CONNECTIONS

March, 2012

SAFETY MATTERS

Arc Flash: Danger at Work and at Home

In the past, if someone suffered burns in an electrical accident, people thought the burns were caused by the electrical shock passing through the body. Electrical shocks can cause burns. But research has shown that most burns from electrical accidents actually come from arc flash. According to the NFPA 70E-2004 standard, the majority of hospital admissions due to electrical accidents are from arc flash burns, not from electrical shocks.

What is Arc Flash?

Arc flash is a short circuit through air that flashes over from one exposed live conductor to another conductor or to ground. An arc flash occurs when an electrical path is broken in some way and the electricity jumps or "arcs" to a nearby grounded object. It is basically the same as lightning but can often be much more powerful and dangerous. It is usually caused by exposed wire where the rubber insulation has broken down or has been damaged in some way. It also commonly occurs when someone is working in or around a live, open electrical panel and accidently comes in contact with the exposed electrical circuit.

What Causes Arc Flash?

Arc flashes can be caused in a variety of ways:

- Just coming close to a high-amp source with a conductive object can cause the electricity to flash over.
- Dropping a tool or otherwise creating a spark can ignite an arc flash.
- Equipment failure due to use of substandard parts, improper installation, or even normal wear and tear.
- Breaks or gaps in insulation.
- Dust, corrosion or other impurities on the surface of the conductor.

What Kind of Injuries can Arc Flash Cause?

Injuries from arc flash accidents tend to be very severe. Even if the individual survives, he or she may face years of skin grafts and other medical treatment, and may never return to work or enjoy the same quality of life again.

And it's not just people who get hurt: equipment can be damaged, requiring repair or replacement, and possibly causing the line or even the entire plant to shut down for a period of time.

Injuries and property damage result from two types of hazards: arc flash and arc blast.

Arc Flash: Electric arcs produce intense heat, and can heat the air to temperatures as high as 35,000 degrees Fahrenheit. Fatal burns can occur when the victim is several feet from the arc. Serious burns and fatalities are not uncommon at a distance of 10 feet. An arc flash will also cause ignition of clothing which will only add to the severity of the skin burns. Arc flash can cause the following injuries:

- Skin burns by direct heat exposure
- Metal is vaporized at this temperature. Droplets of molten metal can be propelled over great distances, causing serious burns or igniting clothing.
- High-intensity flash can also cause damage to eyesight.

Arc Blast: A high-energy arcing fault can produce a considerable pressure wave and sound blast. The extreme heat (4 times hotter than the surface of the sun) from an arc flash instantly causes the air to expand as well as all conductive components inside the panel. The expansion of these components is roughly 67,000 times their original size. This causes the panel and everything around it to explode. The explosion is devastating to anyone or anything in the area. These explosions can even trigger an arc blasts in other nearby electrical panels creating an electrical panel explosion domino effect. In some cases, the pressure wave has sufficient energy to snap the heads of 3/8-inch steel bolts and to knock over construction walls. Moreover, it can send metal parts flying at speeds over 700 miles per hour. Arc blast can cause the following injuries:

- Loss of memory or brain function from concussion
- Hearing loss from ruptured eardrums (The sound associated with blast can exceed 160 db. The sound of jet engine only 145 db!)
- Shrapnel wounds from metal parts
- Other physical injuries from being blown off ladders, into walls, etc.

With the rising frequency of reported arc flash accidents, and the potential for serious injury or death, arc flash must be taken seriously. If you need to open an electric panel, stand off to the side, not directly in front of it. To increase safety throughout your workplace and at home, it is critical to learn and identify arc flash hazards, learn and follow safe work practices including the use of fire resistant clothing and gloves, and use labels and other awareness aids to keep the message in the forefront and reinforce the desired behavior. If you have any questions about arc flash, contact the Safety or Service Department.

STRATEGIC INITIATIVES

BUILD A SALES ORGANIZTION

UMC is focusing on three specific strategic objectives: Leverage our Innovation, Build a Sales Organization and Workforce Development. The objectives key in on UMC's strengths in these areas. This month's update focuses on our Building a Sales Force Objective.

The following is the latest update of progress toward building a focused sales strategy, targeting "like minded" clients who value our innovation and creative thinking that UMC brings to projects.

- Initiatives and action items:
  - Sales Process: In order to promote strategic selling, a University Mechanical Contractors, Inc. sales process has been developed and trained and is in the process of implementation initially with the service account executives. The process was developed and several training classes were held throughout 2011. The impetus in 2012 is to implement it on all prospective new clients and revise it for each client market segment.
  - Strategic Sales: Although we currently are having selective meetings for existing clients, until our sales process is in full swing, it would be premature to introduce a strategic sales training class. Classes for strategic sales will most likely commence later in 2012.
  - Client Relationship Management (CRM): The first step in moving towards a program for client relationship management has been completed. Outlook Business Contact Manager has been populated with most of UMC's client base as well as an abundance of potential clients. Although utilization has been limited at best, it is or can be made available for managing client accounts and contacts to all Management, Business Development and Service Sales.
  - The Business Development Team led by Ted Granston has re-instituted monthly meetings to communicate client, market and industry activity. During his 1st meeting he rolled out the Market Segment approach devised through UMC's relationship with MarketFitz, the company hired to assist us with our company marketing strategies. These market segments include: Healthcare, Life Science, Data Centers and Industrial (which includes the additional segments; Water/Wastewater, Manufacturers and Power).
  - MarketFitz is in the final stages of completing their input on our marketing and sales strategies. Once completed, we will launch our communication campaign for both employees and clients.

As we continue to develop our strategy, keep an eye out over the coming months to measure our progress.

LOOK WHAT'S HAPPENING

2012 EVENTS CALENDAR

AUGUST
Picnic
Saturday, 8/4
10am-2pm
Cottage Lake Park

SEPTEMBER
Golf Tournament
Sunday, 9/9
7:30am shotgun start
Harbour Pointe Golf Course

MCAWW Conference
Thursday, 9/27
WA State Convention Center

OCTOBER
Trick or Treat
Tuesday, 10/30
3pm-5pm
UMC

DECEMBER
Santa Party
Thursday, 12/13
5pm-7pm
UMC

JANUARY
Holiday Party
Saturday, 1/12/13
6pm-Midnight
Lynnwood Convention Center

YEARS OF SERVICE

15 Years:
Linda Weisberg (Apr)

5 Years:
Karen Langeberg (Mar)
Bruce Lincoln (Mar)
Dori Jenkins (Apr)
Steve Stamm (Apr)
Mary Bouck (Apr)

"HAPPY BIRTHDAY"

March
4 Scott Knecht
6 Bruce Lincoln
7 Ryan Hoggatt
8 Chris Bondelid
11 Max Harshman
12 Mike Harshman
14 Henry Biggs
14 Randall Gaylor
14 Dave Babington
15 Dori Jenkins
23 Krista Powers
23 Dave Johanson
27 Roberto Pascua
29 Bruce Dull
30 Mehrdad Rad
30 Stu Erholm
31 Maria Boyer
31 Ryan Lynn

April
1 Al Howell
5 Clarice Kellogg-Olson
9 Deborah Black
15 Judy Gaylor
15 Ed Toyoji
21 Daniel Vu
26 Brent Johnson
29 Joel Perez