



## **Microprocessor Based Relays**

Hosted by the IEEE Orlando PES/PELS/IAS

**Dates & Time: Tuesday April 7<sup>th</sup> at 6pm**

Microprocessor-based protective relays are being used throughout industrial and utility facilities and offer the benefits of extensive metering and monitoring, which include sequence components and waveform capturing. There are two types of relay testing which is performed on microprocessor-based protective relays: (1) commission testing and; (2) routine or periodic testing. Commission testing is extensive and exhaustive and its role is to completely test the design and installation of the protective system. Routine or periodic testing is used to validate that a protective system will perform its task by verifying the relay is measuring correctly, set correctly and that it will operate its output contacts for a fault or alarm condition.

This presentation will first review the differences and functions of commission testing and routine/periodic testing. Secondly, the presentation will review methods to use the “smarts” of the microprocessor-based protective relay to detect issues during startup or during normal operation. These methods include protective relay setting comparison, minimal negative sequence current and voltage, correct power metering readings, verification/recognition of contact inputs, manual operation of contact outputs, complete control circuitry (trip, close, start, stop functions), lack of device self-test alarms, device date & time, and phasor diagrams provided by protective relay. Examples will be reviewed on the methods including an overview of symmetrical components. The presentation will discuss options of installing test switches for AC current & AC voltage isolation and use of spare relay case or chassis for bench tests/verifications. In addition, the presentation will discuss the periodic tests that should be performed on protective relay spares that are stored in your facility’s warehouse.

**Locations:**

Located just off SR 436  
OUC Pershing Facility  
6003 Pershing Ave  
Orlando 32822.

Please RSVP to [khaldin@cdmsmith.com](mailto:khaldin@cdmsmith.com) if you plan to attend by no later than Friday March 27th, 2015 .

