towers and/or dismantling part of the line depending upon practicability. PGCIL said that they anticipate severe RoW problem in few spans within Karnataka stretch of the line and that this RoW problem could delay implementation/ completion of the line. PGCIL also said that they would take up approval of SRPC and approval under Section 68 of E.Act 2003 only after the RoW issue was sorted out, otherwise the implementation might get held up midway.

7.2 Director (Transmission), KPTCL agreed to sort out the RoW issue as soon as possible and inform CEA and PGCIL accordingly.

8.0 Inter State Transmission System Schemes agreed as per discussions of the Long Term Open Access (LTOA) / Long Term Access (LTA) Applications Made to CTU for Projects in Southern Region:

The Inter State Transmission System schemes agreed as per discussions of the LTOA/LTA/Connectivity Applications made to CTU for generation projects in Southern Region are **given at Annex-LTA**.

Detailed minutes of the LTOA/LTA discussions is being issued by PGCIL.

Annex-LTA

Inter State Transmission System (ISTS) agreed as per discussions of the LTOA/LTA/Connectivity Applications made to CTU for Projects in Southern Region

1.0 Transmission system for IPP projects in Krishnapatnam area of Andhra Pradesh

1.1 Following generation developers have applied for Long Term Open Access / Connectivity with the details as given below:

Sl. No.	Applicant	Commencement date	Installed Capacity (MW)	LTOA Quantum Applied (MW)	Allocation of Power (MW)		
					SR	WR	NR
	LTOA						
1.	Simhapuri Energy Pvt. Ltd.	December, 2010	540	491	356	135	0
2.	Meenakshi Energy Pvt. Ltd.	April, 2011	600	546	186	177	183
3.	Krishnapatnam Power Corporation Ltd. (Navayuga)	September, 2013	1320	925	725	200	0
4.	Kineta Power Pvt. Ltd.	June, 2012	1980	1830	200	600	1000
5.	Thermal Powertech Pvt. Ltd.	October, 2013	1980	1842	780	800	400
	Sub-total		**6420**	**5634**	**2247**	**1912**	**1583**
	Connectivity						
1.	Nelcast Energy Corpn. Ltd.	Jan, 2014	1320	1320	-	-	-
2.	Meenakshi Energy Pvt. Ltd.	Mar, 2012	300	273	-	-	-
	Sub-total		**1620**	**1593**	**-**	**-**	**-**
	Grand Total		**8040**	**7227**	**2247**	**1912**	**1583**

1.2 Following Common Transmission System was agreed for the above generation projects who had applied for Long Term Open Access:

Common Transmission System for Krishnapattnam LTOA Power Projects

(i) Establishment of 765/400 kV Nellore Pooling Station with adequate 765/400kV transformer capacity, by LILO of Simhapuri-Nellore 400 kV D/C quad line.
(ii) Nellore Pooling Station – Kurnool 765 kV 2xS/C line.
(iii) Kurnool – Raichur 2nd 765 kV S/C line (1st line under Krishnapatnam UMPP).
(iv) Associated 765kV & 400kV bays at Nellore Pooling Station, Kurnool and Raichur 765/400kV S/Ss.

1.3 Regarding construction of Dedicated Transmission Lines by the generators, following was decided during the meeting:

1.3.1 Dedicated Transmission Line(s) (under the scope of respective generation developers)

- Simhapuri and Meenakshi projects(already granted LTOA): Simhapuri/Meenakshi – Nellore 400 kV D/C (quad) line alongwith associated bays

- Krishnapatnam Power Corp. Ltd (Navayuga) project: Krishnapatnam Power (Navayuga) generation switchyard – Nellore Pooling station 765 kV 2xS/C line alongwith associated bays
- Kineta Power Pvt. Ltd project: Kineta Power generation switchyard – Nellore Pooling station 765 kV 2xS/c line alongwith associated bays
- Thermal Powertech Pvt Ltd project: Thermal Powertech generation switchyard – Nellore Pooling station 765 kV 2xS/c line alongwith associated bays

1.3.2 In the above arrangement all the generation developers (except Simhapuri and Meenakshi) would step-up their generation at 765kV and pool their power at Nellore pooling station through 765kV dedicated transmission lines. This arrangement was necessitated to avoid high short circuit level at the pooling station and existing substations in the vicinity. However generation developers expressed difficulties in stepping-up generation at 765kV level, therefore it was decided that PGCIL would explore feasibility of stepping-up at 400kV in association with CEA.

