

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

No. 51/4/SP&PA-2008/

Date: July 15, 2008

To

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

**Sub:** 26<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region  
- Minutes of the meeting

**Sir,**

26<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region was held on June 13, 2008 at Hyderabad. Minutes of the meeting are enclosed. Your comments and observations, if any, may be sent to us at the earliest.

This issues with the approval of Member(PS).

Yours faithfully,

**Encl: Minutes**

(A.K.Asthana)  
Chief Engineer(SP&PA)  
(Tel./Fax. 011 26102045)

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**Standing Committee on Power System Planning in Southern Region  
(SCPSP SR)**

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**Minutes of the 26<sup>th</sup> Meeting held on June 13, 2008 at Hyderabad**

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- ❖ 26<sup>th</sup> meeting of the Standing Committee on Power System Planning in Southern Region (SCPSP SR) was held on 13<sup>th</sup> June 2008 (Friday) at Hotel ITC Kakatiya, Hyderabad.
  
- ❖ Agenda note for discussion for this meeting was circulated by CEA on May 22, 2008 and subsequently, additional agenda was circulated on June 06, 2008. Further, Southern Region Power Committee (SRPC) proposed agenda points that were based on the discussions held in its meeting held on 7<sup>th</sup> June, 2008. These were circulated in the meeting and were taken up for discussion. For reference, a consolidated agenda note is given at Annex-I.
  
- ❖ The meeting was chaired by Member (Power System), CEA.  
The list of participants is given at Annex-II.

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**Summary Record of Discussions:**

**1.0** Shri V. Ramakrishna, Member (Power System), CEA welcomed the participants to the 26<sup>th</sup> meeting of the Standing Committee on Power System Planning in Southern Region. He thanked NTPC for excellent arrangements made by them for holding of this meeting. Opening the discussions, Member (PS) stated that about 80 GW of generation had been planned for addition during next five year period, which was more than 50% of total existing installed capacity. This would require commensurate capacity additions in transmission system also and emphasized need for rapid implementation of the transmission system. In view of this it was required to look at the issues with long-term view and to help development of transmission system by timely signing of the BPTA with POWERGRID. He observed this summer NR had surplus generation due to unpredictable weather conditions and upto 3000 MW was exported from NR to other regions including SR. This was possible because of the inter-regional transmission system that had been built.

## **2.0 Confirmation of the minutes of 25<sup>th</sup> meeting of the Standing Committee**

- 2.1 CE(SP&PA), CEA stated that the minutes of the 25<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region that was held on March 28, 2008 were issued vide our letter of even number dated April 24, 2008. Member Secretary, SRPC, vide letter no SRPC/SE-I/2008-3386-87 dated May 01, 2008, gave observation on Item No. 12.2 (regarding Transmission System for Tuticorin JV TPS) of the issued minutes. Based on the observation of SRPC, the Para No. 12.2 of the Minutes of 25<sup>th</sup> meeting was replaced and corrigendum in this regard was issued on May 21, 2008.
- 2.2 Further, POWERGRID, vide letter no C\ENG\SEF\S\Standing Committee dated May 30, 2008, gave observation on Item No. 4.0 regarding “Advancement of Warangal 400kV S/S” of the issued minutes. Based on the observation of POWERGRID, **the Para No. 4.2** of the Minutes of 25<sup>th</sup> meeting was **replaced and** corrigendum in this regard was issued on June 02, 2008.
- 2.3 The minutes as circulated with above two corrigenda were confirmed. The amended Para 12.2 and Para 4.2 are given at Annex-III, for reference.

## **3.0 Status of under construction / approved schemes**

- 3.1 Chief Engineer, CEA asked PGCIL to give status of implementation of various transmission schemes, which were earlier discussed and agreed in the previous meetings of this Standing Committee. GM, POWERGRID provided the progress on various transmission schemes the details of which are given at Annex-IV.
- 3.2 Member(PS), CEA asked POWERGRID to also specify status of DPR formulation, approval and the date of LoA (Letter of Award) of the transmission schemes while giving status and asked transmission utility representatives to give similar status of their respective 400kV/ 220kV/below level transmission systems that would be interconnected with regional transmission systems being implemented by

POWERGRID. He also asked the participants to provide this information in advance so that the same could be circulated to all before the meeting for meaningful discussion. The transmission utility members including Powergrid agreed to provide the same in future.

3.3 POWERGRID representative informed that implementation of the Mysore-Kozhikode 400kV line associated with Kaiga U3&4 was getting delayed due to RoW (about 50km) and for want of necessary forest clearance. Member(PS), CEA stated that on any issue pending for forest clearance, POWERGRID should inform CEA stating the details of the case so that the issue could also be taken up by CEA with concerned forest authorities at higher level.

3.4 Regarding implementation of reactors in Southern Region, representative of KPTCL informed that they were converting the line reactor at Guttur (Davanagere) for using the same as bus reactor. Member(PS) said that the requirement of reactors at Raichur, Talaguppa, Davangere, Nelamangla and Hoody was in addition to the existing line reactors in operation. Therefore, KPTCL should install new/additional reactors to meet the requirement. He further observed that the progress on implementation of reactors at 400kV S/Ss in SR was rather very slow. All effort should be made to expedite the works as the whole scheme was to be completed by end of 2008-09 itself. It was decided that each agency would provide detailed status of implementation of reactors in their state/area of jurisdiction.

3.5 CE, CEA said that as a policy, higher capacity 220kV lines should be built for all 2x500 MVA 400/220kV transformers. This was noted and agreed by the Committee.

#### **4.0 Fourth Transformer at Ghanapur (Hyderabad) 400/220kV S/S of POWERGRID:**

4.1 Member(PS), CEA said that to meet load growth in Hyderabad area, three additional 400/220kV S/Ss had been planned and were under implementation, but their progress was not matched with load growth in the area. He asked APTRANSCO to speed up implementation of the 400kV S/Ss and associated 220kV systems. CE, APTRANSCO informed that the Gazwel 400kV S/S would be completed in June 2008 and the associate lines in July 2008 and the Yeddumylaram S/S by December 2009.

In view of these implementations, it was observed that a fourth transformer at Ghanapur was not needed at this stage.

