Dear Utilities Branch Members:

As we prepare the second of what I hope to be many Utilities Branch newsletters, I scratched my thinning scalp trying to decide what I should be saying. After much contemplation, I decided to talk about two topics that I feel are most important to a fledgling organization such as ours. First and foremost is membership, followed by providing that membership with a value that keeps them, and you, wanting more.

David Driver, our Membership Chair, has been working diligently to formulate a message to new and prospective members. He has developed a nice description of why membership in the Utilities Branch is good for you. As he mentions in that message, “our current and potential members have facilities in just about every city, county, state and country around the globe. We are in public and private utilities and are contracted to public agencies. We design, build, operate and maintain every community’s vital infrastructure, keeping them powered up, connected and healthy 24 hours a day, all year long.” Members of this branch are far and wide. The biggest problem we have now is getting that message out to all potential members around the country and globe. That is where you, our current members, come in. The branch needs you to be our sentinels, leading the charge to new members. Each of us knows other SH&E professionals who work in this industry. This is an opportunity for you to sponsor new ASSE members, the Construction Practice Specialty and our branch. I recently reached out to the American Public Power Association and the American Water Works Association, expounding on the virtues of membership. Contact David for a copy of his new membership message. If you do not feel comfortable reaching out to your colleagues, feel free to send us distribution lists or contact information for those you think would be good candidates and helpful in building the Society.

This leads me to the second topic. An organization, such as ASSE and by extension the Utilities Branch, runs on volunteerism. It is what got me involved in the practice specialties in the first place. Membership should bring a value to each of us. As the Branch Chair and the rest of the committee that make up the leadership of this organization are not clairvoyant, we need your input. Mark Hanke has graciously volunteered his time to be the Newsletter Editor. It is his job to put together a publication that includes information that brings value to your everyday work, information that assists you with getting the job done. We are all interested in what Mark has done for his current and past employers to reduce accidents and control injuries, but we do not want to read about “the world according to Mark” in every issue. That is where you, our current members, come in. To make this publication and the Utilities Branch a value-added organization, we need your input. Let Mark, myself or any of the other branch committee members know what you want to read about in our yet-to-be-named newsletter and any other assistance we can provide you professionally to make your job better. Without that input, you will only get our version of safety in the utilities industry, not what is happening in the rest of our world, your world.

Stephen Brooks
Utilities Branch Chair
OSHA’s new rule on cranes and derricks in construction is a hot topic among utility and construction professionals. In fact, it has stirred much conversation on the Utilities Branch’s LinkedIn group.

Key points include operator qualification and certification, assembly and disassembly, pre-erection of tower crane parts, use of synthetic slings during assembly/disassembly, assessment of ground conditions and procedures for working in the vicinity of power lines.

If you have been working in the safety world for any length of time, you have likely run into the question, “Is any of our work covered by a construction standard?” In the author’s experience, OSHA has a broad interpretation of what constitutes “construction” so that it often includes work that some might consider maintenance activities. One interpretation letter explains how “maintenance activities” are often seen as construction.

The new rule became effective on November 9, 2010, but the phase-in period varies from one to four years.

Links:
- [ASSE Crane Safety Standards Package](http://www.asse.org/crane-safety/)

**Crane Video Posted on DOL Website**

An interview with Diane Lillicrap, whose son Steven was killed at age 21 in February 2009 while disassembling a crane, is available on the U.S. Department of Labor’s website here:

equipment, struck-by the equipment/load and falls.

- Significant requirements in this new rule include a pre-erection inspection of tower crane parts; use of synthetic slings in accordance with the manufacturer’s instructions during assembly/disassembly work; assessment of ground conditions; qualification or certification of crane operators; and procedures for working in the vicinity of power lines.

- This final standard is expected to prevent 22 fatalities and 175 non-fatal injuries each year.

