SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
Sree Sainath Nagar, A. Rangampet-517102, Tirupati, Andhra Pradesh, India
Department of Electrical and Electronics Engineering

Date: 06-05-2023

Report on sub-station visit
to
"33 kV/11 kV Substation, APSPDCL, A. Rangam pet, Chandragiri, Tirupati, AP."
Under IEEE Student branch

on 06th May, 2023

III Year II Semester B.Tech. EEE -A, B and C section students participated in the field visit to **33 kV/11 kV Substation, APSPDCL, A. Rangam pet, Tirupati** on 6th May 2023. The field visit was organized to enhance the practical knowledge of various practical operating practices and switching mechanism adopted in the distribution substation. A total of **55 students and 2 teaching faculty** of the EEE department have participated in the substation filed visit. The information regarding the vital operating practices on major equipment and operating procedures adopted at 33 kV/11 kV Substation, APSPDCL, A. Ranga pet, Tirupati for III Year II semester B.Tech. EEE-A and B section students are as follows.

- The basic arrangement of substation equipment, the number of incoming, and outgoing medium distribution feeders of the substation to carry the electrical power for various locations (Poles, conductor configurations, and string insulators), and their ratings (single circuits).
- The various components present in the substation such as LA, Isolators, CT, PT, 10 MVA Power Transformer, VCB circuit breakers, communications systems, protection systems, battery management systems, and capacitor banks.
- The operating procedures for various equipment (CB, isolators, and Relays) at the substation, earthing techniques, and measuring instruments used in the control centers to monitor grid parameters of the system.
- The preventive and regular maintenance schedules, Grid interconnection, data monitoring, recording information, battery management systems, procedure to support reactive power to maintain the power factor, tap changing mechanisms, multi-function relay settings, and single line representation of substation, busbar schemes used in the substation. The III B.Tech., II semester. EEE students benefited from the substation visit and enriched their practical knowledge of the substation & transmission system.