- 4.2 CE, CEA stated that subsequent to the discussions in the last meeting of the Standing Committee, the issue of overloading at the Ghanapur 400/220kV S/S was further discussed with officials of APTRANSCO and POWERGRID at CEA and it was brought out that overloading of existing transformers in Hyderabad would come down after implementation of Malkaram, Yeddumylaram and Gajwel 400/220kV S/Ss by APTRANSCO. He also said that, due to continuous loading of the transformers, POWERGRID was finding it difficult to get time for carrying out necessary annual maintenance of the transformers. As there was no reliability margin of catering to contingency of outage of one 400/220kV transformer and also that the existing transformers were aging, the impact of supply constraints due to any breakdown of the transformer which might have to be sent to workshop for repair, would have to be faced by APTRANSCO. CE, APTRANSCO agreed to provide sufficient time for maintenance works and also reduce loading on Ghanapur transformers by rearrangement of their loads and stepping up of generation from Srisaillam powerhouse.

## **5.0 Bays at Hiriyyur for Termination of Lines by KPTCL:**

- 5.1 Chief Engineer (SP&PA), CEA informed that KPTCL had proposed to terminate a 400kV D/C line from the Bellary TPS (3x500 MW) at the Hiriyyur 400kV Substation. In this regard he stated that just termination of line from Bellary to Hiriyyur would not be adequate and suitable strengthening beyond Hiriyyur was necessary. KPTCL was advised to carryout studies to identify the required strengthening beyond Hiriyyur in association with CEA.
- 5.2 It was observed that KPTCL had started construction of their Bellary-Hiriyyur 400kV D/C line without bringing up this issue at the Standing Committee level. Member(PS), CEA said that all the utilities should bring to the notice of CEA, their transmission/generation develop plans which would impact the regional system at the

proposal stage itself, so that necessary system studies could be carried out and discussed at the Standing Committee level. All the participants agreed for the same.

5.3 GM (Engg.), POWERGRID stated that termination of line from Bellary to Hiriyur without further 400kV system beyond Hiriyur would amount to utilization of ISTS for evacuation of Bellary power for which KPTCL should be required to apply for the Long Term Open Access. After further discussions, it was agreed that KPTCL would plan to provide their own further 400kV system beyond Hiriyur and POWERGRID would provide two bays at Hiriyur 400kV S/S for termination of the Bellary – Hiriyur 400kV D/C line of KPTCL and that POWERGRID would implement this work as deposit work for KPTCL. POWERGRID would also make efforts for timely implementation of these works.

5.4 It was also decided that KPTCL would evolve suitable transmission system strengthening beyond Hiriyur in association with CEA. The studies would also include transmission system requirements for Yeramara (3x500 MW) generation of KPCL and strengthening of 400kV ring around Bangalore including connectivity for the Yelahanka 400kV S/S of POWERGRID. The results of the study would be put for discussion in the next meeting of SCPSPSR.

**6.0 Transmission System for Vallur JV TPS (3x500 MW) of NTECL, and Transmission System for North Chennai Stage-II TPS (1x600 MW) and Ennore Expansion (1x600 MW) of TNEB**

6.1 CE, CEA stated that transmission system for evacuation of power from Vallur TPS of M/s NTPC Tamilnadu Energy Company Ltd (NTECL), LILO of Alamathy-Sriperumbudur 400kV D/C line at Vallur TPS was planned. This system required four number of 400kV circuits to be taken out from the generation switchyard. PGCIL had informed that due to ROW problem in execution of LILO of Sriperumbudur – Alamathy 400 kV D/C at the proposed Vallur JV project, the four number of 400kV circuits emanating from Vallur would be built on one multi-circuit tower line from Vallur JV project up to LILO point of Sriperumbudur – Alamathy D/C line and same was agreed. In the 25<sup>th</sup> meeting NTPC informed that the capacity of

Vallur TPS had been increased to 3x500 MW, and therefore, it was decided that transmission system with increased generation capacity would be evolved by CEA in association with POWERGRID and TNEB. Accordingly, system studies were carried out during 27-29 May 2008 for evolving transmission system for evacuation of power from following generation projects:

- Vallur JV TPS(3x500 MW) of NTECL (JV of NTPC and TNEB)
- North Chennai Stage-II (1x600 MW) of TNEB, and
- Ennore Expansion (1x600 MW) of TNEB.

6.2 The proposal as per agenda note were discussed. It transpired that as LILO of a number of line was involved the proposal should be finalized based on relative location of proposed LILO points, location of proposed SV Chatram substation with respect to the Kolar – Sriperumbudur 400 kV D/C line and feasibility of constructing the lines in the areas outskirts of the city. POWERGRID representative further informed about severe ROW constraints for construction of lines in the north and south of Chennai area.

6.3 GM, NTPC suggested that the two projects i.e. the Vallur TPS and the North Chennai-II TPS might be inter-connected by a 400kV D/C line for reliability purpose. The proposal was agreed and it was decided that this line would be built by POWERGRID, and M/s NTECL and TNEB would share the transmission charges of the line on 50:50 sharing basis. All the members agreed for this arrangement.

6.4 Member (PS), CEA stated that objectives of additional strengthening is to ensure that one double circuit from Vallur TPS is terminated directly to SV Chatram and/or Melakottaiyur, so as to avoid overloading of the transmission corridor between Sriperumbudur and Alamathi. This could be accomplished by extending the LILO line from Vallur TPS beyond LILO point to SV Chatram or some other suitable point on any 400kV line in the vicinity based on consideration of ROW constraints as well as relative location of SV chatram with respect to the Kolar – Sriperumbudur line. He suggested that members might give concurrence to the overall proposal, and exact details

regarding termination of the lines emanating from Vallur should be worked out after the visit of Chief Engineer (SP&PA), CEA to Chennai in association with TNEB and POWERGRID officials. Members concurred to the same and accordingly the following system was agreed .

**A) Evacuation System for Vallur JV TPS(3x500MW)**

1. LILO of one of the circuits of Sriperumbudur – Alamathy 400 kV D/C line at Vallur JV TPS (instead of LILO of both the circuits of Sriperumbudur – Alamathi D/C as earlier planned)
2. Extending the other two 400kV circuits from Vallur JV TPS on a 400kV D/C line upto Sunguvarchatram(TN) to have Vallur JV TPS- Sunguvarchatram 400kV D/C line.
3. Providing two nos of additional 400kV line bays at Sriberumbudur so as to restore Kolar – Sriperumbudur 400kV line and terminate the Melakottaiyur LILO line into Sriperumbudur S/S so as to have Sriperumbudur-Melakottaiyur 400kV D/C line- one circuit of which LILOed at SV Chatram. With this arrangement the Kolar – Sriperumbudur 400kV S/C link will be restored as direct line between Kolar and Sriperumbudur.

Based on site visit by CE (SP&PA) and engineers of PGCIL held on 14 .6.2008 feasibility and optimality of the above was also confirmed.

4. 50% of Vallur TPS –North Chennai 400 kV DC line.

