TOOLBOX TALK #21

DEVELOPING AN ELECTRICAL SAFETY PROGRAM

Every contractor should develop an electrical safety program that not only mitigates the hazards, but also provides the recommended best practices for working on and around electrical hazards. The program should use the National Fire Protection Association 70E standard to create solid electrical safety work and training best practices, as well as procedures to enhance worker safety. In fact, OSHA views the NFPA 70E standard as the primary consensus standard addressing electrical hazards. OSHA also uses the 70E standard to support citations for certain violations.

Your training program should focus on implementation of the NFPA 70E Hierarchy of Controls to mitigate electrical hazards. The hierarchy places priority on eliminating electrical hazards before electrical work begins. Elimination is accomplished by disconnecting the electrical equipment from all possible sources of energy and releasing any stored electrical or mechanical energy. Employees should confirm the equipment is de-energized by properly interrupting the load, visually verifying the disconnection of the circuit and using appropriate testing equipment to ensure deenerization.

When hazards cannot be eliminated, an effort should be made to substitute them for lesser ones. Employees working with these hazards should be properly trained on how to work around the hazards. This training should familiarize employees with all possible sources of energy and the organization's lockout/tagout policy.

When it becomes absolutely necessary to perform work on these hazards, the company should provide employees with proper tools, training and personal protective equipment. These tools and PPE need to be rated for the hazard. The employees need to perform regular maintenance on the tools and PPE; should anything become damaged, it should be replaced. PPE is selected based on the available incident energy, which is calculated based on the electrical installation. In cases in which all the information isn't available, tables and examples of how to determine or calculate incident energy are available in the 70E standard.

The available incident energy will help establish arc flash protection boundaries. These boundaries protect employees from unknowingly working near or walking through the general vicinity where electrical hazards exist. Arc flash boundaries prohibit unauthorized employees from accessing dangerous areas. The 70E standard also requires employers to document and implement an electrical safety program that directs employee activities in a manner appropriate for different voltages, energy levels and circuit conditions that may be encountered in the workplace.