

**DEPARTMENT OF INSTRUMENTATION AND CONTROL ENGINEERING**

**L.D. COLLEGE OF ENGINEERING, AHMEDABAD**

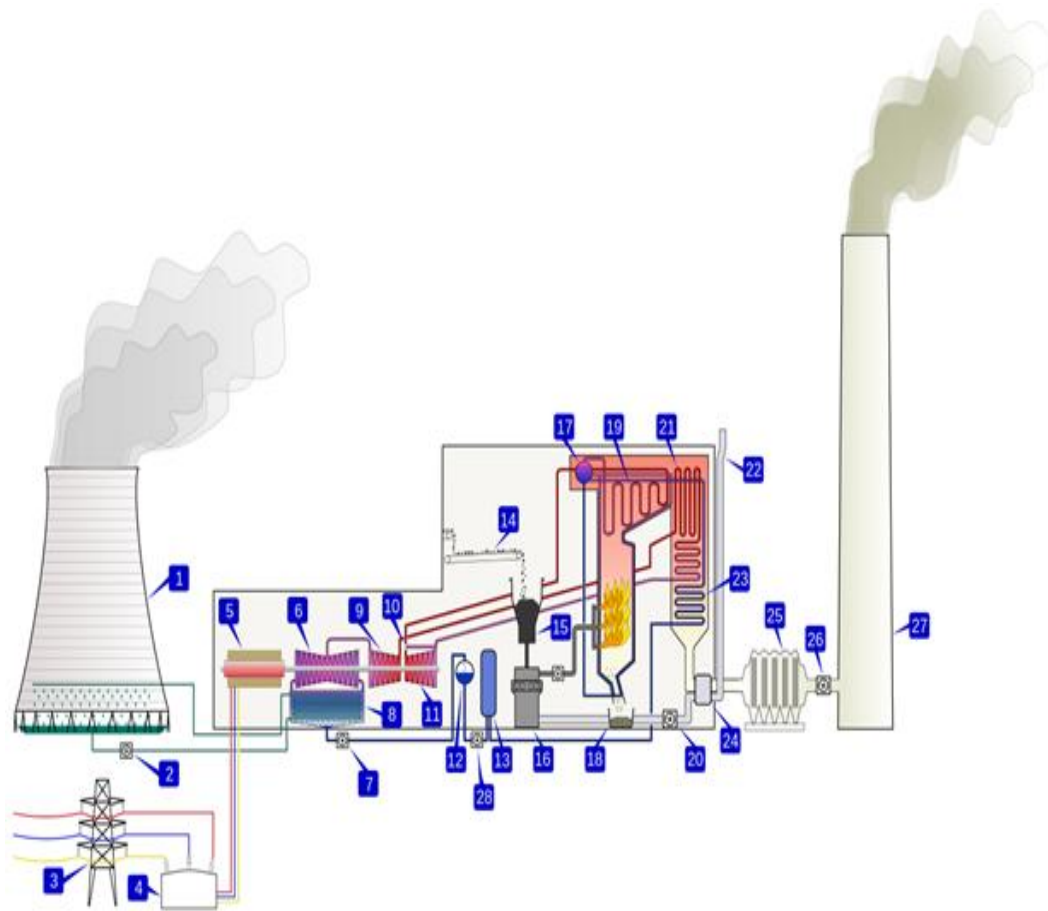
**Report on “Industrial Visit to Thermal Power Station  
Gandhinagar”**

<b>Name of Department</b>	:	Instrumentation and Control Engineering Department.
<b>Date &amp; Time</b>	:	11/09/2018 at 02:00 PM to 6:00 PM
<b>Venue</b>	:	Thermal Power Station, Gandhinagar
<b>Faculty Co-ordinator</b>	:	Chandni Shah, Urmila Suhagiya, Lalit Patel, Vishal Patel
<b>No of Participants</b>	:	60

**• Objective of the Industrial Visit :**

On 11th September 2018, an industrial visit for “Thermal Power Station Gandhinagar” was organized for the students of 5th semester Instrumentation and Control Engineering Department. This visit was carried out under guidance of Head of Department “Instrumentation and Control Engineering”. Total 60 (5 female students and 55 male students) participated in this industrial visit. This rural electrification tracing for students was guided and accompanied by Prof. L.S.Patel, Prof. C.V. Shah and Prof. U.G. Suhagiya. The main focus of this industrial visit is to fill the bridge between technical concepts taught in curriculum and industry applied concepts. Various technical concepts were discussed with the students which are applied in the field of Instrumentation and Control engineering.

