

DEPARTMENT OF MECHANICAL ENGINEERING

REPORT ON INDUSTRIAL VISIT

ACADEMIC YEAR : 2025-2026

COMPANY NAME : AP GENCO , NELLORE

12-08-2025



DESCRIPTION:

Sri Damodaram Sanjeevaiah Thermal Power Station

is located in Nelatur Village, near Krishnapatnam and at a distance of 23 km from Nellore city of Andhra Pradesh. The power plant is one of the coal-based power plants of Andhra Pradesh Power Development Company Limited (APPDCL). It is the Special Purpose Vehicle (SPV), a joint venture company of APGENCO (with 50% equity) and IL AND FS (50% equity) partnership.

The proposed capacity of plant is 1600 MW. The project is under construction and likely to be completed by the end of 2014. The Power station is designed for blended coal in the ratio of 70% washed domestic coal from Talcher Coalfield to 30% imported coal. Sea water is proposed for cooling purpose and potable water by desalination. Krishnapatnam port (about 5 km from site) will cater to the requirement of importing heavy machinery and both domestic & imported coal of 3.5 and 1.5 million tons per annum respectively. EPC contract for the main plant has been awarded to BHEL, L&T and Tata Projects Limited during July 2008 and for BOP during February 2009. The estimated complete cost of project is about Rs 8432/- Crores. The Debt & Equity ratio is 80:20 and Project is being financed by PFC and KfW, Germany.

Etymology

In view of the exemplary Statesmanship and dedicated services rendered to the state by late Sri. Damodaram Sanjeevaiah, Former Chief Minister of Andhra Pradesh, the Govt.of

Andhra Pradesh ordered 1600 MW Thermal Power Project proposed to be named as "Sri.Damodaram Sanjeevaiah Thermal Power Station".

Capacity

Stage	Unit Number	Installed Capacity (MW)	Date of Commissioning	Status
I	1	800	31 March 2014	Operational
I	2	800	16 December 2014	Operational
II	1	800	Work Started	EPC contracted to TATA, Boiler and Turbine Generator

Stage	Unit Number	Installed Capacity (MW)	Date of Commissioning	Status
				Contract to BHEL

Andhra Pradesh Power Generation Corporation Limited is power generating organization in Andhra Pradesh. It undertakes operation and maintenance of the power plants and also setting up new power projects alongside upgrading the project's capacity. The government reforms in power sector led to the formation of APGENCO on 28 December 1998 and commenced operations from 1 February 1999. The imbalance of the revenues against the cost of production, no significant reduction in technical losses and energy thefts, high cost purchases from IPP's, other SEB's gradually worsened the financial position of APSEB.

Though the performance of APGENCO thermal power stations in terms of reliability, availability and maintainability (RAM analysis) is one of the best in India, its hydro power stations performance is not satisfactory as they break down frequently or not in working condition when required to perform at full capacity during the short period (four months) monsoon season. The thermal efficiency (heat rate) of thermal power stations is not satisfactory to attain close to the rated / design values which is deciding parameter in the competitive electricity market (buyers market) whereas the fuel (coal) is costly in sellers market. Operating the thermal power stations in the range of 75 to 100% capacity in 'frequency follow mode' with good part load efficiency is the needful strategy in surplus electricity grid except during peak demand hours. Also Hydro power stations should perform well meeting all the functions such as power factor correction, peaking power generation, pumping water in pump mode and secondary power generation during monsoon season utilising total available water. This can be achieved by maintaining hydro power stations at availability more than 95%.

CONCLUSION:

The Industrial Visit to the APZENCO Power plant was highly successful. We received insight of the whole plant right from the raw material (water) procurement, processing,

generation & transmission of electricity. The whole process was explained in-detail by their representative with detailed description about each equipment with their specifications. A doubt solving session with the Production Incharge cleared all our queries. This kind of industrial exposure helped us to absorb the theoretical aspects of Power Plant more efficiently.

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