

Department of Electrical and Electronics Engineering

Report

Visit to “DTL Electric Substation Pappankalan-I, Dwarka, New Delhi”

Department of Electrical and Electronics Engineering organized an industrial visit to 220/66kV substation, Pappankalan-I, Dwarka, for EEE III and V sem students. This substation is a critical component of Delhi's electricity transmission infrastructure, managed by Delhi Transco Limited (DTL) and plays a pivotal role in ensuring a stable and reliable power supply to the western and southern sectors of Delhi, including Dwarka, Palam, and adjoining areas.

EEE students, along with **Dr. Jyoti Jain (Asso Professor, EEE Dept.)** and **Dr. Monu Malik (AP, EEE Dept.)**, visited the substation on August 26, 2025. Mr. Sanjay Mamoria (Manager, DTL) conducted a detailed tour of the substation, explaining the functions of various components, including the transformers and other critical equipment. He provided a thorough description of the operational processes involved. Throughout the visit, the engineers addressed the students' questions and clarified their doubts. The group departed from the power plant, with students expressing their satisfaction and appreciation for the valuable insights gained.

The infrastructure includes oil-filled transformers of 50 MVA capacity each, which ensure efficient voltage conversion and load management. The substation is equipped with double busbar configurations and PLC-controlled switchgear, offering both flexibility and reliability in operations. Comprehensive protection systems, including overcurrent and overvoltage protection as well as earthing mechanisms, safeguard both the equipment and operating personnel. During the visit, it was observed that the control room operates 24/7 with advanced SCADA systems for real-time monitoring and control. Regular maintenance practices, such as routine inspections of transformers, circuit breakers, and relay panels, are performed to ensure efficiency and reliability. Additionally, strict safety protocols are followed, with periodic drills and equipment inspections ensuring adherence to standard operational and safety norms.

The 220/66kV substation in Dwarka is a vital asset in Delhi's power distribution network. While it operates efficiently under DTL's management, ongoing maintenance and infrastructure upgrades are crucial to meet the region's growing energy demands. Continued community engagement and transparent communication regarding maintenance schedules can help mitigate the impact of service interruptions on residents.

Dr. Monu Malik
(Asst. Prof., EEE Dept.)

Snapshots from the event:

