Distribution Control Center Operations Training – Level 1

OnlineTraining

Program Cost – $1,400

BASIC DISTRIBUTION

1. Introduction to Distribution Systems
    a. Basic electric terminology
    b. Electrical load characteristics
    c. BES distribution overview

2. Distribution Design and Resource Planning
    a. Regulatory requirements (NEC, NESC, etc.)
    b. Distribution planning
    c. Integrated resource planning
    d. Electrical drawings

3. Distribution Substation Equipment
    a. Substation equipment: transformers, regulators, breakers, reclosers, air switches, capacitors, and reactors
    b. Distribution feeders: radial, loop, wye, delta, one-phase, and three-phase services
    c. Overhead equipment: poles, grounding methods, conductors, and insulators
    d. Underground equipment: transition structures, cables, elbows, and splices

4. Distribution Protection
    a. Faults
    b. Instrument transformers (PTs, CTs, and CCVTs)
    c. Protection equipment: DC control circuits, solid and electromechanical relays
    d. Coordination: fuses, breakers, reclosers, and sectionalizers

5. Overvoltage Protection
    a. Lightning characteristics, arresters, and coordination
    b. Basic Insulation Levels (BIL)

Learn More:

Being the leading provider of training and advisory services to the power industry, we rigorously track and interpret NERC Reliability Standards and expertly translates them into customized education and advisory services, helping to manage risk and ensure reliability for the power grid.

We offer NERC system operator certification, instructor-led and online courses, accompanied by sophisticated computer simulation. Since 2002, we have provided NERC-approved continuing education and advisory services to thousands of employees of the Bulk Electric System across the United States and Canada. All training is designed using the latest systematic approach to training, as required by NERC.

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NERC NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Approved NERC CE Provider
SOS_INTL_001 Transitioning to HSI_SOS_001 is recognized by the North American Electric Reliability Corporation as a continuing education provider who adheres to NERC Continuing Education Program Criteria.

   c. Protection margins
   d. Arrester selection

6. SCADA and EMS
   a. SCADA and RTUs
   b. Sensors and transducers
   c. Control and state monitoring
   d. Energy Management Systems (EMS)
   e. Utility telecommunications

7. Service Entrance Equipment
   a. Residential service equipment
   b. Commercial and industrial service equipment, motor starting, and power factor correction
   c. Standby generators and uninterruptible power supply
   d. Residential, commercial, and industrial metering

8. Normal Operations – Distribution
   a. Basic distribution equipment and purpose
   b. Voltage control
   c. Situational awareness

9. Emergency Operations – Distribution
   a. Storm damage and other major natural disturbances
   b. Managing abnormal conditions
   c. Emergency load transfers
   d. Restoration procedures
   e. Prevention techniques

ELECTRICAL SAFETY

10. Regulatory Overview and Electrical Safety Principles
    a. Regulatory overview and electrical safety principles
    b. Substation and facility grounding
    c. Power faults and current distribution

11. Safe Working Practices
    a. Overview of arc flash and regulatory requirements
    b. GPR, Zone of Influence, and human vulnerability touch and step potential
    c. Working de-energized and grounded lines and equipment

12. Arc Flash Analysis and Safety Equipment
    a. Arc flash overview, regulatory requirements, and industry standards
    b. Arch flash boundaries, protective equipment, and labeling

13. Switching Practices
    a. Industry standards
    b. Lockout-tagout, switching and tagging
    c. Utility practices and examples

14. Post-storm Electrical Safety
    a. Electrical review
    b. Line identification
    c. Post-storm electrical hazards
    d. Safety measures

FUNDAMENTALS OF SYSTEM PROTECTION

15. General Relay Operations
16. Relay Categories and Input
17. Auxiliary Relays
18. Fault Analysis
19. Relay Coordination and Back-up Protection
20. Remedial Action Schemes
21. Breaker Operations