



Department of Electrical and Electronics Engineering  
SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY  
(Autonomous)  
Seetharampuram, Narsapur - 534 280, W.G. Dt., A.P.

## INDUSTRIAL VISIT REPORT

### **Polavaram Hydro Power Plant. Ramayyapeta, Polavaram, E.G.Dt. AP, India.**

A complete report on industrial visit organized by Swarnandhra College of Engineering and Technology for the students of Electrical & Electronics Engineering [6<sup>th</sup> SEM] in order to get the practical knowledge about “multi-purpose benefits including hydropower generation, irrigation, flood control and drinking water supply to various regions in Andhra Pradesh.





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## DETAILS OF JOURNEY

Swarnandhra College of Engineering and Technology, Dept. of Electrical and Electronics Engineering had organized industrial visit on 22 Feb 2025 to Polavaram hydro power located in Ramayyapeta, Polavaram for the students of **Electrical and Electronics Engineering**.

- The visit was organized by HOD EEE Mr. A. Satyanaryana, Dr V. Madhu & Mr B. Bhargav Santhosh were the faculty coordinators of the industrial visit.
- We started travelling from the college campus at 6:30 am via our college bus. Totally **25 students** along with **2 faculty coordinators** were there in the journey.





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## **POWER PLANT PROFILE**

The Polavaram Hydro Electric Project (PHEP) is a 960 MW power plant in Andhra Pradesh, India. It's located on the Godavari River near Polavaram village. The project is also known as the Indira Sagar project.

### **Features**

- The project includes a dam, spillway, canals, and penstocks
- The dam is 2,454 meters long and made of earth and rock fill
- The spillway is 1,118.40 meters long
- The project has 12 penstocks, each 360 meters long and 7.5 meters in diameter
- The project will irrigate 7.2 lakh acres of land and provide drinking water to 28.5 lakh people

### **Construction**

- The project is being developed by Andhra Pradesh Power Generation Corporation Limited (APGENCO)
- Megha Engineering and Infrastructure and Navayuga Engineering are providing engineering, procurement, and construction services
- Bharat Heavy Electricals is supplying the turbines

### **Benefits**

- The project will provide hydropower, irrigation, and drinking water to five regions of Andhra Pradesh
- The project will help stabilize the Godavari and Krishna deltas
- The project will help interlink the Godavari and Krishna rivers



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- The project will help supply water to industries and Visakhapatnam

### Challenges

- Construction has been delayed due to funding issues, technical challenges, and rehabilitation and resettlement issues.







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## **OBSERVATION**

### **Hydropower Generation Process:**

- Water is stored in a reservoir and released through penstocks to drive turbines.
- The turbines convert kinetic energy into mechanical energy, which is further transformed into electrical energy through generators.
- The generated electricity is transmitted through transformers and switchyards to the power grid.

### **Key Components Observed:**

**Dam Structure:** Massive concrete structure designed to store and regulates water flow.

**Turbines & Generators:** We observed how water pressure rotates turbines to produce electricity.

**Control Room:** The automated system used to monitor power generation and distribution.

**Irrigation Canals:** Channels designed to distribute water to farmlands.





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## **CONCLUSION:**

The industrial visit to Polavaram Hydro Power Plant was a highly informative and enriching experience. It provided us with practical insights into hydroelectric power generation, irrigation systems, and water resource management. Observing the dam structure, turbines, generators, control room, and irrigation canals helped us understand the real-world applications of engineering concepts such as fluid mechanics, power generation, and automation.

Additionally, interacting with engineers and plant officials enhanced knowledge about the operational challenges, environmental impacts and safety measures involved in running such a large-scale infrastructure project. The visit also highlighted the importance of hydropower as a renewable energy source and its role in the economic and agricultural development of Andhra Pradesh.

Overall, this industrial visit bridged the gap between theoretical learning and practical application, reinforcing understanding of sustainable energy production and efficient water resource utilization. The experience was highly valuable for our academic and professional growth.

**HOD-EEE**



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