**B) Evacuation System for North Chennai Stage-II of TNEB**

1. LILO of one circuit of Sriperumbudur – Alamathy 400 kV D/C line at NCTPS Stage-II (This LILO would be on the second circuit of Sriperumbudur – Alamathy 400 kV D/C line. The first circuit would have LILO at Vallur TPS, as in (A).1.)
2. 50% of Vallur TPS –North Chennai 400 kV DC line.

- 6.5 Following transmission system for evacuation of power from the Ennore Expansion TPS was evolved and the same was agreed:

The Ennore Expansion TPS would be be stepped up to 230kV level and evacuated by following system upto Manali 230kV S/S of TNEB:



1. Ennore Expansion – Manali 230kV 2xD/C lines built for higher temperature (could be built using multi-circuit towers if there is a ROW constraint). The power could be dispersed at Manali and Chennai metro area. TNEB would design an evacuation system at 230 kV level with high temperature conductor.

## **7.0 Ratification of list of works covered under scheme discussed in the 7<sup>th</sup> SRPC meeting held on 07.06.2008**

7.1 Member(PS), CEA stated that MS, SRPC had proposed additional issues for discussion and ratification by the Standing Committee. MS, SRPC informed that in the 7<sup>th</sup> SRPC Meeting held on 07.06.2008, Executive Director (Operation Services) vide their letter No. C/OS/SRPC dated 30.05.2008, had proposed the following schemes for approval

### **Evacuation System for 4000 MW Krishnapattnam UMPP:**

- I. Krishnapattnam UMPP – Nellore 400 kV, Quad D/C line
- II. Krishnapattnam UMPP – Kurnool (New) 400kV, Quad D/C line with 50MVAR line reactor at each end on both circuits.
- III. Krishnapattnam UMPP –Gooty, 400 kV, Quad D/C line with 63MVAR line reactors at each end on both circuits.
- IV. Raichur - Sholapur 765kV S/C line with 240MVAR switchable line reactors at each end.
- V. Sholapur-Pune (new) 765 KV S/C line with 240 MVAR line reactors at each end.
- VI. Kurnool (New) – Raichur 765kV S/C line
- VII. Establishment of new 765/400 kV substations at Kurnool, Raichur, Sholapur and Pune, with 2x 1500 MVA ICTs and 1x 240 MVAR bus reactors each.
- VIII. LILO of Nagarjuna Sagar – Gooty 400 kV S/C line at Kurnool (New) substation.
- IX. Kurnool(new)-Kurnool (APTRANSCO) 400 KV D/C QUAD line.
- X. LILO of existing Raichur-Gooty 400kV Quad D/C line at Raichur(New) substations.
- XI. Pune (New) – Pune 400 kV Quad D/C line

**Regional System Strengthening Scheme with 400kV S/S at Chulliar(Palakkad)  
in Kerala:**

- I. Establishment of new 400/220kV Substation at Chulliar (Palakkad) with 2x 315MVA transformers;
- II. LILO of both circuits of Udumalpet - Madakathara (North Trichur) 400kV D/C line at Chulliar 400kV Substation; and
- III. 1x63 MVAR bus reactor at Chulliar 400/220 kV S/S

7.2 MS,SRPC stated that in the SRPC meeting it was noted that the above lists were somewhat different than as per minutes of earlier meeting of standing committee to the extent that the lists included details of reactors and interlinking lines which were not detailed in the list as per minutes of meeting of standing committee. The SRPC had given approval for the scheme in 7<sup>th</sup> SRPC meeting subject to the ratification by the Standing Committee regarding the details of interlinking of new substations and reactive compensation. Accordingly the above lists were placed for ratification by the standing committee.

7.3 CE, CEA observed that these were mainly detailing of the interconnections and transformer capacity sizing issues. Member(PS), CEA informed that the transmission system earlier agreed in the 25<sup>th</sup> Standing Committee meeting inter-alia included inter-linking of the new stations to the regional grid like Raichur, Kurnool etc. Subsequently, however, these inter-links had been identified and also the reactive compensation had been evolved and included in the scheme After further discussions, the standing committee ratified the transmission system for Krishnapattnam UMPP as given in the above list. However, it was also noted that the details included in the list furnished were only a matter of detailing and in all future references for ratification of schemes, PGCIL should only include the details upto the level which was necessary to identify the basic proposal of schemes and not the engineering details and they should therefore follow the list and names as per minutes of meeting of standing committee.

## **8.0 400kV Bidadi Substation**

8.1 POWERGRID representative informed that the proposal of establishment of 400/220kV substation at Bidadi was earlier agreed in the 25<sup>th</sup> meeting of the Standing Committee meeting and later on approved in the 6<sup>th</sup> SRPC meeting. While approving the scheme it was decided that decision regarding adoption of conventional AIS or GIS would be taken based on the feasibility of availability of land. The scheme was further discussed in the 7<sup>th</sup> SRPC meeting held on 07-06-2008 wherein it was indicated that there was severe constraints in getting land around Bidadi and KPCL was requested to spare about 10 acres of land from the land available/likely to be acquired by them for which they had agreed to. SRPC had approved the scheme for establishment of GIS substation at Bidadi subject to ratification in the Standing Committee. It was further decided that taking long term requirement in to consideration both the circuit of Nelamangla – Somanahalli 400 kV D/C line be LILoed at Bidadi substation in place of one circuit agreed earlier.

8.2 After discussions members agreed for a GIS substation at Bidadi. LILo of both the circuits of Nelamangla – Somanahalli 400 kV D/C line was also agreed. Accordingly, the following transmission system was agreed for Bidadi 400kV S/S:

1. Establishment of new 400/220kV (GIS) substation at Bidadi with 7x167 MVA 400/220kV transformers
2. LILo of both circuits of Nelamangla – Somanahalli 400kV D/C line at Bidadi.

## **9.0 Interconnection of Kolhapur HVDC station with existing Kolhapur (POWERGRID) substation under SR – WR Interconnection Project**

9.1 POWERGRID representative informed that the proposal for the LILo of both circuits of Kolhapur – Mapusa 400kV D/C line at Kolhapur HVDC station as a part of the transmission system for Increasing SR-WR inter-regional transmission capacity was discussed and agreed in the 25<sup>th</sup> meeting of SCPSPSR held on 28-03-2008. The transmission system for increasing SR-WR inter-regional transmission capacity

scheme was already approved in the 6<sup>th</sup> SRPC meeting held on 15-02-2008. The issue of inclusion of LILO of both circuits of Kolhapur – Mapusa 400kV D/C line at Kolhapur HVDC station as a part of earlier approved scheme was taken up for discussions at 7<sup>th</sup> SRPC meeting. SRPC approved the above inclusion subject to the confirmation by the Standing Committee regarding sharing mechanism of these LILO portion also to be same as that for the already approved scheme for Increasing SR-WR inter-regional transmission capacity.

