THE ELECTRICITY FORUM
Content Community Connection

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Advanced NFPA 70e Training

Contact us Today for a FREE quotation to deliver this course at your company?s location.

https://www.electricityforum.com/onsite-training-rfq

Our Advanced NFPA-70e Training Workshop is designed to engage students in an interactive learning environment. Students will be led through a series of exercises that will instruct them how to design or improve their existing Electrical Safety Management Systems, Electrical Safety Programs, and how to implement the "NFPA-70e Workplace Electrical Safety" standard into the workplace, creating a safer workplace environment.

This information will impact on Arc Flash Hazard Labeling, Arc Flash Studies, PPE Program Development, and contain important information about how NFPA-70e impacts on electrical safety regulations.

This workshop will elaborate on the tables and annexes discussed in our Basic NFPA 70e training course, as well as provide a detailed review of the NFPA-70e Annexes not covered in our one-day Basic NFPA-70e Awareness Program.

THIS WORKSHOP COVERS THESE NFPA 70e ANNEXES NOT COVERED IN OUR BASIC ONE-DAY PROGRAM

- Annex A Aligning Implementation of NFPA-70e with Occupational Health and Safety Management Standards
- NFPA-70e Annex E - Electrical Safety Program Principles of Electrical Safety Program Development
- NFPA-70e Annex F - Hazard/Risk Evaluation/Assessment Procedure
- NFPA-70e Annex H - Detailed Two-Category Method For Determining proper PPE Protection
- NFPA-70e Annex M - Layering of Protective Clothing and Total System Arc Rating
- NFPA-70e Annex Q - Electrical Hazard Labels, Arc Flash and Shock Labelling

THIS COURSE WILL TEACH YOU HOW TO:

- Develop a realistic risk assessment, ensuring proper personnel safety and increased compliance by workers
- How to develop an Electrical Safety Management System (ESMS)
- Eliminate hours of engineering time and prevent costly mistakes
- Assure electrical system reliability
- Provide documentation and labeling for your Arc-Flash Hazard Safety Program
- Avoid unnecessary costs from over specification of gear, providing higher potential worker productivity
- Understand arc-flash study fundamentals
- Comply with standards for limits of approach
- Produce an arc-flash labeling program

WHO SHOULD ATTEND

- Industrial, Commercial, Institutional Electrical Engineering and Maintenance Personel
- Electrical personnel who work on or near energized and de-energized electrical equipment
- Electrical Safety Managers and Safety Professionals

STUDENTS RECEIVE

- FREE 100-Page Digital Electrical Safety Handbook (Value $20)
- $100 Coupon Toward any Future Electricity Forum Event (Restrictions Apply)
- 1.4 Continuing Education Unit (CEU) Credits
- FREE Magazine Subscription (Value $25.00)
- Course Materials in Paper Format

COURSE OUTLINE

1-Day Advanced NFPA-70e Electrical Safety Training

General information and introduction

Developing a plan takes knowing where you are now with your electrical safety program, understanding the steps necessary to comply with the standard and then creating a plan to move forward.

- Audits and Audit procedures
- Defining targets and goals
- Creating a plan of action items
- Performing a Gap analysis
- The importance of documenting a plan, tracking your progress and reaching goals.

One of the most important steps in the process is the preparation stages. In this session we will discuss the manuals, documents, test reports and data required to set the base line of information required to assist you in complying with the standard.

Documents, manuals and materials required

Single Line Diagrams

- locating existing diagrams
- review of accuracy
- developing new diagrams

OEM Manuals

- developing equipment records
- gathering equipment data
- storing data records

Maintenance Records

- locating equipment maintenance records
- review of accuracy
- developing future maintenance procedures

Past Inspection Reports

- locating past inspection records
- review of past inspection records
- determining equipment condition

Reviewing Past Test Reports

- locating past test reports
- review of the past report data
- relevant data regarding equipment condition

Protective Relay Data

- locating equipment data records
- testing protective relays
- evaluating the settings

Preparing for an Arc Flash Hazard Analysis

Which method to choose:

- General Requirements
- Method 1; Selection based on incident energy analysis
- Method 2; selection based on hazard risk categories

Method 2: Selection based on hazard risk categories

- Refer to power system model
- Developing a task list
- Developing a task matrix Table 4
- Choosing the PPE Requirements Table 5, and Table 6

Method 1: Selection based on incident energy analysis

- General introduction to Arc Flash Hazard Analysis
- What information do you need, and where to find it.
- Calculations and the Calculation method, Annex D
- Power system modeling
- Arc Flash Hazard Analysis Report, NETA

Arc Flash Hazard Analysis Report

- Elements of the report
- Review of the report and findings
- Determination of acceptable levels of energy
- Mitigation Strategies
- Labels and Labeling

NFPA-70e - Electrical Hazard Labels, Arc Flash and Shock Labeling

- General
- NFPA-70e Shock and Arc Flash Warning Label
- Arc Flash Label Example
- Detailed Arc Flash Hazard Analysis Label

NFPA-70e Annex E - Electrical Safety Program

- Typical Electrical Safety Program Principles
- Typical Electrical Safety Program Controls
- Typical Electrical Safety Program Procedures

Developing an Electrical Safety Management System (ESMS)

Elements of the ESMS Based on NFPA-70e - Annex E

Electrical Safety program principles

- What are ESMS principles?
- Developing principles and principle statements
- inspect and evaluate
- maintain the electrical equipment
- plan every job
- de-energize
- assess people’s abilities
- audit the principles

Typical electrical safety program controls

- What are ESMS program controls
- Developing program controls and statements every electrical conductor or circuit part is to be considered energized until proven otherwise bare hand contact is not to be made

Typical Electrical safety program procedures

- What are ESMS program procedures
- Developing program procedures
- purpose of the task
- qualifications and number of workers
- hazardous nature and extent of task
- limits of approach
- safe work practices to be used
- ppe required
- materials and tools required
- special precautionary techniques

NFPA-70e Annex F - Hazard/Risk Evaluation/Assessment Procedure
A Hazard/Risk Evaluation is an analytical tool consisting of a number of discrete steps intended to insure that hazards are properly identified and evaluated, and that appropriate measures are taken to reduce those hazards to achieve an adequate risk reduction.

This procedure is a comprehensive review of the task and associated foreseeable hazards which use event severity, frequency, probability, and avoidance to determine the level of safe practices employed.

NFPA-70e Annex H - Detailed Two-Category Method For Determining proper PPE Protection.
For a more simplified approach, Annex H - provides a simplified, two-category, FR clothing system. This approach provides minimum PPE for electrical workers within facilities with large and diverse electrical systems.

ADVANCED NFPA-70e ARC FLASH WORSHOP SESSIONS
Students will divide into groups and be given the opportunity to complete the following exercises (using NFPA-70e):

- Exercise #1 - Preparing A Job Briefing and Planning Checklist As Per NFPA-70e
- Exercise #2 - Preparing A Hazard Risk Evaluation As Per NFPA-70e
- Exercise #3 - Preparing An Energized Electrical Work Permit As Per NFPA-70e

Review of expectations
Questions and Answers

COURSE TIMETABLE

Both Days:

- START: 8:00AM

- COFFEE BREAK: 10:00AM
- LUNCH: 12:00PM
- REFRESHMENT BREAK: 2:30PM
- FINISH: 4:30PM

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