Powering Tamil Nadu's Progress...

Udangudi Super Critical Thermal Power Project Stage – II (2 x 660 MW) and Stage – III (2 x 660 MW) – Brief Summary

Tamil Nadu Generation and Distribution Corporation (TANGEDCO) has proposed to establish a 2 x 660 MW Udangudi Super Critical Coal based Thermal Power Project Stage – I in Udangudi village, Tiruchendur Taluk, Tuticorin District of Tamil Nadu. TANGEDCO has obtained Environmental Clearance for establishing the above project (for 2 x 800 MW capacity) from Ministry of Environment and Forests, Government of India on 14.10.2013. However, in order to have uniformity of unit sizes with the other projects which TANGEDCO is developing, it was decided to reduce the unit sizes to 2 x 660 MW. The tendering works are under way and the construction works for the project will be started shortly.

Now, TANGEDCO has proposed to develop additional 4 units of 660 MW in two stages with ultimate capacity as 6 x 660 MW, to utilize the infrastructure proposed for Stage-I more effectively. Government of Tamil has accorded approval for setting up the Units, vide G.O.(4D) Energy (B1), dt.3.2.2015.

Udangudi Super Critical Thermal Power Project Stage – II (2 x 660 MW) and Stage – III (2 x 660 MW), are proposed contiguously on the western side to the location of Stage-I. The project site is located in Udangudi, Kalankudiiruppu and Manadu Thandapath villages. The site is located at a distance of about 1.2 km from Bay of Bengal. The site is located on the western side of SH-176, connecting Rameshwaram and Kanyakumari. The nearest town is Tiruchendur at 12 km North East. The nearest railway station is at Tiruchendur, at 12 km from the site. The nearest airport is Vagaikulam, at a distance of about 60 km north from the site. The nearest sea port is Tuticorin Port, at a distance of about 45 km from the site.

The land requirement for Udangudi TPP Stage – I is 421.09 Ha. For Stages II & III, contiguous land has been identified to an extent of 554.25 Ha (1369 acres). The sea water intake and outfall system, coal transportation and coal stack yard, power evacuation arrangements, etc., will be shared with the proposed systems of Stage-I.

It is proposed to use imported coal for the Stage-I. Likewise, imported coal is proposed for Stages II & III also, with options to utilize 70% imported and 30% Indian coal or 50% imported and 50% Indian coal. Coal requirement for Stages II and III are as follows:

Option 1: 100% imported coal
7.75 MTPA @ 5700 Kcal/Kg

Option 2: Blended coal with 70% Imported and 30% Indian
9.02 MTPA - Imported coal @ 5700 Kcal/Kg and Indian coal @ 3000 Kcal/Kg

Option 3: Blended coal with 50% Imported and 50% Indian
10.16 MTPA - Imported coal @ 5700 Kcal/Kg and Indian coal @ 3000 Kcal/Kg

For the Udangudi TPP Stage – I, a separate coal jetty with 2 nos. berths have been proposed to transport coal for the project. From the jetty, the coal will be sent directly to the site by Pipe Conveyors. MOEF/GOI, in lr.dt.6.6.2011, has accorded Environmental Clearance for establishing the Jetty. The berths have been envisaged to handle 10 MTPA of coal. However, for all Stages I, II and III, with worst case coal usage of 50:50 blend of Indian and Imported coal, the maximum coal to be handled by the Jetty will be 15.24 MTPA. Hence the berth requirements need to be studied.

Entire water requirement for the power project for all 3 stages will be drawn from sea. Desalination Plant is proposed for sweet water requirement for the power plant. Closed Cycle Cooling System with Natural Draft Cooling Towers are proposed. The water requirement for the ultimate capacity of 6 x 660 MW Power Plant (Cooling Water Requirement and Desalination Plant Requirement) is 41,370 m^3/hr, (ie., 13,790 m^3/hr per Stage of 2 x 660 MW).

It is proposed to utilize 100% ash generated (both fly ash and bottom ash) from all 3 Stages of the Project. 100% dry ash collection is proposed. The entire ash quantity will be supplied to Cement and brick industries. However, area has been earmarked for ash pond for disposal of bottom ash. During emergency conditions, the ash will be disposed off in the ash dyke in slurry form.
Ash generation from the Stages II & III:

For 100% imported coal:
0.513 MTPA Tons per year @ 6.62% ash content in imported coal

For 70% Imported & 30% Indian coal:
1.638 MTPA Tons per year @ 18.13% ash content

For 50% Imported & 50% Indian coal:
2.641 MTPA Tons per year @ 26% ash content

The power generated from Udangudi Stage-I Project is proposed to be evacuated through the 765 kV Tuticorin pooling substation being executed by PGCIL. This will be utilized to evacuate power from Stage-II and III also. 2 numbers of 765 kV line feeders are proposed for the same.