

2-Day High Voltage Electrical Safety/Arc Flash Training

Day 1

- Introduction and Registration
- Hazards of Electricity
 - Shock
 - Arc Flash
 - Fires
 - Falls
 - Miscellaneous (Hazardous Materials, Confined Spaces, etc.)
- Optional: “Pre-Quiz” to Assess Current Regulatory Knowledge
- Introduction to OSHA
 - Historical Perspective
 - Legal Aspects
 - Citations/Penalties
 - Inspection Process Overview
- Hazardous Materials Awareness for the Electrical Workers and Applicable Regulations
 - Asbestos
 - Lead
 - Mercury
 - PCB’s/Dioxins
- Confined Space Awareness
 - What is a Confined Space
 - What is a Permit Required Confined Space (PRCS)
 - Overview of OSHA Requirements for PRCS’s
 - Assessment
 - Program
 - Permitting
 - Entrants, Attendants, and Supervisors
 - Rescue
- Ladder Use
 - OSHA Requirements/Ratings
 - ANSI Ratings
- Fall Protection/Working at Heights
 - OSHA General Industry vs. Construction Standard
 - Railing Systems
 - Positioning Devices
 - Fall Arrest Systems
 - Full Body Harness
 - Connecting Devices and Shock Absorption
 - Anchor Points
 - Inspection Requirements

- Rescue Knots
 - Hands-on Exercise
- Net Systems
- Other Options
- Scaffold Use
 - Fixed Scaffolds
 - Types
 - General Requirements
 - Mobile Scaffolds
 - General Requirements
- Fire Protection
 - Principles and Classes of Fire
 - Fire Extinguishers and Media
 - Fire Extinguisher Use
 - Fire Extinguisher Inspections
 - Hands-on Drill
- National Safety Council CPR (Optional)

Day 2

- Introduction and Registration
- Optional: “Pre-Quiz” → Assess current level of regulatory safe work practice knowledge and discussion of facility equipment and systems
- Overview of OSHA “Subpart S” General Industry Safety Related Work Practices (1910.331-333)
 - Brief overview of OSHA/citations
 - Application of Standard
 - Qualified vs. Unqualified Persons
 - Training Requirements
 - Energized vs. Deenergized (Lockout/Tagout)
 - Defining “High Voltage”
 - Unprotected Overhead Lines
 - Approach Distances
 - Other Controls
 - Ancillary Safety Hazards
 - Flammable/Combustible Atmospheres
 - Illumination
 - Confined Spaces
 - Conductive Items/Apparel
 - Housekeeping Concerns
 - Interlocks
 - Equipment Use
 - Portable Items
 - Circuits (opening/closing/overcurrent protection)
 - Test Instruments

- PPE
- Alerting Techniques
- Overview of OSHA “Subpart R” – Electric Power Generation, Transmission and Distribution Practices
 - Applicability
 - Notable Rule Changes (April 11, 2014 Final Rule)
 - “Safe Work Practices”
 - Medical
 - Job Briefing
 - LO/TO (Overview)
 - PPE
 - Exposed Energized Parts
 - Deenergizing/Ground
 - Testing
 - Overhead Line/Bare Hand Work
 - General Hazards
 - Working at Heights
 - Confined/Enclosed Spaces
 - Excavations
 - Material Handling
 - Additional Substation Requirements
- Overview of NFPA 70E – 2015 Safety Related Work Practices
 - Application
 - Qualified vs. Unqualified Persons
 - Training Requirements
 - Elements of an Electrical Safety Program
 - Review of Program (if available)
 - Rescue Practices
 - Removal from Contact
 - 1st Aid/CPR Recommendations
 - Energized Electrical Work Permits
 - Elements
 - Authorization
 - Arc Flash Protection Boundaries
 - Approach Boundaries
 - Limited
 - Restricted
 - Prohibited
 - Using the 70E Tables
 - PPE: Shock vs. Arc Flash
 - Use of 70E Tables
 - Simplified Approach vs. Calculations
 - Ground-Fault Circuit Interrupters (GFI’s)

- Hazard Assessments
 - Shock
 - Arc Flash: Default and Short Circuit Duties
 - Ancillary Safety Issues
- NFPA 70 – 2014 (NEC) Labeling Requirements
- Using Testing Equipment to determine voltages
- Review/Quiz