- 9.2 Members of the Standing Committee discussed and agreed to accord confirmation that LILO portion would be integral part of the entire scheme of SR–WR Interconnection Project and shall have same transmission charge sharing mechanism as that approved in the 6<sup>th</sup> SRPC meeting.

#### **10.0 Agenda Proposed by POWERGRID regarding LTOA Issues**

- 10.1 GM, POWERGRID informed that they were getting numerous applications in which applicants had been informing the beneficiaries as a whole region(s) in place of specific State(s). He explained that as per the CERC regulations on the subject, the LTOA applicants were required to specify injection and drawl point in their application. The drawl point, however, would depend on the signing of necessary PPA between the project developer and the beneficiaries, which was difficult at the initial stage of generation project development. Accordingly, to facilitate the processing of LTOA applications, POWERGRID had asked the applicants to specify target beneficiaries. Some of the applicants were specifying target beneficiaries and some of the applicants were specifying region/regions as their beneficiaries. As a region spreads in vast geographical area, the specific intra-region transmission requirements in the beneficiary region would become difficult to work out. CE,(SP&PA),CEA stated that as the LTOA applicant or its identified beneficiary(ies) would share the respective regional transmission charges and the demand projections considered in the studies were on regional bases, specifying the region should be sufficient. After discussions, it was agreed that immediate connectivity to the Grid would be firmed-up at the earliest and the project developer should take-up implementation of its dedicated line ensuring its commissioning matching with his generation project. Dispersal requirement beyond connectivity point in the specific region where generation project was getting connected and also the inter-regional

capacity to the region where power was proposed to be transferred would also be worked out and firmed-up based on the region specified by the applicant. Applicant should be required to inform about the target beneficiary state as soon as they finalise, and the last mile connection to the receiving state would be worked out.

- 10.2 As regard to the sharing of the transmission charges, Member (PS), CEA informed to the LTOA applicant that they shall have to bear the transmission charges for ISTS pooled charges of regional as well as inter-regional system proportionate to their LTOA quantum towards regional and inter-regional transmission system. Inter-regional power transfer shall be allowed as per the capacity of the inter-regional links taking into consideration N-1 contingency which was 500MW for SR-WR as well as 500MW for SR-ER. Operational restriction on power transfer or backing down of generation due to transmission constraints in the grid especially inter-regional link shall not relieve them from bearing of transmission charges. Additional inter-regional transmission system had been planned which would materialize in due course and generation developers were advised to agree for bearing transmission charges for the additional inter-regional links so that these can be taken up for implementation by POWERGRID.
- 10.3 It was clarified to the LTOA applicants that till they firm up their long-term beneficiaries, the transmission charges for the generation specific, regional and inter-regional system would be payable by them. After they sign long-term PPAs with beneficiaries, the corresponding transmission charges would be transferred to the beneficiaries.
- 10.4 It was noted that the existing transmission capacity for SR-WR link was only 1000 MW gross and 500 MW "N-1" reliable. To augment this inter-regional transmission Narendra-Kolhapur 400 kV D/C with 1000 MW HVDC back-to-back at Kolhapur was proposed and the scheme could be taken up if the LTOA applicants agree to sign BPTA with PGCIL. Later 2XS/C 765 kV lines between Raichur and Sholapur would also be provided along with Krishnapatnam UMPP in the time frame of 2013-14. In case the IPP require, this system can be advanced with BPTA signed between PGCIL and IPPs to bear the transmission charges and transmission charges shared based on MW of the LTOA.

10.5 Following long term open access were approved. Date of allowing LTOA would be based on completing of required regional/inter-regional strengthening works (to be detailed in MoM to be issued by PGCIL).

	Generation Project	Gen MW	LTOA quantum			
			SR	ER	WR	NR
1	LANCO Kondapalli	375	-	-	200	150
2	Nagarjuna	1015	845	-	-	94
3	Gautami	1150	300	-	400	450
4	Simhapuri	540	405	-	135	-
5	Meenakshi	540	245.5	-	245.5	-
6	Krishnapatnam (Navayugaa)	1860	360	-	600	900
7	Krishnapatnam APPDCL	1600	1600	-	-	-
8	KVK Neelanchal - ER	600	140	140	140	140

	Generation Project	Dedicated System	Common System
1	LANCO Kondapalli	Lanco Kondapalli – Vijayawada 400kV D/C line	Nil
2	Nagarjuna	Nagarjuna-Hassan 400kV D/C	Nil
3	Gautami	Guatami-Vemagiri 400kV D/C line (Lapwing conductor)	Nil
4	Simhapuri	<b>Common for Simhapuri and Meenakshi</b> Simhapur-Nellore 400kV quad D/C Meenakshi-Simhapuri 400kV D/C or connectivity through bus extn.	<b>Common for Simhapuri, Meenakshi, Krish Nav and Krish AP</b> Nellore 765/400kV PS Nellore-Kurnool 2xS/C 765kV Kurnool-Raichur 2 <sup>nd</sup> 765kV S/C
5	Meenakshi		
6	Krishnapatnam (Navayugaa)	Krish Nav – Nellore 765kV 2xS/C	
7	Krishnapatnam APPDCL	Krish AP – Nellore 400kV quad D/C Krish AP – Chittoor 400kV quad D/C	
8	KVK Neelanchal - ER	Connected in ER	Nil in SR

	Generation Project	MW for sharing of transmission charges for pooled system								
		SR	SR-WR	SR-ER	WR	ER	ER-WR	WR-NR	ER-NR	NR
1	LANCO Kondapalli	350	275	75	275	75	-	75	75	150
2	Nagarjuna	939	94	-	94	-	-	94	-	94
3	Gautami	1150	625	225	625	225	-	225	225	450
4	Simhapuri	540	135	-	135	-	-	-	-	-
5	Meenakshi	540	245.5	-	245.5	-	-	-	-	-
6	Krishnapatnam (Navayugaa)	1860	1500	-	1500	-	-	900	-	900
7	Krishnapatnam APPDCL	1600	-	-	-	-	-	-	-	-
8	KVK Neelanchal - ER	140	-	140	140	560	140	-	140	140
	Total		2874.5	440						
	KrishnaptnUMPP		800							
	Total incl Kr-UMPP		3674.5							
	Available SR-WR and SR-ER transmission capacity with "N-1" reliability									
	Existing		500	500						
	After commissioning of Narendra-Kolhapur		1500							
	After commissioning of Raichur-Sholapur 2xS/C 765kV (one line as dedicated of Kris. UMPP and one line inter-regional)		4100							

Detail minutes on the above LTOA cases would be issued by PGCIL.

