

A Report  
On  
**Industrial Visit To  
Tarapur Atomic Power Station, Boisar**

On 16<sup>th</sup> October 2018

Branch: EXTC



Department of Electronics and Telecommunication Engineering

VIVA Institute of Technology

Shirgaon, Virar (East)

A. Y. 2018-2019

# **INDUSTRIAL VISIT REPORT**

*Report on Industrial Visit to Tarapur Atomic Power Station, Boisar Tarapur Rd, Palghar Taluka, Akkarpatti, Maharashtra: 401504.*

Electronics And Telecommunication Engineering Department organized an Industrial Visit to Tarapur Atomic Power Station on 16th October 2018, Tuesday for the students of T.E. (EXTC Engineering – Semester IV).

Following faculty Members accompanied the students.

1. Prof. Shoeb Sheikh
2. Prof. Ameya Purandare
3. Lab Asst. Sagar Chaudhari
4. Lab Asst. Vishakha

The visit started at 7.30 am from the Virar Station. On reaching the atomic power station at 11:30 am, the students and the faculty members had to go through a tough security process as the atomic power station belongs to the high security zone. Permission was granted for visit to unit 3 and 4 of the power plant. After entering in the power plant, breakfast was arranged for all visitors.

After the breakfast, introductory session was arranged through power point presentation to describe the operation of the power plant along with its technical specifications. The Tarapur Atomic Power Plant has 4 units where unit 1 and unit 2 are of 160 MW each and unit 3 and 4 of 540 MW each. The total power generation capacity of the power plant is 1400 MW. The process of nuclear fission was discussed through animated slides and relative advantages of an Atomic Power Plant compared to Thermal Power Plant. The total system block diagram of the entire power plant was discussed in brief with specifications in terms of the power ratings. Various safety factors related to plant operation were discussed.

Lunch was arranged by the officials of the power plant. After lunch was a plant site visit. Plant site visit included sections such as generation, back up, control room and switchyard. The site visit started with the generation back up section. A silent DG set is installed in the power plant of 540 MW capacity. Significance of the DG set was explained as to its timing of operation. The DG set was operated typically during the plant maintenance activities.

After visit to the DG set room, nuclear reactor was shown with discussion on its operation and safety features. It was discussed that engineers having licensing to operate the nuclear reactors are permitted to enter the reactor room. Also, while opening the reactor rooms, ambient pressure and pressure inside the reactor room is to be matched so as to avoid any possibility of malfunctioning of the process.

The next section of the visit included the generator room having Turbine – Generator set of 21 kV and approximately 18 kA rating, generating power of approximately 540 MW, 50 Hz. The voltage output of the generator is then stepped up to 440 kV using step up transformer for transmission and distribution of power. This generated power is then sent to GIS substation of power transmission through double circuit lines to nearby Power Grid Corporation.

The visit to the control room of the power plant sparked all visitors. Only authorized personnel's having license to operate the power plant are allowed to enter the room. Various sections of the control room were shown for all 4 units. Importance of various indications in the control panels were highlighted i.e. Yellow colored indication indicated warning and green indicates safer operation etc. The importance of quick action in terms of control was emphasized in the control so as to avoid possibility of power plant failure. The technology used acquiring parameters is SCADA system. CCTVs are installed at various locations which is monitored from the control room itself.

The visit ended with a vote of thanks from faculty members and students to power plant personnel's for granting permission for the visit in the high security zone.

### **Successful Completion and Happy Faces:**



