

## INSIDE

### Page 2

Anatomy Of  
Arc Flash

EPG Service  
School A Success

### Page 3

NEC Article 409 -  
The Basics (cont.)

Safety Focus (cont.)

In Memory Of  
Charlie Howard

### Page 4

Product Highlights

Upcoming Events

*Watch for 2007  
EPG Service  
School dates at  
[www.epgco.com](http://www.epgco.com)  
or call EPG*

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## NEC Article 409 - The Basics

When the 2005 Edition of the National Electrical Code® (NEC®) was released in January of 2005, an addition to the code known as Article 409 went into effect. This article provided new minimum requirements for the design, installation and inspection of Industrial Control Panels (ICPs). It was no surprise that we at EPG took notice and immediately began to identify how this would impact our design and manufacturing process and what affects these new requirements would have on our current and future customers. We wanted to be certain we were providing reliable, high quality and most importantly, safe equipment.

We will try to provide you with a basic understanding of this new article and encourage you to educate yourselves to insure that your facility is in compliance and operating under the safest conditions

possible.

New Article 409 states "This article covers industrial control panels intended for general use and operating at 600V or less." One significant item to note is how the control panel is to be marked for its short circuit current rating (SCCR). In the past, control panels were rated based on their individual withstand potential. Now, the SCCR must be based on the highest withstand potential, taking into account the potential load of the entire circuit ahead of the panel itself.



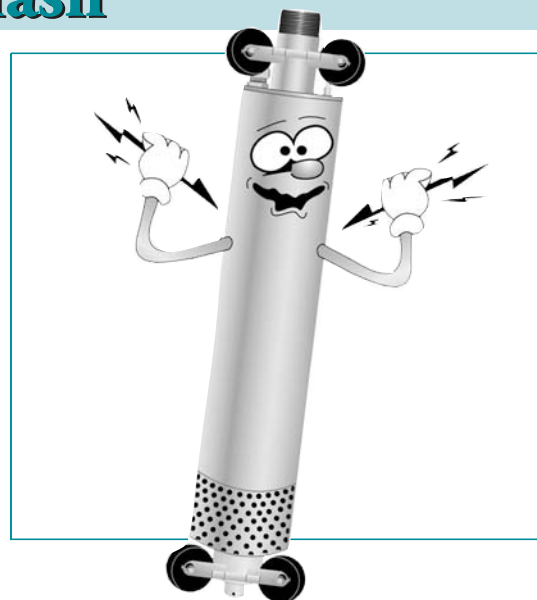
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## Safety Focus - Arc Flash

Throughout our industry, both in manufacturing, installation and operation, safety is a major concern. One of the greatest hazards facing those in the field today is Arc Flash. Arc Flash is basically an explosion of energy often times resulting in severe injury and damage to equipment. The costs of medical treatment and equipment repair or replacement due to these incidents can be great. It is more important than ever that Employers be diligent in their effort to provide a safe working environment.

Both OSHA and NFPA codes outline regulations and requirements for employers to assist them in compliance and to protect employees from hazards such as Arc Flash.

(continued on page 3)



If you would like more information about EPG products, services and/or capabilities, please call us at 1-800-443-7426, visit our web site at [www.epgco.com](http://www.epgco.com) or e-mail us at [info1@epgco.com](mailto:info1@epgco.com).