1.3.3 Subsequently, as decided in the meeting, following step-up voltage level and dedicated transmission lines, that would be implemented by respective generator developer, were worked out by PGCIL in association with CEA:

(i) Krishnapatnam Power Corp. Ltd (Navayuga) project:
Generation would be stepped up at 400kV. Bus reactor of 1x125MVAR to be provided at the generation project switchyard. Krishnapatnam Power (Navayuga) generation switchyard – Nellore Pooling station 400kV D/C Quad line alongwith associated bays.

(ii) Kineta Power Pvt. Ltd project:
Generation would be stepped up at 400kV. Bus reactor of 1x125MVAR to be provided at the generation project switchyard. Kineta Power generation switchyard – Nellore Pooling station 400kV D/C Quad line alongwith associated bays.

(iii) Thermal Powertech Pvt Ltd project:
Generation would be stepped up at 400kV. Bus reactor of 1x125MVAR to be provided at the generation project switchyard. Thermal Powertech generation switchyard – Nellore Pooling station 400kV D/C Quad line alongwith associated bays.

1.4 In view of above and to control short circuit level at the 400kV bus at Nellore Pooling Station, it was decided that the 400kV bus at Nellore PS would have 2-3 independent sections, each shall be equipped with adequate separate 765/400kV transformers capacity depending upon materialization of the generation projects. **In first phase of establishment of 765/400 kV S/S at Nellore PS under the Common Transmission System, 2x1500 MVA 765/400kV transformers would be implemented. Later, second and third 400kV bus sections at the Nellore PS would be created by adding adequate separate 765/400kV transformer capacity in each section, depending upon materialization of the generation projects.**

1.5 The 'Common Transmission System for Krishnapattnam LTOA Power Projects' as decided and mentioned at 1.2 and 1.4 above would require strengthening if all the projects in Krishnapattnam get materialized. Depending upon progress of the generation projects, the strengthening would be planned and implemented in phases.

1.6 Sharing of transmission charges: Following was decided:

(i) All IPP generation developers in Krishnapatnam area who are granted LTOA including the projects that have been granted LTOA viz. Simhapuri (491MW) &

Meenakshi (546MW) would share transmission charges for 'Common Transmission System for Krishnapattnam LTOA Power Projects' in proportion to the LTOA quantum. Further in the 'Common Transmission System for Krishnapattnam LTOA Power Projects' is strengthened as indicated above in para 1.5, the same would also be shared by all the applicants in proportion to the LTOA quantum.

(ii) The IPP generation developers in Krishnapatnam area would also share regional transmission charges of Southern Region in proportion to the LTOA quantum sought.

(iii) The IPP generation developers in Krishnapatnam area would also share regional transmission charges of Western Region in proportion to the quantum of power allocated to be supplied in Western and Northern Regions.

(iv) The IPP generation developers in Krishnapatnam area would also share regional transmission charges of Northern Region in proportion to the quantum of power allocated to be supplied in Northern Regions.

(v) These developers alongwith other generation developers of SR shall share the transmission charges for 'High Capacity Power Transmission Corridor – IX for transfer of power to WR & NR' in proportion to their power allocation in these Regions as explained in Para 5.0 below.

(vi) In line with CERC regulations, these charges would be paid by the beneficiaries as and when they are firmed up.

1.7 PGCIL informed that APPDCL (2x800 MW) generation project had withdrawn their request for LTOA. APPDCL was earlier planned to be connected at Nellore Pooling station. It was decided that since APPDCL did not intend to use ISTS for power transfer, it might be connected to the Nellore (APTRANSCO) instead Nellore Pooling Station as the entire power was allocated to Andhra Pradesh.

1.8 Connectivity Applications in Krishnapattnam area:

1.8.1 Meenakshi Energy (273 MW) Connectivity

Meenakshi Energy in Krishnapatnam area was earlier granted LTOA for 546 MW for under construction generation project, and it has now applied for connectivity for additional 273 MW expansion of the project under CERC regulation, 2009. It was decided that connectivity for above project might be granted subject to following were provided under the scope of generation developer:

(i) Generation to be stepped up at 400kV level and a bus reactor of 1x80 MVAR to be provided at generation switchyard

(ii) Connectivity through bus extension of under construction power plant

(iii) Provision to be kept for 2 nos. of 400 kV line bays at generation switchyard for power evacuation if required.

1.8.2 Nelcast Energy (1320 MW) Connectivity:

Nelcast Energy in Krishnapatnam area has applied for connectivity of 1320 MW under CERC regulation, 2009. It was decided that connectivity for above project might be granted subject to following were provided under the scope of generation developer:

(i) Generation to be stepped up at 400kV level and a bus reactor of 1x125 MVAR to be provided at generation switchyard

(ii) Connectivity through 400kV D/C (quad) line from Generation switchyard to Nellore Pooling Station. If Nelcast Energy desires, this line may be built by PGCIL as per provisions regarding Connectivity of the CERC regulations, 2009.