• **About GSECL:**



- |                                  |                           |
|----------------------------------|---------------------------|
| 1. Cooling Tower                 | 15. Coal Hopper           |
| 2. Cooling Tower Pump            | 16. Coal Pulverizer       |
| 3. Transmission Line (3-Phase)   | 17. Boiler Stem Drum      |
| 4. Step-up Transformer (3-Phase) | 18. Bottom Ash Hopper     |
| 5. Electrical Generator(3-Phase) | 19. Super heater          |
| 6. Low-Pressure Steam Turbine    | 20. Forced draught Fan    |
| 7. Condensate Pump               | 21. Reheater              |
| 8. Surface Condenser             | 22. Combustion air intake |
| 9. Intermediate Pressure Turbine | 23. Economizer            |
| 10. Steam Control Valve          | 24. Air Preheater         |
| 11. High Pressure Steam Turbine  | 25. Precipitator          |
| 12. Deaerator                    | 26. Induced draught Fan   |
| 13. Feed Water Heater            | 27. Fuel Gas Stack        |
| 14. Coal Conveyer                |                           |

Gujarat State Electricity Corporation Limited (GSECL) was incorporated in August 1993 and is registered under the Companies Act, 1956 with the objectives to initiate a process of restructuring of Power Sector and to mobilize resources from the market for adding to the generating capacity of the State and improving the quality and cost of existing generation. The Company was promoted by erstwhile Gujarat Electricity Board (GEB) as its wholly owned subsidiary in the context of liberalization and as a part of efforts towards restructuring of the Power Sector. The Memorandum and Articles of Association of GSECL envisage a wide spectrum of activities to improve the electricity infrastructure of Gujarat. GSECL has initiated its activities in the field of Generation of Power. GSECL has the capacity of producing 870 MW.

The Government of Gujarat (GoG) has also given to the GSECL the status of Independent Power Producer (IPP) with approval to undertake new power projects. The Company commenced its commercial operation in the year 1998. However, the operations of GSECL were limited to Power Stations units Gandhinagar #5, Wanakbori #7, Utran GBPS & Dhuvaran CCPP till the complete unbundling of erstwhile GEB was undertaken, i.e. up to 31st March 2005.

As a part of the reform process, the Government of Gujarat has unbundled the various functions of GEB. As a result of this unbundling, Gujarat State Electricity Corporation Limited (GSECL) has taken up the responsibility of electricity generation. Electricity Transmission has been entrusted to the already existing company - GETCO. Distribution network in the state has been split up among four distribution companies, which cater to the northern, central, southern, and western parts of the state respectively. All these companies have been structured as subsidiaries of a holding company, Gujarat Urja Vikas Nigam Limited (GUVNL). GUVNL is also the single bulk buyer in the state as well as the bulk supplier to distribution companies. It will also carry out the trading function in the state.

• **About Visit :**



Group photo of Industrial Visit at GSECL

All students reached Thermal Power Station Gandhinagar by 2:00 PM on 11/09/2018 along with faculty co-ordinators. The students were guided to the basic knowledge of coal based Thermal Power Plants. All students were divided into small batches of 30. Training supervisor from TPS Gandhinagar accompanied students group and showed them control room, turbine room, generator room and switchyard of TPS Gandhinagar.

In this Industrial visit ,first of all students learn about the Control panels and how they maintain the frequency of the voltage according to variable load requirement and also the specifications of different types of motor etc. After that how Coal gets into the boiler and its combustion ,exhaustion and Boiler Process and Water-Steam Cycle. students also learned that how different parameters like Pressure, Temperature, Flow, Conductivity and pH of Water and Steam is measured and maintained at standard required values.

All students expressed their thanks to the officials for the opportunity given. This trip was highly useful for the students in terms of practical knowledge about the control room i.e. control panels, boilers etc. This trip will also be helpful for them to find placement opportunities in such industries