

# NERC Certification Prep Blended Program

## Background

This NERC Certification Prep Blended Program blends the [Spark! By OES-NA](#) on-line prep material with scheduled Instructor Interaction Sessions. The course is intended to provide system personnel with the knowledge necessary in preparing for taking the NERC System Operator Certification Exam. This course includes these nine on-line modules, of which, the last module is a final assessment. The nine modules are as follows:

- Module 1 - NERC and Certification Overview
- Module 2 - Grid Operations
- Module 3 - Generation and Balancing Operations
- Module 4 - Transmission Operations
- Module 5 - Emergency Operations and Restoration
- Module 6 - Interchange
- Module 7 - Relays
- Module 8 - Communications
- Module 9 - Final Assessment

The Instructor Interaction Sessions are Instructor-Led review sessions administered remotely through the utilization of video conferencing. Each session is approximately 2-3 hours and provides an overview to material covered in the on-line modules. The Interaction Sessions provides students with an opportunity to ask questions and seek clarification on the content covered in the on-line modules.

## Course Level

Not Applicable

## Target Audience

The course is intended for System Operators and any personnel who wish to gain knowledge in preparation for acquiring a NERC System Operator Certification credential. This preparation will assist those individuals who are seeking their initial credential as well as those seeking recertification.

## On-Line Modules NERC Continuing Education Hours\*

<b>TOTAL:</b>	23.0 CEHs
<b>Standards:</b>	12.0 CEHs
<b>Ops Topics:</b>	23.0 CEHs
<b>Sim:</b>	0.0 CEHS

*Educating System Operators in the New Millennium!*

# NERC Certification Prep Blended Program

## Instructor Interaction Sessions NERC Continuing Education Hours\*

<b>TOTAL:</b>	15.0 CEHs
<b>Standards:</b>	15.0 CEHs
<b>Ops Topics:</b>	15.0 CEHs
<b>Sim:</b>	0.0 CEHS

\* NERC CEHs are only awarded to participants who are already certified prior to completing these sessions/course.

## Course Content – On-Line Modules

### **Module 1: NERC and Certification Overview**

This module steps through 4 areas related to NERC and the certification process. They include:

- History of the NERC
- NERC Functional Model
- NERC System Operator Certification Program
- NERC System Operator Certification examination process

### **Module 2: Grid Operations Review**

This module steps through 4 areas related to Power Grid operations. They include:

- Elements that make up the power grid
- Benefits of operating in an interconnected power system
- Power industry transition from the control area to the balancing area
- Players involved in operating and maintaining a safe and reliable electric grid

### **Module 3: Generation and Balancing Operations**

This module steps through 7 areas related to generation and balancing of the bulk electric system. They include:

- Defining a Balancing Area
- Obligations of the Balancing Authority
- Balancing Area ACE
- System time error is
- Steps for performing a morning load pick-up
- Actions for mitigating high and low frequency conditions
- Rules and requirements for maintaining a Balancing Area

*Educating System Operators in the New Millennium!*

# NERC Certification Prep Blended Program

## Module 4: Transmission Operations

This module steps through 6 areas related to operating the bulk electric system. They include:

- Components of the transmission system for moving power
- Events that impact system voltages
- Voltage control and the tools and equipment used for maintaining system voltage profiles
- Rules, requirements, and good utility practices for maintaining transmission operations
- Rules, requirements, and good utility practices for maintaining system voltages
- Rules, requirements, and good utility practices for interconnected operations

## Module 5: Emergency Operations and Restoration

This module steps through 6 areas related to emergency operations and restoration of the bulk electric system. They include:

- Rules, requirements, and good utility practices for emergency conditions
- Elements for inclusion in emergency procedures
- Emergency reporting criteria
- Process for restoring the system as a result of a system blackout
- Principles and methods for restoring the system
- Impacts of geomagnetic activity on the power system

## Module 6: Interchange

This module steps through 4 areas related to interchange and the exchange of power on the bulk electric system. They include:

- Interchange process
- Roles of the parties involved in the interchange process
- Hourly integration values for interchange schedules
- Rules and requirements for submitting, approving, and implementing interchange

## Module 7: Grid Operations Review

This module steps through 3 areas related to relays on the bulk electric system. They include:

- Key elements related to system protection
- Types of relays and relay schemes utilized on the power system and their operation

*Educating System Operators in the New Millennium!*

# NERC Certification Prep

## Blended Program

- Rules, requirements, and good utility practices related to relays

### **Module 8: Communications**

This module steps through 3 areas related to generation and balancing of the bulk electric system. They include:

- Key elements related to communication in System Operations
- Process and steps for three-part communications
- Rules, requirements, and good utility practices related to System Operator communications

### **Module 9: Final Assessment**

This module consists of 120 question test reflective of the content covered in the course.

## **Instructor Interaction Sessions**

### **Instructor Interaction #1 (3 Hour Session)**

Review and Clarification for the following:

- Module 1 - NERC and Certification Overview
- Module 2 - Grid Operations

### **Instructor Interaction #2 (4 Hour Session)**

Review and Clarification for the following:

- Module 3 - Generation and Balancing Operations

### **Instructor Interaction #3 (4 Hour Session)**

Review and Clarification for the following:

- Module 4 - Transmission Operations

### **Instructor Interaction #4 (4 Hour Session)**

Review and Clarification for the following:

- Module 5 - Emergency Operations and Restoration

### **Instructor Interaction #5 (3 Hour Session)**

Review and Clarification for the following:

- Module 6 - Interchange
- Module 7 - Relays
- Module 8 – Communications

*Educating System Operators in the New Millennium!*

# NERC Certification Prep Blended Program

## NERC Test Trak

Individuals are also registered for OES-NA's TestTrak®. OES-NA TestTrak® is an online testing tool designed to assist individuals in their preparation for certification exams. TestTrak® provides online activities that help System Operators strengthen their testing skills and gain knowledge for answering questions similar to those present on the certification exam.

## Post Certification Bonus

Upon completion of the course and the attaining of a NERC Certification Credential, the course will be reset to allow the student to complete the course a second time in order to earn the 23.0 NERC CEHs.

**NOTE: No NERC CEHs are awarded for completion of Test Trak.**

## Delivery Schedule

Because the course is delivered on an individual basis via the Internet, individuals have the ability to set their own pace and schedule for completion of the course until the Instructor Interaction Sessions. These sessions will be scheduled over 5 consecutive days and will require the associated on-line modules to be completed prior to start of the identified sessions.

## Student Requirements

- Students must sign-in using their individual log-in and password to access the course.
- Students are required to provide their NERC SO Certification # and other applicable contact information during the course registration process.
- Students must complete all course material prior to attempting the final assessment.
- Students must successfully earn a 70% grade on the final course assessment.
- Students must submit a course evaluation form. (Level of completion is not measured, but full completion is desired)

*Educating System Operators in the New Millennium!*