(iii) Provision to be kept for 2 nos. of 400 kV line bays at generation switchyard for power evacuation if required

2.0 Transmission system for IPP Projects in Srikakulam area of Andhra Pradesh

2.1 In Srikakulam area following two applicants have given their revised request for LTOA under CERC regulations, 2004 and one applicant have applied for connectivity under CERC regulations, 2009.

Sl. No.	Applicant	Commencement date	Installed Capacity (MW)	LTOA Quantum Applied (MW)	Allocation of Power (MW)		
					SR	WR	NR
	LTOA						
1.	East-Coast Energy Pvt. Ltd.	March, 2013	1320	1320	1000	320	0
2.	NCC Power Projects Ltd.	January, 2014	1320	1320	900	420	0
	Sub-total		**2640**	**2640**	**1900**	**740**	**0**
	Connectivity						
1.	Alfa Infraprop Pvt. Ltd.	Jun, 2014	2640	2640	-	-	-
	Sub-total		**2640**	**2640**	**-**	**-**	**-**
	Grand Total		**5280**	**5280**	**1900**	**740**	**0**

2.2 Following Common Transmission System was agreed for the above generation projects who had applied for Long Term Open Access:

2.2.1 Common Transmission System for Srikakulam LTOA Power Projects

(i) Establishment of 765/400kV Pooling Station in Srikakulam area with 2x1500 MVA 765/400kV transformer capacity
(ii) Srikakulam Pooling station – Angul 765 kV D/C line
(iii) 765/400kV 1x1500 MVA transformer at Angul
(iv) Angul – Jharsuguda 765 kV D/C line
(v) Jharsuguda - Dharamjaigarh 765 kV D/C line
(vi) Associated 400 kV and 765kV bays at Srikakulam Pooling station, Angul, Jharsuguda and Dharamjaigarh 765/400kV S/Ss.

2.2.2 The above common transmission system would be implemented in phased manner. In the first phase, with initial two units of 660MW either at East Coast or NCC or both, the Srikakulam Pooling Station would be charged at 400kV and the Srikakulam Pooling Station – Angul 765kV D/C line would also be charged at 400kV. Rest of the system, i.e mentioned at (iii), (iv) and (v) above alongwith corresponding bays, would be implemented in first phase.

2.2.3 In the second phase, when any additional unit at East Coast or NCC is commissioned, the Srikakulam Pooling Station would be upgraded to 765 kV S/S by adding 765/400kV 2x1500 MVA transformer. The Srikakulam Pooling Station – Angul 765kV D/C line would be charged at 765kV.

2.3 Following step-up voltage level and dedicated transmission lines, that would be implemented by respective generator developers, were decided during the meeting:

2.3.1 Dedicated System (under the scope of generation developer)

(i) East Coast Energy Pvt. Ltd. project:
Generation would be stepped up at 400kV. Bus reactor of 1x125MVAR to be provided at the generation project switchyard. East Coast Energy generation switchyard – Srikakulam Pooling Station 400kV D/C Quad line alongwith associated bays.

(ii) NCC Power Projects Ltd. project:
Generation would be stepped up at 400kV. Bus reactor of 1x125MVAR to be provided at the generation project switchyard. NCC Power Projects generation switchyard – Srikakulam Pooling Station 400kV D/C Quad line alongwith associated bays.

2.3.2 Considering the commissioning schedule of generation projects, it was agreed that, as an interim arrangement, each of the dedicated 400kV D/C transmission lines, mentioned above, would make LILO with one circuit each of the Gazuwaka – Behrampur 400 kV D/C line. These interim LILO lines will be further extended to Srikakulam Pooling Station when this Pooling Station gets ready and thus the Gazuwaka – Behrampur 400 kV D/C link would be restored. The Gazuwaka – Behrampur 400 kV D/C line is being constructed under private sector.

2.4 Sharing of transmission charges: **(For Srikakulam and Tuticorin IPP projects)**

2.4.1 It was decided that the Common Transmission System for generation projects in Srikakulam area i.e. East-Coast and NCC would be pooled with Common Transmission System for generation projects in Tuticorin Area i.e. Coastal Energen and Ind-Barath. Accordingly, following was decided:

(i) All IPP generation developers in Srikakulam and Tuticorin area who are granted LTOA would share transmission chares of their pooled Common Transmission Systems in proportion to the LTOA quantum.

(ii) The IPP generation developers in Srikakulam and Tuticorin area would also share regional transmission charges of Southern Region in proportion to the LTOA quantum sought.

(iii) The IPP generation developers in Srikakulam and Tuticorin area would also share regional transmission charges of Western Region in proportion to the quantum of power allocated to be supplied in Western and Northern Regions.

