

A REPORT ON THE INDUSTRIAL VISIT TO THE RELIANCE THERMAL POWERPLANT

(Vidarbha Industries Private Limited, (VIPL), Butibori.)



Organized by



**Department of Electrical Engineering
Visvesvaraya National Institute of Technology
Nagpur, Maharashtra, India
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The Objectives of this Industrial Visit:

1. To learn the functioning of a coal based steam power plant.
2. Understanding the coal to electricity cycle.
3. Understand the best and sustainable practices in running a coal based power plant.
4. To understand better the concept of Power Station Practices



Group photograph

The Department of Electrical Engineering, Visvesvaraya National Institute Of Technology, Nagpur had organized an Industrial visit to Reliance coal based thermal power station on 24th April, 2018 and 31 April for Second Year UG (EEE) Students.

Visit was organized with the prior permission and guidance of Head of the department Professor M.K.Khedkar. It was coordinated by Dr. P.S.Kulkarni. Around 77 students of the second Year visited VIPL (300*2 MW) coal based steam Power plant, in 2 batches, one on 24th and the second batch on 31st of March, 2018.

Visit started with a security rules briefing during which we were given our helmets and explained about the important safety rules to comply with at all times.

Our group was then given in charge of Mr. Pankaj, a Junior Engineer, who arranged our visit to the plant and explain the working of different parts.

Various Thermal Power Plant Equipments :

1. Coal Handling Plant
2. Ash Handling Plant
3. Boiler
4. Super heater
5. Air Pre-heater
6. Economizer
7. Turbine
8. Chimney
9. Feed Pump
10. Generator (Alternator)
11. Switch Yard

12. Exciter
13. Condenser
14. Transformer
15. Wagon Tippler

The coal was brought from western coal field and some imported from Indonesia, and the coal would be mixed to increase the gross calorific value.

The water used for cooling and all other purposes was bought from the nearby Wadgaon dam.

We were taken to and explained about wagon tippler, where coal, brought from the coal field, on wagons is dumped into an apron feeder, which is then broken down into the required size and stored in the coal handling plant.

We were also educated about the transformers, cooling towers and the chimneys.

The height of the chimneys was 210 metres.

We were explained how VIPL made it its prime objective to keep the environment clean and hence the use of electrostatic precipitators.

At the end we were also educated about the working of 4.8 kWp floating type solar photo-voltaic plant, installed by the power plant management, as green energy initiative.

It was a great experience to actually take a look at whatever we had studied in theory and study the coal to electricity cycle in detail.

It gave us a new perspective about our branch, Electrical and Electronics Engineering, and strengthened our concepts of Power Station Practices.

The guiding staff of both college as well as Power Plant was very supportive to all students. We hope that this visit will help us in our future practical life and bring a positive change in our thinking and practical behavior regarding Education and specially Engineering.

Submitted by Syed Khalid Azeez, 4th SEMESTER **B.TECH. (EEE)**,

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Forwarded by Dr. P.S. Kulkarni, Course Coordinator, Electrical Engg. Dept, VNIT.