

Restoration: Planning, Assessing, and Implementing (Online)

Background

This on-line class will be delivered over a 16-hour period. The class is intended to take the next step in the area of restoration training. The participants will be required to utilize the basic elements of restoration and utilize them in a simulated environment. The class will be a combination of lecture and activities with the majority of the class being comprised of exercises. The Finist OTS system will be presented with specific elements of a real-life system. This would include: critical loads and underfrequency protected circuits located throughout the entire system, blackstart generation, generation start-up power requirements, etc.

Target Audience

The class is intended for System Operators who possess the basic knowledge of electric system restoration and wish to expand their knowledge of restoration related to planning, assessing, and implementing.

NERC Continuing Education Hours

16.0 CEHs – Total

16.0 CEHs – Operating Topics

4.0 CEHs – Standards

13.0 CEHs – Simulation

NERC Emergency Training Requirement

16.0 hours of Emergency Operations

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Class Content

Planning

Lecture - The elements of developing a Blackstart plan will be identified in addition to a review of NERC EOP Standards related to system restoration requirements. This will include: critical loads, blackstart generation, underfrequency protected circuits, generation start-up power requirements, etc.

Exercise – Individuals are responsible for developing a Blackstart plan for the system that they are presented with. After completion of their plan, the class will re-convene and each group will be responsible to report on their plan with explanation of why they elected to utilize their particular strategy. The class will critique each plan to ensure that all elements of the restoration have been incorporated into the plan.

Assessing

Lecture – The elements related to assessing the system following a disturbance will be identified. The individual will be required to utilize this knowledge in the exercise.

Exercise – Individuals are required utilize the information presented with regards to system equipment status and determine the impacts on the restoration plan that was developed in the Planning exercise. Students will then be required to modify the restoration plan based on the system conditions presented.

Implementing

Lecture – Brief overview of restoration strategies, load pick-up guides, and frequency implications that should be utilized in the restoration process.

Exercise – Individuals will be presented with a system that may have generation and load that survived and areas of the system that are completely blacked out. Students are responsible to assess their specific situation and establish their plan for restoration and to mitigate the differences from the classroom developed Blackstart Plan. Students will then be responsible to restore their system using the Finist OTS.

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Attendee Requirements

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

- Attendees are required to sign-in using their designated sign-in and password
- Attendees must complete all course activities
- Attendees must successfully complete the activity assessment
- Attendees must submit a course evaluation form