(iv) The IPP generation developers in Srikakulam and Tuticorin area would also share regional transmission charges of Northern Region in proportion to the quantum of power allocated to be supplied in Northern Regions.

(v) These developers alongwith other generation developers of SR shall share the transmission charges for 'High Capacity Power Transmission Corridor – IX for transfer of power to WR & NR' in proportion to their power allocation in these Regions as explained in Para 5.0 below.

(vi) In line with CERC regulations, these charges would be paid by the beneficiaries as and when they are firmed up.

2.5 Connectivity Application in Srikakulam area:

2.5.1 Alfa Infraprop (2640 MW) Connectivity

Alfa Infraprop in Srikakulam area has applied for connectivity of 2640 MW under CERC regulation, 2009. It was decided that connectivity for above project might be granted subject to following were provided under the scope of generation developer:

(i) Generation to be stepped up at 765kV level and a bus reactor of 1x240 MVAR to be provided at generation switchyard

(ii) Connectivity through 765kV S/C line from generation switchyard to Srikakulam Pooling Station, and 765/400kV 1x1500MVA transformer at Srikakulam Pooling Station. If Alfa Infraprop desires, this line may be built by PGCIL as per provisions regarding Connectivity of the CERC regulations, 2009.

(iii) Provision to be kept for 2 nos. of 765kV line bays at generation switchyard for power evacuation if required

3.0 Transmission system for Coastal Energen Pvt. Ltd. (2x600 MW) and Ind-Barath Power (Madras) Ltd. (2x660 MW) in Tuticorin area of Tamil Nadu

3.1 Following IPPs have applied for Long Term Open Access with the details as given below:

Sl. No.	LTOA Applicant	Commencement date	Installed Capacity (MW)	LTOA Applied (MW)	Allocation of Power (MW)		
					SR	WR	NR
1.	Coastal Energen Pvt. Ltd.	March, 2012	1200	1100	820	280	0
2.	Ind-barath Power (Madras) Ltd.	March, 2012	1320	900	225	270	405
	Total		**2520**	**2000**	**1045**	**550**	**405**

3.2 Following Common Transmission System was finalized and agreed for the above generation projects who had applied for Long Term Open Access:

3.2.1 Common Transmission System for Tuticorin LTOA Power Projects

(i) Establishment of 765 kV Pooling station in Tuticorin and Salem (initially charged at 400 kV)

(ii) LILO of both circuits of Tuticorin JV – Madurai 400 kV D/C Quad line at Tuticorin Pooling Station

(iii) Salem Pooling Station – Salem 400 kV D/C (quad) line.

(iv) Tuticorin Pooling station – Salem Pooling station 765 kV D/C line (initially charged at 400 kV)

(v) Salem Pooling Station – Madhugiri Pooling Station 765 kV S/C line (initially charged at 400 kV)

(vi) Associated 400 kV bays at Tuticorin Pooling station, Salem Pooling Station, Salem and Madhugiri.

3.2.2 As decided earlier, the above Common Transmission System for generation projects in Tuticorin Area i.e. Coastal Energen and Ind-Barath would be pooled with Common Transmission System for generation projects in Srikakulam area i.e. East-Coast and NCC. **The sharing of transmission charges would be as given in Para 2.4 above.**

3.3 Also, as earlier decided, following step-up voltage level and dedicated transmission lines would be implemented by respective generator developers:

Dedicated System (under the scope of generation developer)

(i) Coastal Energen Pvt. Ltd. project:
Generation would be stepped up at 400kV. Coastal Energen generation switchyard – Tuticorin Pooling Station 400kV D/C Quad line alongwith associated bays.

(ii) Ind-Barath Power (Madras) Ltd. project:

Generation would be stepped up at 400kV. Ind-Barath Power(Madras) generation switchyard – Tuticorin Pooling Station 400kV D/C Quad line alongwith associated bays.

4.0 Transmission system for GMR Rajahmundry Energy Ltd. (800 MW) in Vemagiri area of Andhra Pradesh

4.1 Following IPP has applied for Long Term Open Access with the details as given below:

Sl. No.	LTOA Applicant	Commencement date	Installed Capacity (MW)	LTOA Quantum Applied (MW)	Allocation of Power (MW)		
					SR	WR	NR
1.	GMR Rajahmundry Energy Ltd.	Jan,2012/ Apr,2012	800	775	175	300	300

4.2 Following transmission system was agreed for the above generation project who had applied for Long Term Open Access:

4.2.1 Dedicated System (under the scope of generation developer)

a) Generation would be stepped up at 400kV. Bus reactor of 1x80 MVAR to be provided at the generation project switchyard.

b) GMR Energy switchyard – Khammam 400 kV D/C (quad) line alongwith associated bays.

