

According to OSHA, one person in the U.S. is electrocuted at the workplace everyday. These deaths, and many more grave injuries, are frequently caused by Arc Flash accidents. We all understand the danger of electrical shocks. But did you know that electrical arc flashes generated in faulted, industrial equipment can result in electrical "explosions" that burn four times hotter than the sun? They can throw a man onto his back, and fatally burn bystanders standing up to 8' away.

Fortunately, electrical standards are beginning to address this problem. The 2002 NEC requires all electrical equipment that is worked live to be labeled with a warning of potential arc flash hazard. Also NFPA 70E, Electrical Safety Requirements for Employee Workplaces, will soon be the basis of new OSHA regulations. This standard helps engineers establish safe work distances and select proper protective clothing for the qualified persons who must work on energized electrical equipment.

If you are responsible for the safety of your facility's electricians or your plant's running time, you may want to consider addressing this issue. You can do much to reduce the risk of an arc flash accident at your site.

First, you might incorporate a policy that requires any electrical equipment 50 volts or higher to be de-energized before it is worked on.

Second, you can work with an engineer who can help you calculate the arc flash potential of your electrical system. This information can be used to develop safe work practices and equipment labeling. This labeling should identify the appropriate hazard level and the heat-resistant safety equipment that allows much of your electrical system to be worked "live". Your engineer can also help you identify methods to reduce the arc flash energy in your system.

Finally, if you are building a new facility, be sure to incorporate design practices that minimize the arc flash energy available in your system. Solutions include the use of small transformers and current-limiting fuses to reduce the potential arc flash energy of the power system.

Reducing this hazard means fewer accidents, increased plant operating time, and a safer workplace.

### For more information...

contact Doug Post at (800) 827-1662, ext. 159 or e-mail him at [doug.post@interstates.com](mailto:doug.post@interstates.com). Or you can learn more at the website links below:

#### Arc Flash

<http://grouper.ieee.org/groups/1584/letter.html>  
<http://www.bussmann.com/services/safetybasics>  
<http://www.mikeholt.com/newsletters/110.16.pdf>

#### Electrical Safety

<http://www.osha.gov>  
<http://www.nfpa.org>  
<http://www.ieee.org> (go to the ANSI area)  
<http://www.electricnet.com>  
<http://www.bussmann.com/services/safetybasics>

#### Safety Clothing and Equipment (PPE)

<http://www.ago1.com>  
<http://www.nascoinc.com>  
<http://www.omarksafety.com>  
<http://www.oberoncompany.com>  
<http://www.safepro.com>  
<http://www.steelgripinc.com>  
<http://www.bulwark.com>  
<http://www.insulatedtools.com>