PJM Certification

Background

This 4-day class is designed for real-time system operating personnel who are required or desire to prepare for taking the PJM Certification Exam. The training course content includes an administrative overview to the PJM Certification program, an overview to control area concepts, and a review of the PJM manuals that address Pre-Scheduling Operations, Control Center Requirements, Scheduling Operations, Dispatching Operations, Emergency Operations, Generator Interconnections and Operations, and Transmission Operations. The course is culminated with a multiple choice test reflective of the criteria defined in the PJM Certification exams content outlines.

Course Level

Not Applicable

Target Audience

This course is intended for real-time system operators and support personnel who operate on the PJM RTO systems, are in direct communication with any PJM System Operator, or perform daily operations-related functions at the direction of the PJM System Operator during normal, emergency and/or system restoration situations.

NERC Continuing Education Hours

28.0 CEHs – Total
28.0 CEHs – Standards
28.0 CEHs – Ops Topics
0.0 CEHs – Sim

NERC Emergency Training Requirement

28.0 hours of Emergency Operations

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Class Content

The course modules' content includes:

PJM Certification Overview
The PJM Certification program is reviewed. The module identifies who is required to be certified, how the certification examinations were developed, and program information. Students are then provided with an overview to the application process. A review of the examination content outlines is explored and the breakdown of examination content based on the outlines. The module concludes with reference material to be utilized in preparing for taking the exam.

Control Area Concepts:

The module provides an overview to control area operations and its relationship to the interconnection. The overview includes the concepts associated with area control error and tools available to utilize as control mechanisms. The module concludes with identification of control performance standards and actions available to assist in meeting the standards.

Manual Review:

Pre-Scheduling Operations:
The manual review focuses on the PJM OI and PJM Member pre-scheduling activities. The review includes roles and responsibilities of the PJM System Operators and PJM Members with regards to: Pre-Scheduling, Outage Reporting, Reserves and Reserve Objectives, Regulation Requirements, and Maintaining Market Information.

Control Center Requirements:
The manual review focuses on the requirements for control centers that are signatories to the PJM Operating Agreement. The review describes the telecommunication linkages to PJM and the recommended characteristics of these control center computer systems and facilities. It then identifies computer services and systems at PJM and touches on meter accuracy standards.

Scheduling Operations:
The Scheduling Operations review focuses on the day ahead and hourly scheduling activities that are performed by PJM and PJM Members. The review includes the description of the rules and procedures for scheduling resources. The module then provides an overview for Scheduling Operations, the PJM Two Settlement System, and the PJM Regulation Market. The review identifies the scheduling philosophy, tools, strategy, and method.

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Dispatching Operations:
The Dispatching Operations review focuses on the real-time operation of the PJM Energy Market. The module than describes how PJM dispatches and controls capacity resources and how PJM monitors transmission facilities. The module concludes with a description of how PJM provides ancillary services.

Emergency Operations:
The Emergency Operations review focuses on PJM and PJM Members expected responses to emergency conditions. The emergency conditions explored include conditions requiring manual or automatic action to maintain system frequency or to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property.

Generator Interconnections and Operations:
The review begins with identification of the requirements for generator participants to connect to the PJM system. The module then describes communication and data requirements of PJM and Local Control Centers. The review then touches on defining telecommunication protocols, redundancy requirements, accuracy and periodicity of data, generator obligations, and reporting requirements.

Transmission Operations:
The Transmission Operations review focuses on specific transmission conditions and procedures for the operation of PJM designated transmission facilities. The review than explores transmission operations requirements, thermal operating guidelines, voltage and stability operating guidelines and identification of reportable transmission facility outages.

Course Follow Up

Upon completion of the class activities, participants will be provided with access to complete the appropriate TEST TRAK™ activity. TEST TRAK™ is a web-based activity that helps system operators to improve test taking skills and also to gain knowledge for answering questions similar to those present on the Certification Exam. It consists of 3 sets of quizzes and 2 tests that are reflective of the content areas identified for the specific Certification Exam.

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Classroom Schedule

Day 1 – 8:00 AM to 5:00 PM (Lunch provided)
Day 2 – 8:00 AM to 5:00 PM (Lunch provided)
Day 3 – 8:00 AM to 5:00 PM (Lunch provided)
Day 4 – 8:00 AM to 5:00 PM (Lunch provided)

Attendee Requirements

Attendees must sign-in for the training activity in accordance with the attendance verification process stated:

- Attendees are required to sign-in on the course sign-in sheet
- Attendees are required to provide their NERC SO Certification # on the sign-in sheet, if applicable
- Attendees are required to provide a photo ID as proof of identity
- Attendees must participate in all course activities
- Attendees must successfully complete the activity assessment
- Attendees must submit a course evaluation form

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