4.2.2 As an interim arrangement, the above dedicated transmission line would be constructed to make LILO of existing Vijayawada – Gazuwaka 400 kV S/C at generation switchyard by the generation developer. This line would be further extended to Khammam to make GMR – Khammam 400 kV D/C (quad) line by generation developer and restoring Vijayawada – Gazuwaka 400 kV S/c line. During interim arrangement, if there were any constraints in the transmission system for evacuation of power, the generation developer shall have to back down the generation to relieve the same as per the direction of RLDC.

4.3 Sharing of transmission charges:

Following was decided:

(i) The IPP generation developer would share regional transmission charges of Southern Region in proportion to the LTOA quantum sought.

(ii) The IPP generation developer would also share regional transmission charges of Western Region in proportion to the quantum of power allocated to be supplied in Western and Northern Regions.

(iii) The IPP generation developer would also share regional transmission charges of Northern Region in proportion to the quantum of power allocated to be supplied in Northern Regions.

(iv) This developer alongwith other generation developers of SR shall share the transmission charges for 'High Capacity Power Transmission Corridor – IX for transfer of power to WR & NR' in proportion to their power allocation in these Regions as explained in Para 5.0 below.

(v) In line with CERC regulations, these charges would be paid by the beneficiaries as and when they are firmed up.

5.0 High Capacity Power Transmission Corridor – IX (Common Transmission System for transfer of power from SR to WR & NR)

5.1 Following transmission system was agreed as 'High Capacity Power Transmission Corridor – IX (Common Transmission System for transfer of power from SR to WR & NR)':

(a) Sholapur – Pune 765 kV 2nd S/c (1st circuit already covered under transmission associated with Krishnapatnam UMPP).
(b) Establishment of 2x1000MVA 765/400 kV station at Orai by LILO of one circuit of Satna – Gwalior 765 kV line.
(c) Establishment of 2x1500MVA 765/400 kV station at Bulandshahar by LILO of Agra – Meerut 765 kV line.
(d) Establishment of 2x1500MVA 765/400 kV station at Sonipat by LILO of Bhiwani – Meerut 765 kV line.
(e) Jabalpur Pooling station – Orai 765 kV S/C line.
(f) Orai – Bulandshahar – Sonipat 765 kV S/C line.
(g) Orai-Orai (UPPCL) 400kV D/C (Quad) line.
(h) Sonipat-Kurushetra 400kV D/C (Quad) line.
(i) Sonipat (New) - Sonipat (Under Construction) 400kV D/C (Quad) line.
(j) Bulandshahr - Hapur (UPPCL) 400kV D/C (Quad) line.

5.2 Transmission charges for the item no. (a) above would be shared by all the IPPs in Southern Region who are granted LTOA for exporting power to Northern & Western Regions. These charges would be transferred to their beneficiaries as and when confirmed.

5.3 Transmission charges for the item no. (b) to (j) above would be shared by all the IPPs of Southern Region who are granted for LTOA for exporting power to Northern Region. These charges would be transferred to their beneficiaries as and when confirmed.

6.0 Connectivity Application of Lanco Kondapalli:

6.1 Lanco Kondapalli Power Pvt. Ltd. have applied for connectivity with following details:

Sl. No.	Applicant	Quantum (MW)	Location	Commencement date
1.	Lanco Kondapalli Power Pvt. Ltd.	740	Krishna District, A.P.	Jun, 2011 / Feb,2012

6.2 Lanco Kondapalli near Vijayawada was earlier granted LTOA for 350MW generation project which was under operation, and it has now applied for connectivity for additional 740MW expansion of the project under CERC regulation, 2009. It was decided that connectivity for above project might be granted subject to following were provided under the scope of generation developer:

(i) Generation to be stepped up at 400kV level and a bus reactor of 1x80 MVAR to be provided at generation switchyard
(ii) Connectivity through bus extension of existing power plant
(iii) Provision to be kept for 2 nos. of 400 kV line bays at generation switchyard for power evacuation if required.

7.0 Transmission system for IPP Projects in Nagapattinam and Cuddalore are of Tamil Nadu

7.1 Following IPPs have applied for Long Term Open Access under CERC regulations 2004, with the details as given below:

Sl. No.	LTOA Applicant	Commencement date	Installed Capacity (MW)	LTOA Quantum Applied (MW)	Allocation of Power (MW)		
					SR	WR	NR
1.	NSL Power Pvt. Ltd. (Nagapattinam)	Oct, 2011	1320	800	267	266	266
2.	PEL Power Ltd. (Nagapattinam)	Mar, 2013/ May, 2013	1000	1000	350	500	150
3.	IL&FS Tamil Nadu Power Co. Ltd. (Cuddalore)	Mar, 2013/ Sept, 2013	1500	1500	750	750	0
	Total		**3820**	**3300**	**1367**	**1516**	**416**