**11.0 Meeting ended with vote of thanks to the chair.**

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**Consolidated Agenda Note for 26<sup>th</sup> Meeting of  
Standing Committee on Power System Planning in Southern Region**

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**Agenda Note Circulated on May 22, 2008**

**1.0 Confirmation of the minutes of 25<sup>th</sup> meeting of the Standing Committee**

The minutes of the 25<sup>th</sup> meeting held on March 28, 2008 at Hyderabad, was circulated vide our letter No.51/4/SP&PA/2007/298-307 dated 24-04-2008.

MS, SRPC vide letter no. SRPC/SE-I/2008-3386-87 dated 01-05-2008 had sought amendment to para 12.2 of the minutes regarding ATS for Tuticorin JV TPS (1000 MW). Considering SRPC views a corrigendum of the minutes were issued vide our letter no. 51/4/SP&PA/2007/33-342 dated 21-05-2008. The Minutes with the corrigendum as circulated may be confirmed.

**2.0 Status of Under Construction / Approved Schemes:**

POWERGRID may inform the progress of the transmission works that are being implemented by them as part of regional schemes.

State utilities may also inform the progress on their transmission works that are necessary to match with the regional schemes by POWERGRID for effective utilization of the system.

**3.0 Fourth Transformer at Ghanapur (Hyderabad) 400/220kV S/S of POWERGRID:**

Subsequent to the discussions in the last meeting of the Standing Committee, the issue of overloading at the Ghanapur 400/220kV S/S was further discussed with officials of APTRANSCO and POWERGRID at CEA during 13-14 May 2008. After discussions, it was brought out that overloading of existing transformers in Hyderabad would come down after implementation of Malkaram, Yeddumylaram and Gajwel 400/220kV S/Ss by APTRANSCO. It was also brought out that due to continuous loading of the transformers, POWERGRID was finding it difficult to get time for carrying out necessary annual maintenance of the transformers. APTRANSCO was asked to give sufficient time for maintenance works and reduce loading on Ghanapur transformers by readjusting their 220kV feeders by adopting suitable bus splitting at 220kV at Ch.Gutta S/S so that line from Ghanapur is kept radial with limited load. It was also highlighted that as there is no reliability margin of catering to contingency of outage of one 400/220kV transformer and also that the existing transformers were aging, the impact of supply constraints due to any breakdown of the transformer in which it may have to be sent to workshop for repair, would have to be faced by SR constituents especially APTRANSCO.

Members may discuss.

**4.0 Bays at Hiriyyur for Termination of Lines by KPTCL:**

KPTCL have proposed to terminate a 400kV D/C line from the Bellary TPS (3x500 MW) at the Hiriyyur 400kV regional S/S. In case Kohlapur-Narendra 400kV D/C link with HVDC b-t-b at Kohlapur materialized, this would be agreed. Otherwise, Hiriyyur –Bangalore 400kV line may get overloaded and alternate system viz terminating the line at Yelahanka may have to be adopted.

Members may discuss.

**5.0 LTOA Applications Made to CTU for Projects in Southern Region:**

POWERGRID may take up the agenda points related to the transmission system requirements for evacuation of power from generation projects.

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**Additional Agenda Circulated on June 06, 2008**

**A.0 Transmission System for Evacuation of Power from Generation Projects in North Chennai /Chennai area in Tamil Nadu**

Further to the discussions in the 25<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region held on March 28, 2008 at Hyderabad, system studies were carried out in CEA during 27-29 May 2008 with participation of officers from CEA, POWERGRID and TNEB, for evolving transmission system for evacuation of power from following generation projects:

- Vallur JV TPS(3x500 MW) of NTECL (JV of NTPC and TNEB)
- North Chennai Stage-II (1x600 MW) of TNEB, and
- Ennore Expansion (1x600 MW) of TNEB.



The transmission systems that have emerged from these joint studies are given below:

**A.1. Transmission System for Vallur JV TPS (3x500 MW)**

For evacuation of power from Vallur TPS of M/s NTPC Tamilnadu Energy Company Ltd(NTECL), LILO of Alamathy- Sriperumbudur 400kV D/C line at Vallur TPS was planned. This system requires four number of 400kV circuits to be taken out from the generation switchyard. The capacity of Vallur TPS has now been increased to 3x500 MW and the of transmission system with increased generation capacity is required to be evolved. PGCIL have informed that due to ROW problem in execution of LILO of Sriperumbudur – Alamathy 400 kV D/C at the proposed Vallur JV project, the four number of 400kV circuits emanating from Vallur would be built on multi-circuit towers from Vallur JV project up to LILO point of Sriperumbudur – Alamathy D/C line. Considering ROW constraint, studies were revised and following transmission system have been evolved:

1. LILO of one of the circuits of Sriperumbudur – Alamathy 400 kV D/C line at Vallur JV TPS (instead of LILO of both the circuits of Sriperumbudur – Alamathy D/C as earlier planned)
2. Termination of other two 400kV circuits from Vallur JV TPS in such a way that one circuit will be terminated at Sunguvarchatram (TN) and other circuit will be connected to Melakottaiyur (Kalivanthapattu) 400 kV S/S of PGCIL by utilizing the LILO segment of Kolar – Melakottaiyur – Sunguvarchatram - Sriperumbudur 400 kV S/C line. With this arrangement the Kolar – Sriperumbudur 400kV S/C link will be restored as direct line between Kolar and Sriperumbudur.

(Refer Exhibit-I, and Exhibit-II for load flow cases corresponding to - with wind and without wind generation scenarios in Tamil Nadu. Under with wind generation scenario, a wind dispatch of about 2000 MW is considered with corresponding increase in load.)

**A.2. Transmission System for North Chennai Stage-II TPS (1x600 MW)**

Following transmission system has emerged from the studies (refer Exhibit-I, and Exhibit-II for load flow with wind and without wind generation in Tamil Nadu):

1. LILO of one circuit of Sriperumbudur – Alamathy 400 kV D/C line at NCTPS Stage-II (This LILO would be on the second circuit of Sriperumbudur – Alamathy 400 kV D/C line. The first circuit would have LILO at Vallur TPS, as explained above)

**A.3. Transmission System for Ennore Expansion TPS (1x600 MW)**

The Ennore Expansion TPS may be stepped up to 230kV level and evacuated by following system upto Manali 230kV S/S of TNEB:

1. Ennore Expansion – Manali 230kV 2xD/C lines built for higher temperature (could be built using multi-circuit towers if there is a ROW constraint). The power could be dispersed at Manali and Chennai metro area. TNEB shall design an evacuation system at 230 kV level with high temperature conductor.

