

June 12,16 2017

## **NORTH CHENNAI THERMAL POWER STATION (NCTPS) INPLANT TRAINING - EEE Department**



As students of PERI Institute of technology ,we BALAMBIGAI M, LAVANYA E, MOHAN DASS C and RAJESH P of final year EEE students attended inplant training during the period of 12.06.2017 to 16.06.2017 at NORTH CHENNAI THERMAL POWER STATION (NCTPS).We learnt lots of information about the Generation ,Transmission and Distribution of power supplies

### **Day 1 12.06.2017 : MODEL ROOM AND DEMINERALIZATION PLANT**

In the first day, we were taught the basics of thermal power plant and layout of power plant. The layout clearly described about the generation transmission and distribution of power from North Chennai Thermal power Station..

We learnt about the demineralization of water .Demineralization is mainly to avoid the formation of Scale in the inner walls of the boilers and this process reduces the conductivity of water from 1000 ppm to 0.1 ppm..



The agent like Hel, Sodium bisulphate ,sodium hexa metaphosphate are added in order to prevent the inner core of the boiler from the formation of scale to the interior walls of it. Hydrazine, Oxygen, Ammonium ,Trisodium phosphate also added to remove unwanted particles in water.

## **Day 2 13.06.2017 : METER RELAY TESTING (MRT)**

In the second day, we learnt clearly about types of protection, Breakers and relays, CT,PT and CVT.

PLCC-Power line carrier communication , Microwave fibre optic communications are used.

Types of Protection:

- 1. Generator protection
- 2. Transformer protection.
- 3. Feeder protection.
- 4. Bus bar protection
- Motor protection



### **Day 3 14.06.2017: ELECTRICAL MAINTENANCE I**

In the third day, we were taught about various subdivisions of the generated power which should be distributed to various loads. We saw circuit breakers, Isolators, switch gears and so on. Each and every part was explained very well. Learning by seeing those equipment really made us to regain the things we learnt during that particular session.

### **Day 4 15.06.2017 : INTERNAL COAL HANDLING SYSTEM (ICHS) & EXTERNAL COAL HANDLING SYSTEM (ECHS)**

In the fourth day, we were taught about ICHS and ECHS. It was a very interesting session. Foreign coals are imported from South Africa, Hyderabad and Orissa and those coals are shipped to the port then passed through a loader which loads the bunker and side by side another bunker which is located at another side is filled by a wagon loader using reclaimers. It is being fed by the conveyor belts supplied to the boilers for the generation of power. The coal with a particular size is being crushed and equalized for a continuous supply of generation of power. The rotation and loader and distribution of conveyor belt was visible on the top of the floor. The explanation was given very clearly about the ICHS.

### **Day 5 16.06.2017 : CONTROL AND INSTRUMENTATION**

In the fifth day, we were given the information about the control of the total power plant. In this session we were taught the ways in which the coal is being burnt using a draught system. Draught system.

- 1. Natural draught
- 2. Artificial draught

Finally the session was about the speed governing of the system and was explained using the monitor display which was located in the units of each system from Unit 1, Unit 2 and unit 3.

In this session we were also taught about the use of asphalt in the boilers during combustion of coal for the purpose of burning it further and were taught about the use of lubricating oil and coolant oil too.



It was a lively experience and moreover we learnt the gist of the typical layouts and working principles practically and recovering the faults was really an adventurous and educational experience about the power plant.

The training was really remarkable and memorable experience which taught us many lively experiences about electricity. We learnt the worth of electricity and safety measures from it.

The in-plant training was very knowledgeable. We could compare the theoretical things with the practical. We would like to thank all the staff who explained us and all the authorities of NCTPS for giving us this great opportunity. We would also like to thank our college for encouraging us in all means.