

**INDUSTRIAL VISIT TO
KUDANKULAM NUCLEAR POWER PLANT VISIT
ON 22.12.2017**

INTRODUCTION:

The Second year B.E. Mechanical Engineering '16ME3A' section students (2016 batch) has gone for Industrial visit to Kudankulam Nuclear Power Plant, Thirunelveli on 27.12.2017.

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.

INITIATION 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	:	Sabari Travels
Contact Person	:	K.Vijayakumar
Contact number	:	9566627666

FACILITATORS:

The Accompanied Staff are:

1. Mr. R.Prakash, AP / Mech.
2. Mr. D.Senthilkumar, AP / Mech.
3. Mr. S.Murugesan, Sr. Lab. Asst/Mech

The student organizers are:

1. Ajay Dev M – 16MER002

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 Nuclear Power Plant to have a better appreciation of practical applications of theory.

PROCESS OBSERVED:

NUCLEAR POWER CORPORATION OF INDIA LIMITED (NPCIL), a public sector undertaking of the Government of India, is the key driving force for a comprehensive development of the nuclear power programme in India. It is responsible for the design, construction, commissioning and operation of the 17 reactors in operation and 5 under construction, which dot the map of India. The core business at NPCIL is power generation. The Company generates about 3% of the total electricity generated in our country.

KKNPP is located in Tirunelveli District but is very near to Kanyakumari. The most advanced VVER-1000 reactors in the plant are designed by Russian Engineers & Scientists that would generate 1000 Mega Watts each.

BRIEFING AND LECTURE ON KKNPP

Sharply at 10:30 AM, we were all guided into a neatly furnished and air-conditioned auditorium where an presentation about the necessity of a nuclear power plant and basic safety features was shown. The presentation of about 45 minutes duration added more curiosity of visiting the plant. Mr.Anand, Deputy Chief Engineer who had served in the National Power Corporation of India Limited in various atomic power stations and now deputed to KKNPP was kind enough to give a brief lecture on the conventional sources of electrical power generation like hydel power projects, thermal power projects, wind mill projects, solar power projects and outlined as to how nuclear energy is superior and cheaper and at the same time a safer system.

After a break for tea, we were taken in a bus to the fish protection facility, which is a big pond built inside the sea to draw sea water for cooling the reactor, steam pipes and turbines. Sea water is drawn from a large pond built inside the sea, called the Caisson, to save the fishes and marine species from coming into the fore bay/pump house area and getting trapped. The fishes which are coming into the intake will be separated or lifted by means of a unique air curtain where forced air bubbles up the sea water diverting the fishes upwards and water is drawn at a depth of 13 meters below the sea level.

After visiting the fish protection facility, we were taken to the full scope training simulator where the training programmes at different levels are conducted for qualifying and licensing of operating personnel, as per the regulatory requirements. Training simulators are used to provide training in all

aspects of operation, including handling of unusual incidents. Key operations personnel are also imparted rigorous training in various systems of the plant on training simulators before being actually deputed to man the control systems. It consisted of a lot of large format display units showing the outputs from various sensors and sources such as temperature, pressure, quantity of flow and various such other parameters.

It was by then time for lunch and we were guided to the very spacious industrial canteen where sumptuous food was served to all on buffet system. Thereafter we were guided to a hall where a model of the whole plant was available. We were explained about the various blocks forming the plant, where the containments where the nuclear reaction take place, the location of generators, location of diesel generators for safe shutdown and cooling of the reactors, fish protection tank, etc. The location advantage and geographical safety of the plant was enumerated by explaining about the seismological facts and figures comparing to that of the Fukushima NPP in Japan.

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**