**A.4** Members may discuss and finalize the above transmission systems.

**Agenda Points Proposals by SRPC, and Taken up for Discussion in 26<sup>th</sup> Meeting**

**Agenda Points**

**I. Evacuation System for 4000 MW Krishnapattanam UMPP**

(a) In the 24<sup>th</sup> Standing Committee meeting, following evacuation scheme for Krishnapattanam UMPP was agreed.

- 1) Krishnapattanam UMPP – Nellore 400 kV, Quad D/C line
- 2) Krishnapattanam UMPP – Kurnool 400kV, Quad D/C line
- 3) Krishnapattanam UMPP –Gooty, 400 kV, Quad D/C line
- 4) Raichur - Sholapur 765kV S/C line-2
- 5) Sholapur – Pune 765kV S/C line
- 6) Kurnool – Raichur 765kV S/C line
- 7) 765 kV substations at Kurnool, Raichur, Sholapur and Pune, with 765/400kV 3000

- MVA transformers at each of the substations.
- 8) Inter-linking of Raichur and Kurnool 765 kV/400 kV (PGCIL) S/S with Southern Region grid through suitable inter-connection.

**(b) The following scheme for approval in the 7<sup>th</sup> SRPC Meeting was proposed by Executive Director (Operation Services), PGCIL vide letter No. C/OS/SRPC dated 30.05.2008 :**

- I. Krishnapattanam UMPP – Nellore 400 kV, Quad D/C line
- II. Krishnapattanam UMPP – Kurnool ( New ) 400kV, Quad D/C line **with 50MVAR line reactor at each end on both circuits.**
- III. Krishnapattanam UMPP –Gooty, 400 kV, Quad D/C line **with 63MVAR line reactors at each end on both circuits.**
- IV. Raichur - Sholapur 765kV S/C line **with 240MVAR switchable line reactors at each end.**
- V. Sholapur-Pune (new) 765 KV S/C line **with 240 MVAR line reactors at each end.**
- VI. Kurnool (New) – Raichur 765kV S/C line
- VII. Establishment of new 765/400 kV substations at Kurnool, Raichur, Sholapur and Pune, **with 2x 1500 MVA ICTs and 1x 240 MVAR bus reactors each.**
- VIII. **LILO of Nagarjuna sagar – Gooty 400 KV S/C line at Kurnool(New) substation.**
- IX. **Kurnool(new)-Kurnool (APTRANSCO) 400 KV D/C QUAD line.**
- X. **LILO of existing Raichur-Gooty 400kV Quad D/C line at Raichur(New) substations.**
- XI. **Pune (New) – Pune 400 kV Quad D/C line**

It was informed by PGCIL that the scheme was further discussed with CEA after discussions in the 24<sup>th</sup> Standing Committee Meeting. Keeping the above in view SRPC gave approval for the scheme in the meeting held on 7<sup>th</sup> June 2008, subject to ratification by the Standing Committee.

**(c) Following also may have to be noted for clarification.**

- i) Item-8 approved by the Standing Committee in 24<sup>th</sup> Meeting has been elaborated by PGCIL as VIII, IX & X; needs ratification by Standing Committee.
- ii) All the reactor provisions shown in bold need ratification by the Standing Committee.
- iii) 3000 MVA transformer 765/400 kV transformers approved in Item-VII of 24<sup>th</sup> Standing Committee minutes have been expanded as 2 x 1500 MVA ICTs also needs ratification of the Standing Committee.
- iv) Item-XI which was not agreed in the 24<sup>th</sup> Standing Committee, minutes also needs ratification of the Standing Committee.

**2. (a) In the 25<sup>th</sup> Standing Committee meeting following Regional Strengthening scheme was agreed**

- 1) Establishment of new 400/220kV Substation at Chulliar (Palakkad) with 2x315MVA transformers.
- 2) LILO of both circuits of Udumalpet - Madakathara (North Trichur) 400kV D/C line at Chulliar 400kV Substation.

**(b) However, in the 7<sup>th</sup> SRPC Meeting the following scheme was proposed by Executive Director (Operation Services), PGCIL vide letter No. C/OS/SRPC dated 30.05.2008; for approval.**

- i. Establishment of new 400/220kV Substation at Chulliar (Palakkad) with 2x 315MVA transformers;
- ii LILO of both circuits of Udumalpet - Madakathara (North Trichur) 400kV D/C line at Chulliar 400kV Substation; and
- iii. **1x63 MVAR bus reactor at Chulliar 400/220 kV S/S**

The above scheme was approved by the SRPC in its 7<sup>th</sup> meeting held on 7<sup>th</sup> June 2008, subject to the ratification of the Standing Committee, as regards item No: iii detailed above. This may please be ratified.

**3. 400 KV BIDADI SUBSTATION**

The proposal for establishment of 400 KV S/S at Bidadi and LILO of Nelamangala – Somanahalli D/C line at Bidadi was approved in the 6<sup>th</sup> Meeting of SRPC. It was also decided that KPTCL would help POWERGRID in acquiring land at Bidadi.

However, ED, SR II, POWERGRID vide letter dated 13<sup>th</sup> May 2008 had informed that KPTCL had expressed inability to arrange desired extent of Government land at Bidadi. It was also informed by POWERGRID that they would be able to take up the works only if KPTCL arrange the land as agreed.

The matter was discussed in the 7<sup>th</sup> SRPC meeting. In the Meeting, MD, Karnataka Power Corporation Limited, assured that they would be able to spare 10 acres of land in Bidadi from the 65 acres which was in the process of being acquired, as a part of overall land acquired for proposed gas based generating station coming up at Bidadi. It was also agreed by SRPC that in view of shortage of availability of land, GIS equipment be used for the Bidadi S/S.

It is seen that the following was approved by the 25<sup>th</sup> Standing Committee.

- i. 400/220 kV S/S at Bidadi
- ii. 7 x 167 MW, 400 /220 kV transformers
- iii. LILO of 1 ckt. of 400 kV Nelamangala – Somanahalli D/C line.

It was also mentioned that decision regarding adoption of GIS shall be taken in the next meeting of Standing Committee based on feed back.

It is requested that in view of the concurrence/approval, feed back regarding adoption of GIS 400 kV S/S at Bidadi by SRPC, adoption of GIS may please be approved/ratified.