Photos of the Field visit to 33/11kVSub Station

Fig, 1: Group photo of participants with the faculty coordinators and Students

Figure 2 Demonstrating of 33kV input Circuit braker functions with relays

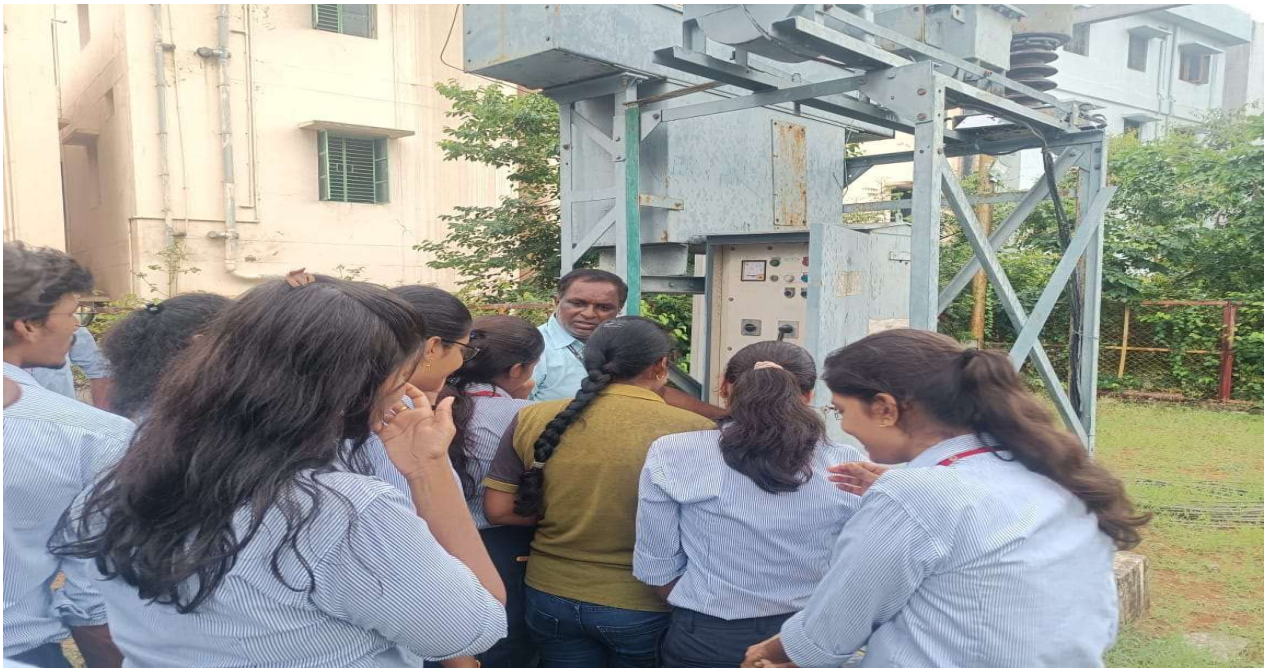
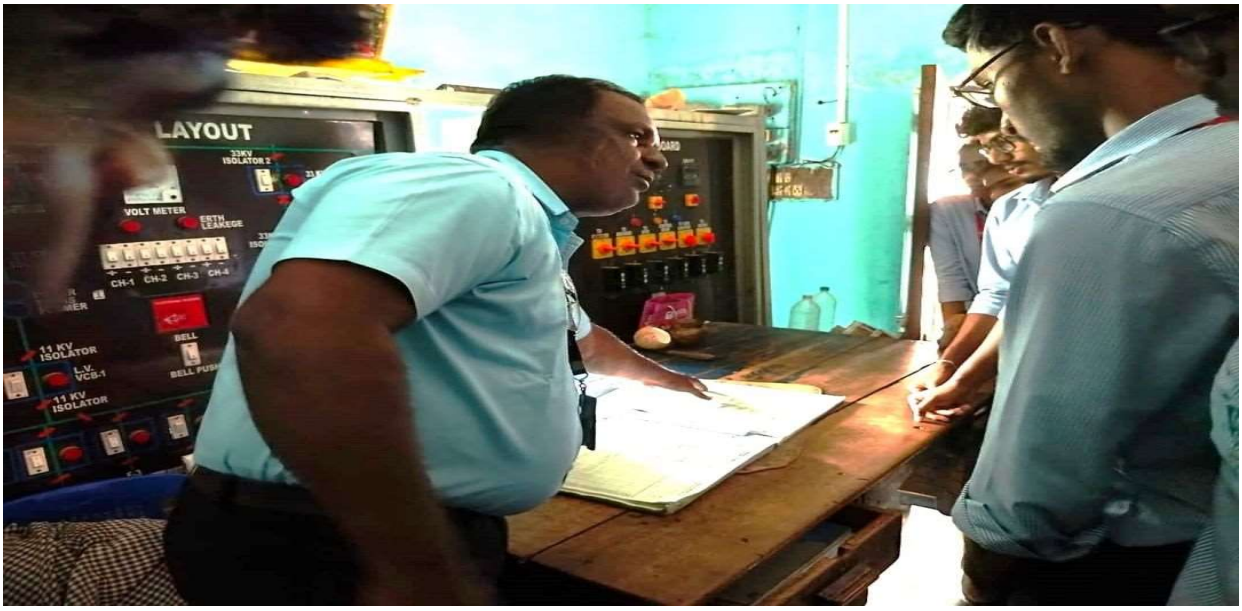
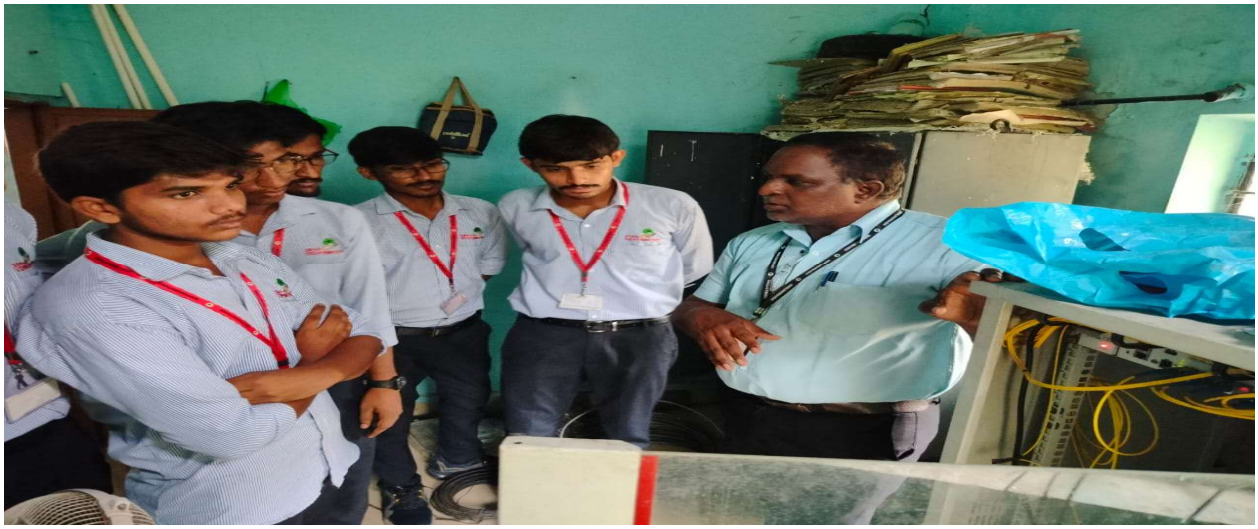


Fig 3 : Photogragh of participants in substation explaining the and CT/PT, Relays



Fig, 4 : Photogragh of participants in subsstation about control pannel and log book


Fig, 5: Photogragh of participants in subsstation about data comunication systems


Fig, 6: Participants' and faculty during the indisturial visit

Faculty members of the EEE department participated in the industrial visit:

1. Dr. N M G KUMAR, Professor
2. Mr. M. Manohara Associate Professor

Dr. N M G KUMAR
Coordinator of the Program

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OUTCOMES OF THE PROGRAM:

1. Gained knowledge about incoming, and outgoing feeders and delivery of power through the distribution lines to the consumers which carry the power of 2no of 8MVA transformers to carry 12 MW of power in the substation through the single circuit.
2. Demonstrated the practical operating practices on various equipment and assessed the various health conditions of equipment present in the substation such as LA, isolators, CT, PT, 2X8 MVA Power Transformer, VCB, and communications systems, earthing practices & techniques, and measuring instruments used in the control centers to monitor of grid parameters of the system and capacitor banks to improve the power factor.
3. Understand the maintenance schedules (preventive and regular), Grid interconnection, SCADA systems, data monitoring, recording through the log book, battery management systems, the procedure to support reactive power to maintain the power factor, tap changing mechanisms, relay coordination procedures and single line representation of busbar used in the substation.
4. Identify the procedure to apply for the internship program at APSPDCL.

The **III Year II Semester B.Tech. EEE -A and B section students** are benefited & enhanced with the practical knowledge by this Field visit and are enriched with the practical operating practices on the substation & transmission system.

Dr. N M G KUMAR
Coordinator of the Program