



WECC System Operator Training Switching

Emphasis of this class is on the basic principles of switching high voltage equipment in and out of service under normal and abnormal conditions. **Switching** is a week-long class (Monday 1:00 pm – Friday 12:00 pm) that offers each student **30 NERC Continuing Education (CE) Hours**, including six (6) NERC CE hours of NERC Standards and eight (8) NERC CE hours of simulation.

Primary Topics include:

- Equipment types & Capabilities
- Protective Relaying Interface with Switching Operations
- Switching in various bus configurations
- Safety aspects of Switching
- Hazards associated with Switching
- Switchman/System Operator Interface
- Switchman Response to Abnormal & Emergency Conditions

The following simulation modules, using the PALCO* system, are included in the course. Additional Modules may be added as they are developed to enhance understanding of the covered topics.

- Introduction to the PALCO System (how to use the simulator)
- Basic Switching Principles
- Switching a line Out-of-Service
- Transferring Transformers from one bus to another
- Switching a Breaker-and-a-Half scheme

*PALCO is a fictional 29-station power system

Students will also utilize an XCEL based simulator to allow students to write and execute generic switching orders on various types of substation bus and transmission line configurations. This XCEL simulator will allow students to identify potential relay schemes and disable if required to successfully remove requested equipment from service.