

Substation Overview & Inspections

Course Overview:

This one-day class will provide an overview of substations, inspection practices, substation equipment, basic print reading, protective relaying, substation metering, specific equipment inspection practices, equipment troubleshooting and documentation. The class will also include a tour of a substation where you will review the areas covered in the class and review what you have learned regarding substation inspection. Other topics that will be covered include:

- Types of substations and the purpose of each type.
- Substation civil equipment, fences, structures, equipment grounding, gates and yard lights.
- Purpose and requirement of substation log books.
- Substation power transformers, load tap changers and protective devices (theory and operation).
- Oil containment and oil testing.
- Circuit switchers, breakers (oil, air, vacuum, SF6), three-phase regulators and single-phase regulators (theory and operation).
- Substation batteries and chargers.
- Current and potential transformers.
- Substation capacitors.

Mandatory PPE for the substation tour:

As part of this course, you will tour an energized substation. Required personal protective equipment (PPE) includes a fire-rated (FR) outer garment, hard hat, safety glasses, and sturdy shoes for walking on uneven and rough surfaces. FR clothing of a minimum of 5 calories is required for top and pants.

Who should attend?

Line and substation personnel, distribution engineers and supervisors who have responsibility for transmission and distribution substations.