INDUSTRIAL VISIT TO
KUDANKULAM NUCLEAR POWER PLANT VIST
ON 22.12.2017

INTRODUCTION:

The Second year B.E. Mechanical Engineering '16ME3B' section students (2016 batch) has gone for Industrial visit to Kudankulam Nuclear Power Plant, Thirunelveli on 22.12.2017.

INDUSTRIAL VISIT ARRANGMENTS DETAILS:

The Industrial visit arrangements have been divided into 2 batches under the control of two faculty members and one lab assistant.

INITIMATION LETTER:

The Initiation letter was sent on 13.07.2017 to visit Kudankulam Nuclear Power Plant, Thirunelveli.

PERMISSION LETTER:

The permission letter was received on 28.07.2017.

TRANSPORT DETAILS:

Name of the Company	:	Raja Tours and Travels, Thamarai Palayam
Contact Person	:	R.Ananth
Contact number	:	7373734040

FACILITATORS:

The Accompanied Staff are:

1. Mr.A.Thirumoorthy, AP / Mech.
2. Mr. S.Arunkumar, AP / Mech.
3. Mr. R.Shanmugasundaram,Sr. Lab. Asst/Mech

The student organizers are:

1. Siva Shanmuga Sundaram V- 16MER086

AIM OF THIS VISIT:

As the subject title 'Power Plant Engineering' in Mechanical Engineering, we feel it will be fruitful that the students have a sight of the Nucler Power Plant to have a better appreciation of practical applications of theory.

PROCESS OBSERVED:

At first we had started from a small conference which was led by Mr.Anandhan, Senior Engg. He explained us the overall outline of the power plant clearly. The conference lasted over 90mins where we got the idea ofconstruction,planning and safety measures of the plant.

The project consists of two 1000 MW capacitywater Cooled Moderated Energy Reactors (WCMER), which falls under the category of Pressurized Water Reactor (PWR) and is the first of its kind in INDIA. This type of reactor uses about 4.4 enriched Uranium as fuel.

The design ofthe plant and supply of all the major equipment is in the scope of the Russian Federation while development of infrastructure and project construction is in Indian Style. The style includes complete civil and structural works of the two reactor buildings along with the reactor auxiliary and control room buildings.

The Hydro technical structures at KKNPP provide necessary cooling water required for the nuclear plant operation as well as its discharge after cooling the plant loads. To avoid silt, the sea water is drawn at a distance of 1.2 km away from the shore at 9.05-meter depth below the sea level from a caisson structure placed at the south tip of two breakwater dykes.

The intermediate structures consist of sea water intake structure with a fish protection system, three tunnels each for carrying the sea water to two pump houses from where the water is pumped to condensers in the turbine building through pressure pipelines. Four Caissons are placed at the southern tip of breakwater dykes for sea water intake. Out of these, two are used as water passage and two are adjoining units. The power plant stands tall at the safety measures. The reactors deploy 4 stage safety features, namely the Passive Decay Heat Removal System, additional system for Core Passive Flooding, Passive Filtering Systems, etc. However, to enhance further the safety level, the task force suggested 17 recommendations, all of which have been implemented. Unit 1 of the plant was synchronized with the southern power grid in 2013 and is generating electricity to its limit of 1000 MW.

Unit 2 with capacity 1,000 MW had achieved first criticality in July 2016. It was grid-connected in August 2016 and its commercial operation started its commercial operation started in 2016. The ground-breaking ceremony for construction of units 3 & 4 was performed in February

2016. The power generated from the plant will provide electricity to Tamil Nadu, Puducherry, Kerala, Andhrapradesh and Karnataka. The visit to the Kudankulam Nuclear Power Plant was such a great one for us as we gained worthy knowledge on power plant sectors and how the mechanical engineering methods are implemented there. In this the students able to gather the overall view about the company.

Inside the company the student permitted to visit the following unit

1. Fish Protection System
2. The Desalination Plant
3. Simulation Unit

PHOTO:

Enclosed Separately.

IV IN-CHARGE HOD / MECH PRINCIPAL

KUDANKULAM NUCLEAR POWER PLANT VIST ON 22.12.2017

PHOTO