7.2 Following IPP has applied for Long Term Access under CERC regulations 2009, with the details as given below:

Sl. No.	Applicant	Commencement date	Installed Capacity (MW)	LTOA Quantum Applied (MW)	Allocation of Power (MW)		
					SR	WR	NR
1.	Sindya Power Generation Co. Pvt. (Nagapattinam)	Apr, 2013	1050	970	650	250	70

7.3 Following Common Transmission System was proposed for the above generation projects who had applied for LTOA/LTA:

Common Transmission System for Nagapattinam and Cuddalore LTOA/LTA Power Projects:

(i) Establishment of 765/400kV Pooling Station at Nagapattinam with 4x1500 MVA transformer with sectionalisation arrangement to control short circuit MVA (to be constructed in two sections each with 2x1500 MVA, 765/400 kV transformers. The bus shall be sectionalized on 400 kV side with common 765 kV bus)
(ii) Nagapattinam Pooling Station – Salem 765kV D/C line
(iii) Nagapattinam Pooling Station –Tiruvalem 765kV S/C line (via Cheyyur UMPP)
(iv) LILO of Cheyyur UMPP – Salem 765kV S/C line (planned with Cheyyur UMPP) at Nagapattinam Pooling Station at a later date
(v) Tiruvalam – Kurnool 765kV S/C line - 2 (line-1 planned with Cheyyur UMPP)
(vi) Salem – Madhugiri 765 kV S/C line – 2 *** (line-1 planned with Tuticorin LTOA projects)
(vii) Madhugiri – Basvana Bagewadi 765kV D/C line
(viii) Basvana Bagewadi – Sholapur 765kV D/C line
(ix) LILO of Neyveli – Trichy 400kV line at Nagapattinam Pooling Station as an

interim measure for providing start-up power and initial evacuation, which would later be bypassed.

*** *Salem – Madhugiri 765 kV S/c line – 2 has also been covered under Cheyyur UMPP, however it shall be required in the time frame of IPPs of Cuddalore/Nagapattinam area, therefore it has to be implemented accordingly.*

7.4 TNEB and NLC representatives expressed their apprehension that the proposed interim measure of LILO of Neyveli - 400kV line at Nagapattinam PS may affect reliable evacuation of Neyveli generation. It was decided that during the interim arrangement period, if there were any constraints in the transmission system for evacuation of power, the generation developer(s) would have to back down the generation to relieve the same as per the direction of RLDC.

7.5 CE (SP&PA), CEA enquired about the readiness of the generation projects and their status so that the transmission system could be prioritized and phased for its implementation. As the status on generation progress was not readily available it was decided that phasing of the agreed common transmission system and the arrangements for dedicated transmission line(s) would be firmed up by CEA and PGCIL after discussing with IPPs of Nagapattinam and Cuddalore area, alongwith TNEB and NLC.

7.6 Subsequently, a meeting was held in Chennai on 03-05-2010 with IPPs of Nagapattinam and Cuddalore area. All the IPPs asked for extension of submission of status about their projects. It was agreed that they might submit their status to PGCIL by May 10, 2010 and based on the information provided by the IPPs, the transmission system would be planned and discussed in the next meeting of the Standing Committee on Power System Planning of Southern Region.

Annex-I

List of participants for the 30th meeting of Standing Committee on Power System Planning held on 13th April 2010 at PGCIL office, Sector-29, Gurgaon

Sl. No.	Name and Organization	Designation
	Central Electricity Authority (CEA)	
1.	S. M. Dhiman	Member (GOD)
2.	Ravinder	Chief Engineer (SP&PA)
3.	Pardeep Jindal	Director (SP&PA)
	Southern Region Power Committee (SRPC)	
4.	M. L. Batra	Member Secretary
5.	S. R. Bhat	Superintending Engineer
	Power Grid Corporation of India Ltd (PGCIL)	
6.	I.S.Jha	Director(Projects)
7.	Y. K. Sehgal	ED(SEF)
8.	S. K. Soonee	ED(NLDC & SO)
9.	Pankaj Kumar	GM(Engg.)
10.	M. Krishnakumar	GM (SRTS-II)
11.	P. R. Raghuram	GM (SRLDC)
12.	Dilip Rozekar	DGM(Engg-SEF)
13.	S. S. Raju	DGM
14.	Minoo Verghese	DGM
15.	A Naga Raju	DGM(Commercial)
16.	R. V. M. Rao	CDE(SEF)
17.	S. P. Kumar	CM (SRLDC)
18.	Jane Jose	Chief Manager(Commercial)
	National Thermal Power Corp. (NTPC)	
19.	Abhijit Sen	Addl. GM(Project Engg.-Elect.)
	Neyveli Lignite Corp. (NLC)	
20.	T. J. Murlidharan	GM/Electrical
	Transmission Corp. of Andhra Pradesh Ltd. (APTRANSCO)	
21.	M.Jayachandra	CE(PS)
22.	M Balasubramanyam	DE/System Studies
	Karnataka Power Transmission Corp. Ltd. (KPTCL)	
23.	Pratap Kumar	Director(Trans.)
24.	K Paramesha	AEE (Elect)
	Kerala State Electricity Board (KSEB)	
25.	K. Asokan	Member(T&D)
26.	N. S. Jayaprakash	EE/LD
	Tamil Nadu Electricity Board (TNEB)/Tamil Nadu Transco	
27.	S. Akshaya Kumar	Director/Transco
28.	S. Ravichandran	EE/SS

