



ENGINEERING SOLUTIONS

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ARC FLASH!

Many specific questions on arc flash have been received and answered during our recent training sessions for employees: Can't I just follow the tables in the NFPA 70E for my PPE requirements? Why is there a Hazard Category 2*? Do I need to wear my safety glasses under the face shield? Do I still have to wear my hard hat, if I'm inside an enclosed electrical room? Read the "Ask Us Anything" article on page 2 for a response for a question received electronically.

A training session on "Documenting Your Electrical Safety Program" is being planned for the first quarter of 2007. Please email me for if you are interested for the date and location.



Testing for Voltage...anything wrong with this picture?

The newsletter's Technical Corner focuses on multiple employer relationships and who is responsible for employees' Electrical Safety Program. You hired the electrical subcontractor. You don't have any liability, do you? Hmm...what do you think?

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TECHNICAL CORNER— MULTIEMPLOYER RELATIONSHIPS

You're the facility manager. Your employees either don't have the time or possibly the expertise to insert an individual starter bucket in a Motor Control Center. You've hired a reputable outside electrical contractor to perform the work. You're not responsible for a written document for electrical safety, are you?

You would be wrong if you felt you had no responsibility. The NFPA 70E standard indicates whenever "outside personnel" are to be engaged in work activities on the employer's property, both the on-site employer and the outside contractor shall inform each other of existing hazards, personal protective equipment requirements, clothing requirements, the safe work practice procedures and emergency/evacuation procedures applicable to the work to be performed. Also, the NFPA 70E standard mandates that a coordination meeting and sharing of each other's Electrical Safety Program is mandated.

Your Electrical Safety Program needs to document your PPE requirements, shock and arc flash boundaries, and the voltages for your facility. Your coordination meeting with your contractor should also discuss when it's permissible to work on equipment energized and what associated procedures need to be followed.

ASK US ANYTHING

Question: "Our question is a two part question: Why do we need to do an arc flash study. Can't we just follow Table 130.7©(9)(a) in NFPA 70E standard. And secondly, why is there a Category 2* in the table for PPE protection."

Answer: Good question. According to 130.3 in the NFPA 70E, a flash hazard analysis shall be done in order to protect personnel from the possibility of being injured by an arc flash. The analysis shall determine the Flash Protection Boundary and the PPE that people within the Flash Protection boundary must use. An alternative for performing an arc flash study, the PPE requirements of Table 130.7©(9) shall be permitted to be used in lieu of an actual flash hazard analysis. However, this table is based on assumptions of fault currents and clearing times of protective devices and is not recommended. It is recommended to follow this table until an actual Flash Hazard is completed.

The second part of this question, referring to cat 2*, was developed by the 70E Technical committee recognizing that the tasks identified in the table with the 2* have a higher risk of arc flash and a double layer switching hood, as well as hearing protection, are required.



Working De-Energized

"Scientists dream about doing great things. Engineers do them."



ELECTRICIAN KILLED

A worker severely burned in an electrical accident this August at the construction site for the new Wal-Mart Supercenter in Bloomington died Friday.

Scott Shelton, of Anderson, passed away at about 10:45 p.m. Friday in the burn center at Wishard Memorial Hospital after his heart stopped, according to hospital officials and family members. He was unable to be resuscitated.

Shelton, 35, who received burns covering 95 percent of his body, had been in an induced coma at the Wishard burn center. He was moved briefly to the Riley Hospital for Children in an effort to stabilize him in September.

Shelton, an employee of Electromation Inc., in Muncie, was injured Aug. 26 after an electrical panel he and two other men were working on was charged with 12,000 volts of electricity and shorted. The resulting electrical arc – which extended six to eight feet – sparked a fire in the service room, lighting all three workers on fire.

Larry Shelton, Scott's father, declined to speak in detail about his son's death but said the family will be making funeral arrangements in Alabama, where he is from originally.

"He was a wonderful man and an even better daddy to his daughter, Mallory," family friend Janell Kerr said, adding that the accident and subsequent medical care Shelton needed had been very stressful on the family and his fiancée, Tammy Sniegowski.

The Shelton family is in the process of preparing a lawsuit against several of the companies involved in the incident, including Wal-Mart Stores Inc., with their attorney William Emerick, who said they would be filing it soon.

Another injured worker, Stephen Abbott, and his family have already filed a lawsuit in Monroe County, citing safety negligence on the part of Wal-Mart Stores Inc., the LaSalle Group Inc., which was the general contractor at the site, and Duke Energy. In addition, Abbott's lawsuit said that prior to the day of the accident, the electricians had worked on the electrical units only when the power was off.

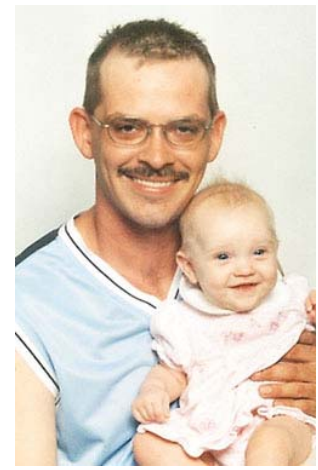
The Occupational Safety & Health Administration is currently investigating the incident as well.

Robert Eury, 29, of Bloomington, and Abbott, 27, of Otterbein, Ind., who were both burned in the accident along with Shelton, remained in serious but stable condition at Wishard Hospital on Sunday night.

Shelton is survived by his parents, Larry and Janet Shelton, of Alabama; his fiancée, Tammy Sniegowski, and a seven-month-old daughter, Mallory Shelton, both of Anderson; and several siblings, cousins and other extended family members in both Tennessee and Alabama.

Worker injured at Wal-Mart site dies in hospital

Two other men still remain in serious condition



Scott Shelton, seen here with his daughter Mallory Shelton, died at Wishard Memorial Hospital Friday.

Courtesy photo

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ELECTRICAL QUESTIONS

1. True or False: Hearing protection is not required for Hazard/Risk category 2 and above.
2. True or False: The National Electric Code (NFPA 70 Standard) is utilized for Electrical Safety in the Workplace and the NFPA 70E standard is used for design and installation of electrical equipment.
3. True or False: Opening a circuit breaker or disconnect switch for a motor is considered an electrically safe work condition in it by itself.
4. True or False: The employer is responsible for providing safety related work practices and shall train the employees who shall implement them.
5. What is the Flash Protection boundary for a 480 volt circuit (50,000 amps short circuit duty and a 0.1 second interrupting time)?
 - a. 36 inches
 - b. 48 inches
 - c. 60 inches
 - d. 72 inches
5. What does HVAC stand for? (Alright, that's an easy one).

Free polo shirt for those who answer the five questions above correctly. Email your submittals to JDeane@ktrassociates.com.

Place Stamp Here

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