#### **4. INTER CONNECTION OF KOLHAPUR HVDC STATION WITH EXISTING KOLHAPUR SUBSTATION POWERGRID UNDER SR – WR INTERCONNECTION PROJECT.**

The approval of SRPC for increasing the SR – WR Inter – Regional Transmission capacity through HVDC back – to – back was approved in the 6<sup>th</sup> SRPC Meeting held on 15<sup>th</sup> February 2008. It was also agreed that the transmission charges for this scheme would be shared by SR and WR constituents on 50: 50 basis.

Further, in the 25<sup>th</sup> Standing Committee Meeting held on 28<sup>th</sup> March 2008, it was agreed that the HVDC Station for Narendra – Kolhapur link would be established near Kolhapur. It was also agreed that the inter- connection with Western Region would be through LILO of both circuits of Kolhapur – Mapusa 400 KV D/C link that passes in its vicinity.

In the 7<sup>th</sup> SRPC Meeting, POWERGRID had sought approval for the LILO of both circuits of Kolhapur – Mapusa 400 KV D/C.

Approval of SRPC would be finalised based on confirmation by the Standing Committee that cost of LILO of Kolhapur – Mapusa 400 kV D/C link connecting to Kolhapur HVDC to back-to back also is covered under 50 : 50 sharing by WR & SR.

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**List of participants during the 26<sup>th</sup> meeting of Standing Committee on Power System Planning held on 13<sup>th</sup> June, 2008 at Hyderabad**

<b><u>Sl. No.</u></b>	<b><u>Name and Organization</u></b>	<b><u>Designation</u></b>
<b><u>Central Electricity Authority (CEA)</u></b>		
1.	V Ramakrishna	Member (PS)
2.	A K Asthana	Chief Engineer (SP&PA)
3.	Pardeep Jindal	Deputy Director (SP&PA)
<b><u>Southern Region Power Committee (SRPC)</u></b>		
3.	K Srinivasa Rao	Member Secretary
4.	Asit Singh	Ex. Engineer
<b><u>Power Grid Corporation of India Ltd (POWERGRID)</u></b>		
5.	Anand Mohan	ED (SRTS-I)
6.	Y K Sehgal	GM (Engg.)
7.	M.R.V. Holla	AGM
8.	Dilip Rozekar	Chief Design Engr.
9.	R V M M Rao	Chief Design Engr.
10.	A Naga Raju	CM (Coml.)STRS-II
11.	A C Sankaraiah	CM/OS
<b><u>National Thermal Power Corp. (NTPC)</u></b>		
12.	A K Gupta	GM (PEE)
13.	M K V Rama Rao	GM (OS), SRHQ
14.	V K Jain	Dy. Chief Design Engr.
<b><u>Nuclear Power Corp of India Ltd (NPCIL)</u></b>		
15.	Sandeep Sarvate	Dy. CE
<b><u>Neyveli Lignite Corp. (NLC)</u></b>		
16.	S Muthu	DGM/Ele.
<b><u>Southern Region Load Dispatch Center(SRLDC)</u></b>		
17.	V K Agrawal	GM
18.	S P Kumar	CM
<b><u>Transmission Corp. of Andhra Pradesh Ltd. (APTRANSCO)</u></b>		
19.	S Viswanathan	CE/Power System
20.	K S N Murthy	CE
21.	Mohd. Anwaruddin	SE/System Protection
22.	Y L Narsimha Rao	SE/Power Plg
23.	M Balasubramanyam	DE/System Studies

<u>Sl. No.</u>	<u>Name and Organization</u>	<u>Designation</u>
<b><u>Karnataka Power Transmission Corp. Ltd. (KPTCL)</u></b>		
24.	K N Srinath	SEE SLDC
25.	K Paramesha	AEE (Ele)
<b><u>Kerala State Electricity Board (KSEB)</u></b>		
26.	K Asokan	Member (Trans)
27.	K Ramachandran Nair	Chief Engineer(SO)
28.	S R Anand	Ex. Engineer
<b><u>Tamil Nadu Electricity Board (TNEB)</u></b>		
29.	Srinivas Shankar	SE/System Studies
30.	S Balaguru	EE/System Studies
31.	S Sowmyanarayanan	Consultant

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**Corrigendum # 1 : Issued on May 21, 2008**

Minutes of 25<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region were issued vide our letter of even number dated April 24, 2008. Member Secretary, SRPC, vide letter no SRPC/SE-I/2008-3386-87 dated May 01, 2008, has given observation on Item No. 12.2 (regarding Transmission System for Tuticorin JV TPS) of the issued minutes. Based on the observation of SRPC, **the Para No. 12.2** of the Minutes of 25<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region, **is replaced** as given below:

- 12.2** Member Secretary(SRPC) informed that Ministry of Power was being approached for early finalization of allocation of power from this project. He further said that the SRPC in its 6<sup>th</sup> meeting held on 15-02-2008 decided to refer the matter regarding finalization of ATS to the Standing Committee. After reconsideration, the Standing Committee agreed to finalise and recommend the following evacuation scheme for Tuticorin JV TPS:
- (i) Tuticorin JV TPS – Madurai 400kV Quad D/C line  
(to be implemented by POWERGRID)
  - (ii) 2x315 MVA 400/220kV transformer at Tuticorin JV TPS  
(to be implemented by generation developers)
  - (iii) LILO of 2 Nos. of 220kV circuits at Tuticorin JV TPS  
(to be implemented by TNEB).
  - (iv) Additional system strengthening to be decided based on the finalization of the allocation by MoP.

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**Corrigendum # 2: Issued on June 02, 2008**

Minutes of 25<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region were issued vide our letter of even number dated April 24, 2008. GM, POWERGRID, vide letter no C\ENG\SEF\S\Standing Committee dated May 30, 2008, has given observation on Item No. 4.0 regarding “Advancement of Warangal 400kV S/S” of the issued minutes. Based on the observation of POWERGRID, **the Para No. 4.2** of the Minutes of 25<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region, **is replaced** as given below:

- 4.2** GM, POWERGRID informed that the requirement of Warrangal 400/220 kV substation was for strengthening of the system arising out of growth of demand and redistribution of power flows. Further, this substation was made part of ATS of Neyveli TS-II Expansion as this requirement was coming in the time frame of Neyveli TS-II Expansion generation project. However, now as the generation project is getting delayed, the Warrangal 400/220 kV substation alongwith the LILO of Ramagundam – Khammam 400 kV may be completed ahead of commissioning of Neyveli TS-II project. APTRANSCO informed that the 220kV works for drawing power from Warangal were in progress, however, the precise completion schedule of 220 kV shall be informed. GM, POWERGRID informed that in case constituents agree to bear the transmission charges, POWERGRID could commission the Warangal substation matching with the 220kV works of APTRANSCO. It was decided that matter would be discussed in the next SRPC meeting for sharing of transmission charges for the period of advancement.
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## Status of Southern Region New Schemes of POWERGRID