Annex-II

Status of Southern Region Transmission Schemes- POWERGRID

Sl. No.	Name of Scheme & Elements	Standing Committee Approval	FR Date	Investment approval by POWERGRID Board/ CCEA	Target as of now	Comments/Reasons of delay
1.	**Kaiga U-3&4 Tr. System** a) Narendra – Davangere 400 kV D/C line b) LILO of existing Kolar – Sriperumbudur 400 kV S/c at new 400/220 kV substation at Melakottaiyur c) Provision of 2nd 315 MVA, 400/220 kV transformer at Hiriyur 400/220 kV substations each. d) Establishment of new 400/220 kV substations at Melakottaiyur with 2x315 MVA, 400/220 kV transformers e) Mysore – Kozhikode 400 kV D/c line f) Establishment of new 400/220 kV substations at Kozhikode with 2x315 MVA, 400/220 kV transformers	16th Meeting on 20.01.03	Oct, 03	CCEA Approval – March, 2005	**Commissioned** Except Mysore-Kozhikode line and Kozhikode substation	Mysore – Kozhikode is getting **delayed due to ROW** (50 Kms) of coffee planters in Kranataka portion, forest clearance problem in Kerala & Karnataka portion. The matter is taken with highest level with State Governments and further being followed up through intervention of Ministry of Power.
2.	**Kudankulam Tr. System** a) Kudankulam – Tirunelveli 2x400 kV D/c lines with Quad conductors b) Tirunelveli – Udumalpet 400 kV D/c lines with Twin conductors. c) LILO of both circuits of Madurai – Trivandrum 400 kV D/c line at Tirunelveli d) Tirunelveli – Edamon 400 kV Multi-ckt line (2 ckts of quad & 2 ckts of twin) e) Edamon – Muvattupuzha 400 kV Quad D/c line constructed in new ROW corridor f) Muvattupuzha - North Trichur 400 kV D/c line with quad conductor g) Establishment of new 400/220 kV transformers with 2x315 MVA transformers at Tirunelveli and Muvattupuzha. h) Transformation Aug.with	18th Meeting on 05.03.04	June, 04	CCEA – May, 2005	**Jun' 10**	– **Generation project is delayed to Jun'2010 / Dec'2010**. – System to be commissioned Matching with generation project. – Tirunelveli 400/220 kV S/stsn and LILO of Madurai – Trivandrum …….. commissioned – **Severe ROW problems facing in Edamon – Muvattupuzha – North Trichur corridor**

Sl. No.	Name of Scheme & Elements	Standing Committee Approval	FR Date	Investment approval by POWERGRID Board/ CCEA	Target as of now	Comments/Reasons of delay
	1x315 MVA transformers at Udumalpet and Trivandrum 400/220 kV substations.					
3.	**System Strengthening – VII** a) Establishment of 400/220 kV new substation with 2x315 MVA transformers at Karaikudi. b) LILO of one circuit of Madurai-Trichy 400 kV D/c line at Karaikudi c) Establishment of 400/220 kV new substation with 2x315 MVA transformers at Hassan. **d)** LILO of one circuit of existing Talguppa-Neelmangla 400 kV D/c line at Hassan	18th Meeting on 05.03.04	July, 04	April, 05	**Apr' 10**	– Karaikudi substation and associated LILO commissioned. – Hassan substation and associated LILO ready for commissioning, however getting delayed due to delay in 220kV evacuation lines
4.	**Kalpakkam PFBR Tr. System** a)KPFBR - Kanchepuram 230 kV D/c line b) KPFBR – Arni 230 kV D/c line c)KPFBR – Sirucheri 230 kV D/c line d) 2 nos of 230 kV bays each at Kancheepuram, Arni and Sirucheri 230 kV substations of TNEB	20th Meeting on 07.10.04	Mar, 08	Mar, 10	**Dec'11**	– Award placed in **Mar' 2010**
5.	**Transmission System associated with TuticorinJV** a) Tuticorin – Madurai 400kV D/c line (Quad conductor)	22nd Meeting on 18.06.07	Jun, 07	Feb, 09	**Feb' 12**	Generation getting delayed revised schedule **Jun'2012** as per 12th SRPC minutes
6.	**System Strengthening – VIII** a) 11 nos. of 63 MVAR Reactors (7 bus reactors + 4 line reactors)	23rd Meeting on 22.01.07	Mar, 07	Jan, 08	**Nov' 10**	– 4 Reactors already commissioned, 2 Reactors are close to commissioning – For balance implementation work are in progress