- Several provisions have been modified from the proposed rule. For example:
  - Employers must comply with local and state operator licensing requirements, which meet the minimum criteria specified in §1926.1427.
  - Employers must pay for certification or qualification of their currently uncertified or unqualified operators.
  - Written certification tests may be administered in any language understood by the operator candidate.
  - When employers with employees qualified for power transmission and distribution are working in accordance with the power transmission and distribution standard (§1910.269), that employer will be considered in compliance with this final rule’s requirements for working around power lines.
  - Employers must use a qualified rigger for rigging operations during assembly/disassembly.
  - Employers must perform a pre-erection inspection of tower cranes.

- This final rule requires operators of most types of cranes to be qualified or certified under one of the options set forth in §1926.1427. Employers have up to four years to ensure that their operators are qualified or certified, unless they are operating in a state or city that has operator requirements.

- If a city or state has its own licensing or certification program, OSHA mandates compliance with that city or state’s requirements only if they meet the minimum criteria set forth in this rule at § 1926.1427.

- The certification requirements in the final rule are designed to work in conjunction with state and local laws.

- This final rule clarifies that employers must pay for all training required by the final rule and for certification of equipment operators employed as of the effective date of the rule.

- State plans must issue job safety and health standards that are “at least as effective as” comparable federal standards within six months of federal issuance. State plans also have the option to promulgate more stringent standards or standards covering hazards not addressed by federal standards.

**Name the Utilities Branch Newsletter!**

As a new branch, we have a lot of work to do to reach and serve our members. I am in charge of our newsletter, and I would like your ideas. For starters, we need to come up with a name for our newsletter so if you have a suggestion, please let me know.

I am also looking for more articles for the newsletter and here again, your ideas are priceless. If you have a story to share or would like us to address a specific topic, let me know. Send your ideas to mhanke@psgc-llc.com.

**9th Annual Safety-on-the-Job Kids’ Poster Contest**

ASSE’s 9th annual Safety-on-the-Job” poster contest for children ages 5 to 14 helps to educate the public on how to be safe at work and why. The contest runs through Feb. 14, 2011.

The contest is open not only to ASSE members’ children, grandchildren, nieces and nephews, but also to children of ASSE members’ coworkers and schools sponsored by ASSE members. To enter, a child must be sponsored by an ASSE member.
Children in five age groups, 1) 5-6; 2) 7-8; 3) 9-10; 4) 11-12; and 5) 13-14, are invited to create and submit posters no larger than 11 x 14 that best illustrate being safe at work. The first-place winner in each age group receives a $1,000 savings bond, the second-place winner receives a $500 savings bond, and the third- and fourth-place winners receive a $200 savings bond.

The poster contest winners will be announced the first week of March 2011. In addition to being featured on the North American Occupational Safety and Health (NAOSH) Week poster, the posters are displayed in Washington, DC, during NAOSH Week and at ASSE’s annual conference, to be held in June 2011 in Chicago. Lamar Advertising also donates billboards featuring the local winning posters in their hometowns.


OSHA to Issue Revised Standard for Power Generation & Transmission Industry

By Mark Hanke

In late 2009, OSHA reopened its proceedings and held public hearings on the revision to the 1910.269 standard on power generation and transmission. The abstract below from the U.S. Department of Labor (Spring 2010) provides a short summary of the proposed changes, including minimum approach distances, PPE and fall protection in aerial lifts.

“Electrical hazards are a major cause of occupational death in the U.S. The annual fatality rate for power line workers is about 50 deaths per 100,000 employees. The construction industry standard addressing the safety of these workers during the construction of electric power transmission and distribution lines is more than 35 years old.

“OSHA has developed a revision of this standard that will prevent many of these fatalities, add flexibility to the standard and update and streamline the standard. OSHA also intends to amend the corresponding standard for general industry so that requirements for work performed during the maintenance of electric power transmission and distribution installations are the same as those for similar work in construction.

“In addition, OSHA will revise a few miscellaneous general industry requirements primarily affecting electric transmission and distribution work, including provisions on electrical protective equipment and foot protection. This rulemaking also addresses fall protection in aerial lifts for work on power generation, transmission and distribution installations. OSHA published a notice of public rulemaking on June 15, 2005. A public hearing was held from March 6 to 14, 2006.

