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## VIDARBHA INSTITUTE OF TECHNOLOGY

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Department of Electronics & Communication Engineering.

### A REPORT ON ONE DAY INDUSTRIAL VISIT

**Place of visit: IDEAL ENERGY PROJECTS LTD. NAGPUR (BELA)**

**(270MW Thermal Power Plant)**

**Date: 26<sup>th</sup> OCTOBER 2023**

A batch of 3<sup>rd</sup> & 5<sup>th</sup> semester students Department of Electronics & Communication Engineering along with faculty Asst.Prof.Komal Dongre visited Ideal Energy Projects Ltd. at Bela in Nagpur.

This visit was mainly focused on to gain practical knowledge and insights into the operations of a thermal power plant. Students were split into two groups. Mr. Aniruddha Pande training officer, he explained about insights into the process of generating electricity using fossil fuels, where coal from the gantry is crushed in a crusher and conveyed to coal storage bunkers through a system of conveyor belts, crusher and vibrating screens and is fed to the furnace. The coal burns inside the furnace so as to maintain a furnace temperature of 880-900°C. De-mineralized water from the storage tank is pumped to the boiler with the aid of boiler feed pump. The boiler feed water through an economizer enters the steam drum, mud drum and water walls where it is heated and converted to saturated steam. The saturated steam is then heated to a temperature of 540 °C in the super heaters and carried to common steam header. Hot air from the boiler furnace is drawn by an induced draft fan through economizer, air heater and ESP and vented out through a chimney of 220 m height. The steam from the main steam header at 150 Kg/cm<sup>2</sup> and 540°C temperature is taken to the turbo-generators. After rotating the turbine the exhaust steam is condensed in the condensers and the condensed water is pumped to the de-aerator and fed back to the boilers.

## **OUTCOME OF THE VISIT:**

- The technology and the equipment used for generating electricity from coal was made familiar.
- The various processes involved in coal crushing, coal burning, steam generation and steam Condensation and the sub process was explained.
- Discussion on the difficulties such as water pollution, noise pollution, effluent from water treatment plant, various drains in plant area, coal handling and ash handling was held.



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