

Electrical Transformer/Feeder Systems Training

Description

This course offers a complete training program in power transformation and feeder sizing, offering you and your employees a course in mastering the concepts of single-phase, three-phase power and cable/feeder calculations. The participant will be provided with the knowledge to properly size feeders, connect, maintain, and select a variety of electrical service transformers. The course will be instructor-led hands-on class, which will allow the participant to physically connect transformers, practice matching transformer bank rotation for

motor rotation, calculate feeder sizes, fuse and disconnect sizing and use the electrical measurement equipment. Books, handouts, charts and other reference material will be provided for all participants.

This course would be helpful for electricians, engineers, inspectors, safety personnel and other employees responsible for the operation and maintenance of electrical systems in a commercial, industrial, institutional or utility setting.

Outline

- Measurements
 - Voltage, Current, Resistance
 - Ohm's Law
 - KW, KWH, KVA, MW
- Transformation
 - Voltage, Turns Ratio
 - Series and Parallel
 - Voltage Drop
- Generation
 - Fields and Sine Waves
 - Single Phase
 - Three Phase
- Transformer Types
 - Liquid Filled
 - Dry Type
- Feeder Design
 - Cables and installation, harmonic control
 - Feeder Sizing
 - Fused and Non-Fused Disconnects
 - NEC 10-ft. rule
 - NEC 25-ft. rule
- Delta Connections
 - Primary and Secondary Wye
 - Sequence, Grounding
- Wye Connections
 - Primary and Secondary Wye
 - Grounding and Sizing

Prerequisites

Electrical/Electronic Maintenance 1 or at least 5 years of hands on electrical experience and is proficient with the use of electrical measurement instruments.

Course Length

32 hours/ Up to 12 participants.

Performance Objectives

At the completion of this course the participant will be able to:

- Apply Ohm's Law
- Explain transformation, load and voltage drop
- Recognize delta and wye connections
- Explain turns ratio
- Calculate the wire sizes for feeders
- Apply NEC code to feeders
- Placement of disconnects
- Connect delta and wye transformers
- Transformer Grounding