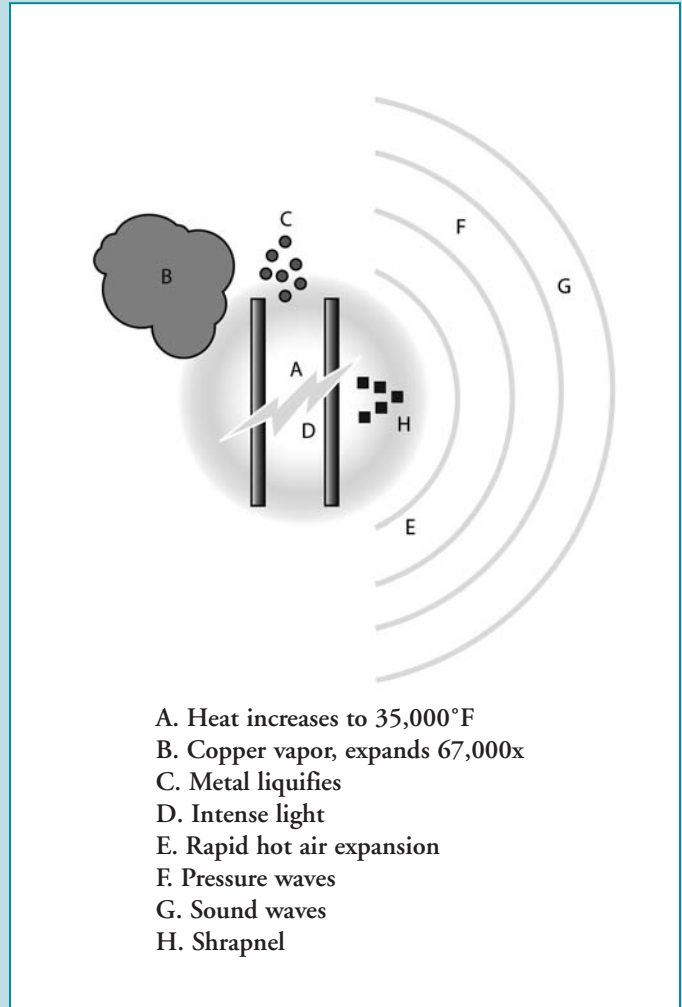
# Anatomy Of Arc Flash

Arc Flash can be described as an immediate release of energy or more simply a “ball of fire”. The amount of energy released during a flash can vary but in most cases will be extremely destructive to the equipment and physically harmful to those personnel nearby. The resulting injuries from such extremes can be quite serious and possibly life threatening.

- Intense heat can severely burn skin or ignite clothing resulting in additional burns.
- The intense heat can also liquify metal and the blast can launch this molten metal into the air causing physical trauma.
- Vaporized copper and other materials create a “toxic smoke” contaminating the air and potentially being inhaled by those in its path.
- Intense light and sound waves can damage vision and hearing.
- An enormous pressure wave has the ability to rupture ear drums or collapse lungs. The force can also be great enough to knock a person down or throw them into nearby equipment or structures causing additional injury.
- The explosion can be strong enough to cause shrapnel to project away from the source and inflict injuries to anyone close by.

Prevention of Arc Flash depends on proper procedures, maintenance and training. Here are several general causes of Arc flash to be aware of:

- Contact with energized parts
- Disregarding proper procedures
- Corrosion
- Incorrect SCCR (short circuit current rating)
- Wiring errors
- Insulation breakdown



## EPG Service School '06 Was A Success!

Once again EPG Companies Inc. offered our Service School to those involved with the design, maintenance and/or installation of Liquid or Gas Handling Systems, Remediation Systems and/or SCADA and Data Acquisition Systems. These SWANA\* accredited classes provided an opportunity to develop peoples knowledge, expertise and troubleshooting skills while working in the landfill industry. It was a great opportunity to learn more about the equipment manufactured by EPG Companies Inc.. Our schools included classroom discussion, presentations, hands-on training, meals, lodging, applicable test equipment, instruction manuals and SWANA continuing education credits (CEUs). Thanks to all those who attended!

Upcoming Service School Dates:  
TBD - March 2007: Pumps & Controls Service School  
TBD - March 2007: Advanced Service School

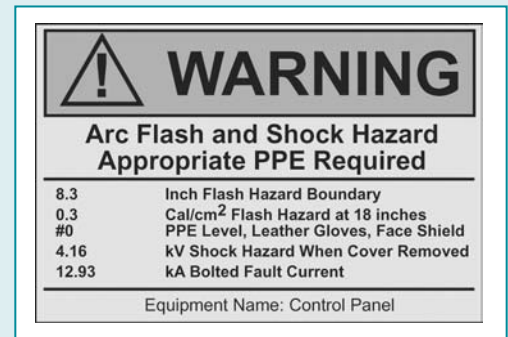


**What is EPG doing to comply?** All of EPGs UL 508A control panels will be marked with the Short Circuit Current Rating (SCCR). This information will be found on the control panel's serial number label. This will indicate to the owner and/or installer how much short circuit current the panel power components can withstand. It is the responsibility of the owner and/or installer to understand the proper level of Personal Protective Equipment(PPE) required to work with or service control panels under powered conditions. It is also the responsibility of the owner and/or installer to label all equipment with these requirements.

