Generation Initial Training Program

PJM State & Member Training Dept.
Course Schedule

Daily Schedules

• 0800 Start Time
  – Open Discussion Format
    • Please use microphones provided on table so everyone can hear your questions and comments

• Lunch and Breaks
  – Schedule
  – Locations

• End of Class Day
  – Turn in badges daily
The GEN ITP Course

• This goal of this course is to provide you with the knowledge you need to successfully execute any of the shared tasks on the Generation Dispatcher Task List

• This task list serves as the basis for the PJM Certification Exam

• Task List is continuously evaluated by the PJM Dispatcher Training Subcommittee (DTS)
NERC CEH

• To earn NERC CEHs, you MUST:
  – Scan your badge/sign in at the start of each session
  – Attend all presentations and complete all activities

• Rules for quizzes
  – 75% or higher is required
  – Re-testing is available

• Rules for Simulations:
  – You must participate in the full Simulation activity
  – You must complete and sign the accompanying Activity Sheet
  – Simulation facilitator must sign off on your Activity Sheet
Logistics

• Housekeeping
  – Evacuation procedure
  – Restrooms
  – Break/smoking locations

• Productivity
  – Phones on vibrate
  – Wireless printer available
    • Email document to pjmctc1@hpeprint.com
  – Quiet area (near wireless printer)
Objectives

Students will be able to:

• Identify the role and responsibilities of the PJM RTO

• Identify the PJM Member Training and Certification requirements
What is an ISO/RTO?

- Independent from all market participants
- Independent governance structure
- Possesses operational authority

- Responsible for (within the region):
  - Grid operations
  - Reliability
  - Transmission service
**PJM as an RTO**

**Functions**

- Administer tariff
- Administer regional wholesale electric markets
- Provide independent market
- Provide for comprehensive regional transmission expansion planning
- Manage congestions
- Supply ancillary services
- Operator OASIS
- Plan and coordinate transmission additions and upgrades
Nine Major North American RTOs/ISOs

Alberta Electric System Operator

MISO

Ontario Independent Electricity System Operator

New Brunswick System Operator

ISO New England

New York ISO

PJM Interconnection

California ISO

Southwest Power Pool

Electric Reliability Council of Texas

IQC

ISQ/RTN Council
Working Together

• Agreements are developed with stakeholders to ensure reliability of the electric power grid

• Stakeholders include:
  – Members
  – ISOs/RTOs
  – FERC
  – NERC

• **PJM Operating Agreement**
  – Governs operation of PJM
  – Defines roles and responsibilities
  – PJM Membership requires signing of PJM Operating Agreement
NERC Functional Model – Generation Operator

Definition - The functional entity that operates generating unit(s) and performs the functions of supplying energy and reliability related services

Relationships with Other Functional Entities

**Ahead of Time:**

1. Provides generation commitment plans to the Balancing Authority
2. Provides Balancing Authority and Transmission Operators with requested amount of reliability-related services
3. Provides operating and availability status of generating units to Balancing Authority and Transmission Operators for reliability analysis
4. Reports status of automatic voltage or frequency regulating equipment to Transmission Operators
NERC Functional Model – Generation Operator

**Ahead of Time (Con’t.)**

5. Provides operational data to Reliability Coordinator
6. Receives reliability analyses from Reliability Coordinator
7. Receives notice from Purchasing-Selling Entity if Arranged Interchange approved or denied
8. Receives reliability alerts from Reliability Coordinator
9. Receives notification of transmission system problems from Transmission Operators

**Real Time**

10. Provides Real-time operating information to the Transmission Operators and the required Balancing Authority
11. Adjusts real and reactive power as directed by the Balancing Authority and Transmission Operators
Relationships with Other Functional Entities

1. Provides generator information to the Transmission Operator, Reliability Coordinator, Balancing Authority, Transmission Planner, and Resource Planner

2. Provides unit maintenance schedules and unit retirement plans to the Transmission Operator, Balancing Authority, Transmission Planner, and Resource Planner

3. Develops an interconnection agreement with Transmission Owner on a facility basis.

4. Receives approval or denial of transmission service request from Transmission Service Provider

5. Provides reliability related services to Purchasing-Selling Entity pursuant to agreement

6. Reports the annual maintenance plan to the Reliability Coordinator, Balancing Authority and Transmission Operator

7. Revises the generation maintenance plans as requested by the Reliability Coordinator

NERC Functional Entity – Generation Owner

Definition - The functional entity that owns and maintains generating units
Training & Certification Requirements
Member Generation Dispatcher Requirements

**Initial Training Requirements**

- PJM Generator Initial Training Program (ITP) Course
  - Training is linked to each shared task on the Generation Dispatcher Task List
  - PJM provides training on all shared tasks; member companies provide training on company-specific tasks
Certification Requirements

- PJM Generation Certification
  - Certificate good for 3 years
  - May be renewed in 2 ways:
    1. Re-test before the prior certificate expires
    2. Over the 3 year period, accrue 140 CE hours (of which 30 must be simulation related)
Member Generation Dispatcher Requirements

Continuing Training Requirements

• Each operator must complete **54 hours** of CE hours on a rolling three-year basis

**How can you meet these requirements?**

1. PJM-provided training (in-person, online via LMS)
2. Company-provided NERC-approved CE training
3. Third-party, NERC-approved CE training (i.e., vendor supplied training)
Questions?

PJM Client Management & Services
Telephone: (610) 666-8980
Toll Free Telephone: (866) 400-8980
Website: www.pjm.com

The Member Community is PJM’s self-service portal for members to search for answers to their questions or to track and/or open cases with Client Management & Services