Sl. No	Name of Scheme and Elements	Standing Committee Approval	FR Date	Investment approval by POWERGRID Board/CCEA	Target as of now	Comments/ Reasons of delay
1.	<b>System Strengthening – VI</b> a) LILO of both circuits of Gazuwaka – Vijayawada 400 kV D/c line at Vemagiri 400/220 kV substation of APTRANSCO b) 2nd 1x315 MVA 400/220 kV transformer at Vijayawada	19 <sup>th</sup> Meeting on 14.06.04	Aug, 04	POWERGRID Board Approval – March, 05		<b>Commissioned</b>
2.	<b>Neyveli TS-II Expn Transmission System</b> a) Neyveli TS-II Expansion – Neyveli TS-II 400 kV 2xS/c b) Neyveli TS-I I- Pugalur 400kV D/C c) Pugalur–Madurai 400 kV D/C d) Udumalpet–Arasur 400kVD/C e) LILO of Ramagundam-Khammam 400 kV S/c at Warrangal f) LILO of Neyveli – Sriperumbudur 400 kV S/c at Pondicherry g) Establishment of new 400/220kV S/S at Pugalur, Arasur, Pondicherry and Warrangal with 2x315 MVA transformer each.	16 <sup>th</sup> Meeting on 20.01.03	Aug, 03	CCEA Approval – January, 2005	<b>Feb'09</b>	Commn schedule as per CCEA is Dec'07.  However, NLC indicated that generation project had been delayed to Feb'09  In 6 <sup>th</sup> SPRC meeting on 15.02.08, NLC indicated a further delay of gen. Revised schedule – Aug'09  NLC to confirm firm schedule for POWERGRID to coordinate ATS
3.	<b>Kaiga U-3&amp;4 Tr. System</b> a) Narendra–Davangere 400kV D/c line b) Mysore – Kozhikode 400kV D/c line c) LILO of existing Kolar – Sriperumbudur 400 kV S/c at new 400/220 kV substation at Melakottaiyur d) Establishment of new 400/220 kV substations at Kozhikode and Melakottaiyur with 2x315 MVA, 400/220kV trf. e) Provision of 2nd 315 MVA, 400/220 kV transformer at Hiriyur 400/220 kV substations each.	16 <sup>th</sup> Meeting on 20.01.03	Oct, 03	CCEA Approval – March, 2005	<b>April 2008</b> (Except Mysore matter for which is with court)	– Narendra-Davangere 400kV D/C line has been <b>commissioned</b> – LILO of Kolar-SP'Budur line at Malekotaiyur S/S <b>commissioned</b> – However, Mysore – Kozhikode is getting delayed due to ROW (50 Kms) & forest clearance problem in Karnataka portion

Sl. No	Name of Scheme and Elements	Standing Committee Approval	FR Date	Investment approval by POWERGRID Board/CCEA	Target as of now	Comments/ Reasons of delay
4.	<b>Kudankulam Tr. System</b> 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 D/c line (with Quad conductors) 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 augmentations with 1x315 MVA transformers at Udumalpet and Trivandrum 400/220 kV substations.	18 <sup>th</sup> Meeting on 05.03.04	June, 04	CCEA – May, 2005	<b>Dec'08</b>	– Generation project is delayed to Dec'08/June'09. – System to be commissioned matching with generation project. – Tirunelveli 400/220 kV S/S and LILO of Madurai – Trivandrum to be commn early as per request of TNEB in <b>Mar/Apr' 08</b>
5.	<b>System Strengthening – VII</b> 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	18 <sup>th</sup> Meeting on 05.03.04	July, 04	POWERGRID Board Approval - April, 05	<b>July' 09</b>	– Construction of line & substation are in progress as per schedule
6.	<b>System Strengthening – VIII</b> 11 nos. of 63 MVAR Reactors (7 bus reactors + 4 line reactors)	23 <sup>rd</sup> Meeting on 22.01.07	Mar, 07	POWERGRID Board Approval –Jan, 08	<b>Nov' 10</b>	– Activities in progress



Sl. No	Name of Scheme and Elements	Standing Committee Approval	FR Date	Investment approval by POWERGRID Board/CCEA	Target as of now	Comments/ Reasons of delay
7.	<b>Kalpakkam PFBR Tr. System</b> a) KPFBR - Kancheepuram 230 kV D/c line b) KPFBR–Arni 230 kV D/c line c) KPFBR–Sirucheri 230kV D/C line d) 2 nos of 230 kV bays each at Kancheepuram, Arni and Sirucheri 230 kV substations of TNEB	20 <sup>th</sup> Meeting on 07.10.04	Mar, 08	Under POWERGRID Board Approval	<b>Target : 30 months from investment approval</b>	
8.	<b>System Strengthening – IX</b> a) Hassan - Mysore 400 kV D/c line	24 <sup>th</sup> Meeting on 18.06.07			– FR under POWERGRID Management Approval	
9.	<b>Simhadri-II Tr. System</b> a) Simhadri – Gazuwaka 400 kV D/c with 95 degC conductor temperature	24 <sup>th</sup> Meeting on 18.06.07			– FR under preparation	
10.	<b>System Strengthening – X</b> 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 Neelamangla – Somnahalli 400 kV D/c line at Bidadi 400 kV substation	24 <sup>th</sup> Meeting on 18.06.07			- FR under preparation	
11.	<b>System Strengthening – XI</b> a) Establishment of new 400/220 kV S/S at Chulliar (Palakkad) with 2x315 MVA trf. and 1x63 MVAR bus reactor. b) LILO of both circuits of Udumalpet - Madakathara (North Trichur) 400kV D/C line at Chulliar 400 kV substation	25 <sup>th</sup> Meeting on 28.03.08			- FR under preparation	

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

No. 51/4/SP&PA-2008/

Date: July 15, 2008

To

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

**Sub:** 26<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region  
- Minutes of the meeting

**Sir,**

26<sup>th</sup> meeting of the Standing Committee on Power System Planning of Southern Region was held on June 13, 2008 at Hyderabad. The soft copy of the Minutes of the meeting is available at [www.cea.nic.in](http://www.cea.nic.in) in the link for Power Systems.

The post copy of the minutes is being sent separately.

Yours faithfully,

(A.K.Asthana)  
Chief Engineer(SP&PA)  
(Tel./Fax. 011 26102045)