**What solutions can EPG provide?** EPG can evaluate each installation individually and recommend solutions to improve safety at your site.

**Key Points:**

- The ultimate goal of Article 409 is to facilitate the safe and proper installation and use of Industrial Control Panels.
- The objective is to prevent injury due to electrocution and Arc Flash.
- The manufacturer is required to mark the equipment with the proper short circuit current rating (SCCR).
- It is the responsibility of the owner/installer to label the equipment to indicate proper personal protective equipment (PPE).



**Safety Focus - Arc Flash (continued):**

Specifically, OSHA regulations address the need to employ safety related work practices for prevention of electric shock and other injuries caused through both direct and indirect electrical contact.

The NFPA requirements identify actions that employers must engage in to reach compliance. These actions include safety programs, providing personal protective equipment(PPE), employee training, proper tools for working safely, warning labels and Arc Flash Hazard Analysis.

For more information regarding the dangers of Arc Flash, prevention of incidents and compliance visit the following websites:

[www.osha.gov](http://www.osha.gov) (OSHA code 29)

[www.nfpa.org](http://www.nfpa.org) (NFPA 70)

Questions? Give us a call at 1-800-443-7426 or email us at [info1@epgco.com](mailto:info1@epgco.com) or visit us at [www.epgco.com](http://www.epgco.com).

## In Memory Of Charlie Howard

Charles Howard, a design engineer for EPG Companies Inc., passed away June 15, 2006. EPG worked with Charlie for a dozen years as he built NBT using his expertise in telemetry and SCADA hardware and systems. In 2002, with an eye on the future, Charlie decided to merge NBT into EPG. As a design engineer, Charlie played a key role in helping EPG become a leader in providing control and communication products to the landfill and remediation industries.

So many of us were touched in some way by Charlie's dedicated service. We all will remember him for his gentle nature, sense of humor, and professional expertise.



**Charlie Howard**

If you knew Charlie and want to share a memory, please send it to [chmemories@epgco.com](mailto:chmemories@epgco.com) to be forwarded to his family and posted at [www.epgco.com](http://www.epgco.com).

# Product Highlights



**Electro Magnetic Flow Meter**

This Electro Magnetic Flow Meter accurately measures and totalizes the flow rate of conductive fluids. This full-bore, obstruction-less flow meter is available in sizes ranging from 1/2" to 48". The broad variety of liner, electrode and construction material combinations available ensure that this meter can be used in almost any industrial metering application. No moving parts assures you of reliable service throughout the life of the meter. It is available in both flange or wafer mounted models and can be installed with a remote or integrally mounted transmitter. A submersible, directly buriable sensor option is available as well as an explosion-proof transmitter design.



**Landfill Gas Flow Meter**

This Landfill Gas Flow Meter measures the mass flow rate of gases by the physical phenomenon of thermal dispersion. The meter is available in two configurations. It can either be inserted directly into the line (line size > 2") or can be provided integrally mounted in a spool piece. The ruggedized measuring element is fitted with a flow shield during manufacture. This shield enables the meter to accurately measure the flow of wet and/or dirty gases. The instrument is factory calibrated on the actual process gas permitting it to repeatedly measure very low flows as well as higher flows. It features multi-ranging capability, explosion-proof enclosures and multiple calibrations.

## EPG Upcoming Events

Wastecon 2006  
September 19-21  
Charlotte, North Carolina

EPG TRAINING '07  
Pumps & Controls Service School  
TBD - March 2007  
Maple Grove, Minnesota

EPG TRAINING '07  
Advanced Field Service School  
TBD - March 2007  
Maple Grove, Minnesota

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