

Restoration

ACTIVITY TITLE: Restoration Overview

TARGET AUDIENCE:

<input checked="" type="checkbox"/> Transmission Operator	<input type="checkbox"/> Market Operator
<input checked="" type="checkbox"/> Reliability Operator	<input checked="" type="checkbox"/> Operations and Planning Eng
<input checked="" type="checkbox"/> Balancing & Interchange	<input checked="" type="checkbox"/> Supervisor/Manager/Support
<input checked="" type="checkbox"/> Generator Operator	<input type="checkbox"/> Other _____

NERC CEHs:

Operating Topics CE Hours: 10.0

NERC Standards CE Hours: 0.0

Simulation CE Hours: 0.0

Professional Related CE Hours: 10.0

NERC EMERGENCY TRAINING HOURS: 10.0 hours

ACTIVITY SUBJECT MATTER:

<input type="checkbox"/> Basic Concepts	<input checked="" type="checkbox"/> Power System Restoration
<input checked="" type="checkbox"/> Power Transfer	<input type="checkbox"/> Market Operations
<input checked="" type="checkbox"/> System Protection	<input checked="" type="checkbox"/> Tools
<input checked="" type="checkbox"/> Interconnected Operation	<input checked="" type="checkbox"/> Operator Awareness
<input checked="" type="checkbox"/> Emergency Operations	<input type="checkbox"/> Policies and Procedures

DELIVERY SCHEDULE: Activity is expected to be delivered over a 10.5 hour period with 10.0 hours intended for material deliveries and activity exercises and .5 hours for activity assessment.

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A. ACTIVITY OVERVIEW

This course is intended for real-time system operators and support personnel operating on the Bulk Electric System who wish to expand their knowledge and to enhance their skills related to System Restoration. The activity addresses history of blackouts and their effect on society, types and characteristics of blackouts, causes of blackouts, assessing system status, key elements for restoration of load and transmission, frequency control, and interconnection of islands. This activity also addresses considerations for developing a System Restoration Plan.

B. METHOD OF INSTRUCTION

The activity is expected to be delivered in an Instructor Led environment. The activity is expected to be delivered utilizing a PowerPoint presentation in conjunction with the various exercises that are integrated into the material.

C. ACTIVITY OBJECTIVES

Upon completion of this training activity, the trainee shall be able to:

1. Explain the history of blackouts and the impacts on society
2. Identify the types of blackouts
3. Identify the causes of blackout events
4. Explain the key elements of determining system status following a blackout event
5. Define the issues relating to system restoration with regards to load and transmission restoration and frequency control
6. Identify considerations for developing a system restoration drill

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D. ACTIVITY CONTENT

1. Restoration Overview
2. Types of Blackouts
3. Causes of Blackouts
4. System Analysis
5. Communications
6. System Status
7. Generation equipment assessment
8. Transmission equipment assessment
9. Critical Loads
10. Outside Assistance Capabilities
11. Restoration Anatomy
12. Start-up power
13. Switching strategies
14. Restoration Methods
15. Restoration Considerations
16. Drill Planning Considerations

E. ASSESSMENT VEHICLE

The activity assessment is accomplished through a multiple choice quiz that addresses the activity objectives and content.

F. MISCELLANEOUS ELEMENTS

None identified for this activity.

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