

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

No. 51/4/SP&PA-2006/ 79-90

Date: 18-01-2007

To

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Sub: 23rd meeting of the Standing Committee on Power System Planning of Southern Region - Additional agenda item.

Sir,

23rd meeting of the Standing Committee on Power System Planning of Southern Region would be held on January 22, 2007 at Chennai. Agenda for the meeting has been issued on 12th January 2007.

Additional agenda items, regarding three number of 400kV S/Ss by TNEB and associated transmission systems, are enclosed.

Yours faithfully,

(Pardeep Jindal)
Director (I/C) (SP&PA-III)
(Telephone No. 011 26107144)

**Additional Agenda Items for 23rd Meeting of
Standing Committee on Power System Planning in Southern Region**

A. Establishment of two numbers of 400 kV Substations near Chennai in Tamilnadu, by TNEB and review of North Chennai TPS (2x500 MW) Transmission System

A.1 System studies were carried out jointly by TNEB and CEA, for strengthening of transmission system of TNEB to meet increasing load requirement in and around Chennai area. Based on the studies TNEB has proposed following transmission schemes:

1. Sunguvarchatram 400 kV S/S and Associated Transmission System

- a) Sunguvarchatram 400/230 kV S/S, 2x315 MVA and also 2x200 MVA 400/110kV ICTs.
- b) LILO of the Sriperumbudur(PG) - Melakottaiyur(PG) 400 kV S/C line at Sunguvarchatram (TNEB)
- c) Alamathi - Sunguvarchatram 400 kV D/C line (instead of the Alamathi - Melakottaiyur 400 kV D/C line as earlier agreed in the 22nd meeting under North Chennai JV TPS transmission scheme).
- d) Sriperumbudur - Sunguvarchatram, 230 kV D/C with one line to be made LILO at the proposed 230 kV S/S at NOKIA and other line to be made LILO at Sriperumbudur SIPCOT 230 kV S/S.
- e) Sunguvarchatram - Oragadam, 230 kV S/C line.

2. Sholinganallur 400/230 kV S/S and Associated Transmission System

- a) Sholinganallur 400/230 kV S/S, 2x315 MVA and also 200 MVA 400/110kV ICT.
- b) Melakottaiyur(PG) – Sholinganallur, 400kV D/C line
- c) LILO of the Sirucheru -Taramani 230 kV S/C line at Sholinganallur.
- d) Sholinganallur - KITS, 230 kV D/C line.

A.2 All the above transmission schemes are to be built by TNEB at their cost. The Alamathi - Sunguvarchatram 400 kV D/C line that is being proposed to replace the Alamathi - Melakottaiyur 400 kV D/C line which was earlier agreed in the 22nd meeting under North Chennai JV TPS transmission scheme, would also be implemented by TNEB. As such, the North Chennai JV TPS Transmission Scheme gets reduced to the extent of deletion of the Alamathi - Melakottaiyur 400 kV D/C line.

Member may discuss and concur.

B. Establishment of a 400/230 kV S/S near Tirunelveli and Associated Transmission System for evacuation of power from Wind Projects of Tamil Nadu, by TNEB

B.1 System studies were also carried out jointly by TNEB and CEA, for planning transmission additions required to evacuate power from various wind power projects in southern part of Tamil Nadu near Kayathar and Tirunelveli area. Based on the studies TNEB has proposed following transmission system:

- a) Tirunelveli (TNEB) (near Marandai) 400/230 kV S/S, 3x315 MVA
- b) Tirunelveli (TNEB) - Tirunelveli (PG), 400 kV Quad D/C line.
- c) Pugalur (PG) - Sunguvarchatram (TNEB) 400 kV Quad D/C line so that one circuit is connected to the proposed Sunguvarchatram 400kV S/S and other circuit is terminated at Melakottaiyur, by LILO of the Sunguvarchatram - Melakottaiyur 400 kV S/C line.

- d) Five numbers of 230/33 kV wind energy substations at Marandai, Sayamalai, Vagaikulam, Kumarapuram, Sankaralingapuram and one 230/110 kV Samugarangapuram substation with associated 230 kV lines connecting with the Tirunelveli (TNEB) 400 kV S/S.

B.2 All the above transmission schemes are to be built by TNEB at their cost. These schemes would also affect regional transmission system, to the extent that the above system would run in parallel to the existing system and utilize the margins in the Tirunelveli – Madurai – Pugalur section and provide strengthening in Pugalur – Chennai section.
Member may discuss.

For reference,

I. Excerpts from minutes of 22nd meeting of the Standing Committee:

Tuticorin TPS Transmission system:

3.1.8 After discussions the following evacuation system was agreed for Tuticorin TPS JV (2x500 MW):

- i) Tuticorin JV TPS - Madurai 400 kV D/C Quad
- ii) 2x315 MVA 400/220 kV ICT at Tuticorin TPS JV.
- iii) LILO of 2 nos. of 220 kV circuits at Tuticorin TPS JV. *

***Note:**

- 1) With the above, there would be provision of 2 nos. of 400 kV line bays and 4 nos. 220 kV line bays at Tuticorin TPS JV switchyard.
- 2) Works for LILO of 220 kV line would be under the purview of TNEB.

3.1.9 It was also decided that after finalization of the beneficiaries for 25% of share is made additional transmission strengthening required would be firmed up.

North Chennai TPS Transmission system:

3.2.3 After discussions the following network as suggested by CEA was agreed:

1. LILO of Alamathy- Sriperumbudur 400 kV D/C line at North Chennai TPS JV
2. Melakotaiyur - Alamathy 400 kV D./C line with twin moose conductor.
3. 2x315 MVA 400/230 kV ICT at North Chennai TPS JV.
4. 4 no. 230 kV bays at switchyard of North Chennai TPS JV
5. 230 kV inter connection with existing North Chennai TPS (under scope of TNEB at their cost).

II. Map of relevant lines and substation:

