

Arc Flash Hazards

Prolog - One simple change in the 2002 National Electrical Code and one Complex change in the NFPA 70E (used by OSHA for comprehensive safety rule enforcement) has created the most controversial and expensive change in safety codes in the history of code regulation. The technical and legal aspects of this new requirement are unparalleled. The following outline will educate you in the requirements and the solutions used to achieving safe electrical work practices.

1. Arc Flash Hazard Standards - History of the Issues Creating the Standard
 2. Arc Flash Hazard Federal Regulations.
 - A. The National Electrical Code (NFPA70 - 2008) - Section 110.16
 - B. The Employee Workplace (NFPA 70E -2009)
 - C. IEEE 1584 - Guide for Performing Arc Flash Hazard Calculations.
 3. Liabilities and Scope of Requirements:
 - A. Contractor.
 - B. Original Equipment Manufacturer.
 - C. Employer
 4. Establish/Understand Boundaries and Hazard Categories.
 - A. Understanding the advantage of calculations (Arc Flash Study).
 - I. Software Solutions
 - B. Alternatives to Calculations - Use of the NFPA 70E Matrix
 5. Relating Boundaries to Personal Protective Equipment (PPE)
 - A. Emphasis on Selecting PPE per the 2009 70E Hazard Risk Category Table
 6. Reducing the Hazard Category thru the selective use of Overcurrent Devices.
 - A. Understanding the fuse/breaker affect on arc flash magnitude.
 - B. Adjusting the Circuit Breaker to reduce the arc flash energy.
 - C. Eliminating the arc flash with Current-Limiting Fuses.
 7. Labeling of Electrical Equipment.
 - A. Range of Equipment to be Labeled.
 - B. Required and Supplemental Label Data.
 8. Energized Work Permits.
 9. Selecting Personal Protective Equipment (PPE)
 - A. Daily Wear
 - B. Task Specific PPE
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