Sl. No.	Name of Scheme & Elements	Standing Committee Approval	FR Date	Investment approval by POWERGRID Board/ CCEA	Target as of now	Comments/Reasons of delay
7.	**Transmission system associated with Chennai NTPC-TNEB JV TPS** a) LILO of Alamanthy – Sriperumbudur 400 kV D/c line at North Chennai TPS JV	24th Meeting on 18.06.07	Nov, 07	May' 08	**July'10**	– Activities in progress, Gen. likely by **Feb' 2011** as per 12th SRPC minutes
8.	**System Strengthening – IX** a) Hassan - Mysore 400 kV D/c line	24th Meeting on 18.06.07	Aug, 08	Feb, 09	**Feb' 12**	
9.	**System Strengthening – X** a) Establishment of new 400/220 kV substation at Bidadi with 7x167 MVA 400/220 kV transformers and 1x63 MVAR bus reactor b) LILO of one circuit of Nelamangla – Somanahalli 400 kV D/c line at Bidadi 400 kV substation	24th Meeting on 18.06.07	Sept, 08	Dec, 09	**May' 12**	– Award placed in **Dec' 2009**
10.	**System Strengthening–XI** a) Establishment of new 400/220 kV substation at Chulliar (Palakkad) with 2x315 MVA transformers and 1x63 MVAR bus reactor. b) LILO of both circuits of Udumalpet - Madakathara (North Trichur) 400kV D/C line at Chulliar 400 kV substation	25th Meeting on 28.03.08	Oct, 08	Feb, 09	**Jul' 11**	– Implementation works are in progress
11.	**System Strengthening–XII** a) Establishment of new 400/220 kV substation at Yelahanka with 2x500 MVA transformers and 1x63 MVAR bus reactor. b) LILO of Nelamangla-Hoody 400kV S/c line at Yelahanka 400kV S/S c) LILO of Somanahalli-Hoody 400kV S/c line at Yelahanka 400kV S/S	27th Meeting on 03.03.09	July, 09	Feb, 10	**Jul' 12**	– Award to be placed shortly.
12.	**Simhadri-II Tr. System** a) LILO of both circuits Gazuwaka-Vemagiri 400 kV D/c line at Simhadri-II.	28th Meeting on 15.06.09	Nov, 09	Jan, 10	**Jul' 11**	– Award placed in **Feb' 2010**

Sl. No.	Name of Scheme & Elements	Standing Committee Approval	FR Date	Investment approval by POWERGRID Board/ CCEA	Target as of now	Comments/Reasons of delay
13.	**Supplementary Transmission System associated with Vallur TPS** a) Extending 400 kV D/c of original Vallur TPS transmission system from LILO point to Malekottaiyur by suitably utilizing part of the LILO of Kolar-Sriperumbudur line at Melakottaiyur. Kolar – Sriperumbudur 400 kV shall be restored as direct lines. b) Establishment of Tiruvelam 765/400kV switching station initially charged at 400kV c) Tiruvalam (POWERGRID) - Chitoor 400kV D/C quad line	28th Meeting on 15.06.09	Aug, 09	Feb, 10	**Nov' 12**	– Award to be placed shortly.
14.	**Common Transmission System Associated with LTA Projects in Krishnapatnam Area** a) Establishment of 765/400kV 2x1500MVA Pooling station at Nellore by LILO of Simhapuri – Nellore 400kV D/c line b) Nellore Pooling station – Kurnool 765 kV 2x S/c c) Kurnool – Raichur 2nd 765 kV S/c line	26th Meeting on 13.06.08	Nov, 09			– FR prepared – Investment to be taken shortly
15.	**Common Transmission System Associated with LTA Projects in Tuticorin Area-Part-A** a) Establishment of 765 kV pooling station in Tuticorin (initially charged at 400 kV) b) Tuticorin pooling station – Tuticorin JV 400 kV D/c quad	29th Meeting on 27.08.09	Nov, 09			– FR prepared – Investment to be taken shortly

---