



SAFETY UNLIMITED, INC.

# Weekly Safety Meeting

## Electrical Safety – Arc Flash

Simply put, an arc flash is a phenomenon where a flashover of electric current leaves its intended path and travels through the air from one conductor to another, or to ground. The results are often violent and when a human is in close proximity to the arc flash, serious injury and even death can occur.

According to NIOSH, an estimated five to 10 arc flash incidents occur with electrical equipment each day in the United States.

### **Arc Flash Can Be Caused by Many Things Including:**

- Dust;
- Dropping tools;
- Accidental touching;
- Condensation;
- Material failure;
- Corrosion; or
- Faulty Installation.

### **Three Factors Determine the Severity of an Arc Flash Injury:**

- Proximity of the worker to the hazard;
- Temperature; and
- Time for circuit to break.

Because of the violent nature of an arc flash exposure, when an employee is injured, the injury is serious – even resulting in death. It's not uncommon for an injured employee to never regain his or her past quality of life.

Results from an Arc Flash:

- Burns (Non-FR clothing can burn onto skin);
- Fire (could spread rapidly through building);
- Flying objects (often molten metal);
- Blast pressure (upwards of 2,000 lbs. / sq.ft);
- Sound Blast (noise can reach 140 dB – loud as a gun); and
- Heat (upwards of 35,000 degrees F).

## **Ways to Protect Workers:**

There exists a number of ways to protect workers from the threat of electrical hazards. Some of the methods are for the protection of qualified employees doing work on electrical circuits and other methods are geared towards non-qualified employees who work nearby energized equipment.

Here are a few of the protective methods:

- De-energize the circuit;
- Work practices;
- Insulation;
- Guarding;
- Barricades;
- Ground fault circuit Interrupters (GFCI); or
- Grounding (secondary protection).

## **Working on Energized Equipment:**

If it has been determined that deenergizing a circuit is not feasible and the employee must work “hot,” the employer shall develop and enforce safety-related work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts.

The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

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These safety related work practices could include:

- Energized electrical work permit;
- Personal protective equipment;
- Insulated tools;
- Written safety program; and
- Job briefing.

## **Summary:**

As an employee, you have certain personal responsibilities while working in dangerous environments. Employees must wear the assigned proper personal protective equipment (PPE), use insulated tools, and take other safety related precautions. This includes not working on or near the circuit unless you are a “qualified” and trained worker.

**DISCONNECT FIRST...OR BE NEXT FOR THE HEARSE!!**

### Safety Meeting Sign-In Sheet

<i>Supervisor:</i>	<i>Subject:</i>
<i>Location:</i>	<i>Date:</i>
<i>Conducted By:</i>	<i>Trainer Signature:</i>

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests