Arc Flash Hazards Quiz 2

How important is it to determine your risk of an Arc Flash Hazard?

- OSHA (Occupational Safety and Health Administration) requires hazard analysis of electrical circuits.
- In 2009, at least one company was fined over $1 million dollars for using unsafe electrical equipment.

Question 1: In addition to hazard analysis, NFPA 70E requires some labeling. Which of the following is a new requirement in the 2009 Edition of NFPA 70E?

A. The contact information for the person who has custody of the arc flash analysis should be posted on the main switchboard
B. Electrical equipment only has to be labeled with: Warning-Arc Flash Danger, or
C. Most electrical equipment should be labeled with its potential incident energy or the required level of PPE.

An explanation of the new labeling requirements

- The 2009 edition of NFPA 70E requires labeling in Article 130.3(C).Field markings have to show the available incident energy or the required level of PPE to protect people from arc flash hazards.
- The prior edition only required a generic arc flash warning label similar to the requirements of the National Electrical Code.

Question 2: Which of the following best describes the difference between using the NFPA 70E Table Method versus using Arc Flash Calculations for arc hazard analysis?

A. Calculations are more accurate and many times allow lower PPE ratings than using the Table Method
B. Using the Table Method more often requires using a flash hood or sock hood compared to using calculations
C. Arc flash calculations have a higher initial cost, but permit worker efficiency and easier compliance with more reasonable PPE requirements, or
D. All of the above

There are differences between the Table Method and the Calculation Method:

- The Table Method contained in NFPA 70E uses voltage ratings and task descriptions to determine a Hazard Risk Category. It lists the required PPE for every task.
- The Calculation Method uses the IEEE 1584 method to determine the hazard of incident energy expressed in calories per square centimeter. This method is more accurate and can avoid over and under protecting.

Question 3: Which is an acceptable reason to postpone arc flash analysis?

A. No reported arc flash injuries at the facility
B. All loads are served through individual transformers rated less than 125 kVA, and no voltage exceeds 240
C. No OSHA inspections in recent years
D. If it's too expensive and complicated, or
E. None of the above

Explanation about the reasons to postpone an arc flash hazard analysis

- There are no valid reasons to postpone protecting workers from known electrical hazards such as arc flash. OSHA has urged more enforcement.
- The transformer and voltage exception recognizes that arc flash risk is minor in this particular circumstance. This permits safety resources to be used in a more efficient manner.

OSHA has taken more aggressive action

Dr. David Michaels, Assistant Secretary of Labor for OSHA from 2009 to 2017, stated, "This Administration is returning to the original intent of the OSHA Act, which is that it be a public health regulatory and enforcement agency... We are moving toward tougher citations and penalties."

Additional Resources

- Arc Flash Info Center
- Arc Flash articles, white papers & tech topics
- Fuse Control Program