



MOHAMED SATHAK A J COLLEGE OF ENGINEERING

34, Rajiv Gandhi Salai (OMR), Siruseri IT Park, Chennai - 603103



Department of Electrical and Electronics Engineering

Industrial Visit Details:

Academic Year (2017- 2018)

Name of the company : Sriperumbudur 400 KV Substation
Address of the company : Sriperumbudur
Date : 08-08-2017
Timing : 11.20 AM
No of students attend : 53
Year : III year/IV year
No of Faculty : 2

Industrial Visit Permission Letter & Acceptance Letter

TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION LIMITED

VIGILANCE CELL,
144, ANNA SALAI,
CHENNAI - 2.

To EEE dept.
19/07/17

Memorandum No:11460/B11/B111/2017 - 1, Dated:12.07.2017.

Sub: Visit to Sriperumbudur 400 KV Substation by the students of Mohammed Sathak A.J. College of Engineering, Sruseri, Permission - Granted.

Ref: 1. Vigilance Cell Circular Memo.No.3987/B11/B112/2015 - 1, Dt:26.03.2015.
2. From the Principal, Mohammed Sathak A.J. College of Engineering, Lr.Dt:17.06.2017.

Two batches of 57 III & IV year Electrical and Electronics Engineering students (32+25 Nos per batch) alongwith two staff members of Mohammed Sathak A.J. College of Engineering, Sruseri, are permitted to visit Sriperumbudur 400 KV Substation on 08.08.2017 subject to the conditions specified in the memo. first cited.

K.P.MAGHENDHRAN,
DIRECTOR GENERAL OF POLICE/VIGILANCE

To
The Superintending Engineer/Operation-II/Sriperumbudur.

(He is requested to obtain ready list from the college concerned containing the name age and address of the visitors during the visit)

Copy to:-
The Principal,
Mohammed Sathak A.J. College of Engineering,
No.34, Rajiv Gandhi Road, (OMR),
Sruseri, Chennai - 603 103.

(He is informed that a maximum numbers of 70 students will be permitted per day for industrial visit and Camera, Mobile phone will not be allowed for industrial visit and he is requested to prepare ready list regarding name, age address etc., of the students and hand over the same to the office at the place of visit.)

:: TRUE COPY :: FORWARDED BY ORDER ::

[Signature]
14/7/17
SECTION OFFICER
13/7/17

Industrial Visit Report:(IV Year Students)

REPORT DATE: 09/08/2017

INDUSTRIAL VISIT REPORTED BY – FINAL YEAR EEE STUDENTS

INDUSTRIAL VISIT REPORT ON 400/230kV SRIPERUMBUDUR SUBSTATION

Date of Visit : 08-08-2017 56 students of IV year and III year ELECTRICAL & ELECTRONICS DEPARTMENT of M.S.A.J.C.E visited 400/230kV Sriperumbudur Substation on 08-08-2017.

The Substation was explained briefly by Technical Assistant . This substation receives power from different power plants like Mottur Thermal Power Station, Neyveli lignite Corporation, Madras Atomic Power Station in Tamilnadu.

The power is transmitted and distributed to many places like Oragadam, Kadaperi, Padapai and to companies like Hyundai, Ford,SIPCOT etc.

The different components and its functions that we saw in 400 kV Substation are as follows :

- **Current transformers (CT):** The lines in substations carry currents in the order of thousands of amperes. The measuring instruments are designed for low value of currents. Current transformers are connected in lines to supply measuring instruments and protective relays.
- **Potential transformers (PT):** The lines in substations operate at high voltages. The measuring instruments are designed for low value of voltages. Potential transformers are connected in lines to supply measuring instruments and protective relays. These transformers make the low voltage instruments suitable for measurement of high voltages.
- **Circuit breaker (CB):** Circuit breakers are used for opening or closing a circuit under normal as well as abnormal (faulty) conditions. Different types of CBs which are generally used are oil circuit breaker, air-blast circuit breaker, vacuum circuit breaker and SF6 circuit breaker.
- **Isolators or Isolating switches:** Isolators are employed in substations to isolate a part of the system for general maintenance. Isolator switches are operated only under no load condition. They are provided on each side of every circuit breaker.
- **Lightning arresters (LA):** Lightning arresters are the protective devices used for protection of equipment from lightning strokes. They are located at the starting of the substation and also provided near the transformer terminals.
- **Earth switch:** It is a switch normally kept open and connected between earth and conductor. If the switch is closed it discharges the electric charge to ground, available on the uncharged line.
- **Wave trap:** This equipment is installed in the substation for trapping the high frequency communication signals sent on the line from remote substation and diverting them to the telecom panel in the substation control room.

- **Coupling capacitor:** A coupling capacitor is used in substations where communication is done by AC power line. It offers very low impedance to high frequency carrier signal and allows them to enter the line matching unit and blocks the low frequency signal.
- **Bus-bar:** When number of lines operating at the same voltage levels needs to be connected electrically, bus-bars are used. Bus-bars are conductors made of copper or aluminium, with very low impedance and high current carrying capacity.



A. G. S.
21/8/2017.
Class Advisor Signature

P. S. S.
21/8/17
H.O.D Signature

J. S.
10/10/17
Principal Signature

Industrial Visit Report:(III Year Students)

Industrial visit to 400KV

SRIPERUMBUDUR SUBSTATION

The Department of Electrical & Electronics Engineering, MSAJCE, has organized Educational/Industrial visit to 400kv Sriperumbudur Substation on 8th August, 2017 for 3rd and final year students. Visit was supported by two faculties of our department, Mr. Muzafer and Mr. Gani, had accompanied with the students.

The visit started from college at 09:00 AM and we reached there by 11:20 PM. Visit started with Engineer. He gave brief introduction about substation and its working. All Students First visited Switch Yard. In Switch yard we saw various substation equipments. Working principle and application of each equipment was explained by him. He also cleared the doubts of students. The station has 7 unit single phase step down transformer. Out of these, 3 were main and the 4th one was an auxillary transformer used in emergency condition.

The main points discussed during visit regarding transmission substation :

1. Working of High Voltage Transmission Substation.
2. Details of Various Substation equipments (Working principle and application).

Various Substation Equipments are:

1. Lightning Arrestor
2. Coupling Capacitor
3. Bus bar
4. Wave Trap
5. Insulator
6. Circuit Breaker
7. Isolator
8. Current Transformer
9. Voltage Transformer
10. Protective relay
11. Transformer & Transformer Protection

At last reached the college by 3:00pm. Educational visit to 400kV substation organized by Department of Electrical & Electronics Engineering was very informative. The guiding staff both college staff as well as substation staff 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 technical education.

Industrial visit to 400KV

SRIPERUMBUDUR SUBSTATION



[Signature]
CLASS ADVISOR

[Signature]
HOD 10/10/2017

[Signature]
PRINCIPAL 10/10/17