“OSHA reopened the record to gather additional information on minimum approach distances for specific ranges of voltages. The record was reopened a second time to allow more time for comment and to gather information on minimum approach distances for all voltages and on the newly revised Institute of Electrical and Electronics Engineers consensus standard.

“A public hearing was held on October 28, 2009. The post-hearing comment period ended in February 2010. OSHA is currently developing a final rule.”

Give the Gift of ASSE Membership

Having a hard time thinking of what to get a friend or coworker for Christmas? Give the gift of ASSE membership—the gift that keeps on giving! The purchaser will get credit for sponsoring the member as well as receive a $25 ASSE gift certificate.

Click here for the Gift of Membership Order Form.
Avoid Devastating Electrical Arc Flash Accidents

By Joseph Weigel

Five to ten times per day, a worker in the U.S. is severely injured or killed in an electrical arc flash accident. Other electrical incidents can also injure workers and typically involve accidental contacts with energized parts that result in shock and electrocution. The injuries and fatalities that result from these accidents are always devastating to the workers and their families. Additionally, the financial consequences of such events can be very damaging to the company.

There are important steps that companies can take to reduce the occurrence of electrical accidents and better protect the worker and the employer from the physical, financial and statutory consequences of electrical accidents. Following are nine steps for reducing arc flash risk. Several steps are required as part of the National Fire Protection Association (NFPA), in its regulation 70E 2009, which provides a detailed reference for facilities to meet the requirements of electrical workplace safety. Additional steps are recommended and considered best practices for improving overall safety within a facility.

Clearly, the fundamental requirement for electrical safety is always to place electrical equipment in an electrically safe condition whenever possible through a proper lockout/tagout procedure. NFPA 70E 2009 provides additional best practices for electrical safety, and these are recognized and enforced by OSHA.

NFPA Requirements

Establish an electrical safety program with clearly defined responsibilities. This is a written document created by the employer that covers all areas of the company's electrical safety policies and includes such things as lockout/tagout procedures, internal safety policies and responsibilities for electrical safety.

Conduct an electrical system analysis to determine the degree of arc flash hazard. This is an electrical system engineering study that is performed by engineers familiar with the power distribution and control equipment and the calculation methods required. The arc flash analysis will determine, among other things, the incident energy potential of each piece of electrical distribution equipment in the facility. This incident energy potential will define the hazard/risk category of PPE that the employee is required to wear while performing any work when energized parts are exposed. The methodology for conducting these arc flash analyses is outlined in IEEE 1584 Guide for Performing Arc-Flash Hazard Calculations (http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=1043929).

Conduct safety training for all workers. NFPA 70E defines a qualified person as “one who has skills and knowledge related to the construction and operation of the electrical equipment and systems and has received safety training to recognize and avoid the hazards involved.” This training requirement means that the employee must have received safety training specific to the hazards of arc flash, arc blast, shock and electrocution. Electrical workers are not considered to be qualified by OSHA until they have received this specific training.

Ensure there is adequate personal protective clothing and equipment on hand. Employees working in areas where there are potential electrical hazards shall be provided with electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed. This can include a fire-resistant shirt, pants or coveralls or a multilayer flash suit.

Ensure the proper tools are on hand for safe electrical work. In addition to PPE, the standards require the employer to furnish other tools for safe electrical work. This includes insulated voltage-rated hand tools and insulated voltage-sensing devices that are properly rated for the voltage application of the equipment to be tested.

Apply warning labels to all equipment. Currently, NFPA 70 dated 2008 (National Electric Code) states in article 110.16, “Flash Protection. Electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket

November 2010
enclosures and motor control centers that are in other than dwelling occupancies and are likely to require examination, adjustment, servicing or maintenance while energized shall be field-marked to warn qualified persons of potential electric arc flash hazards. The marking shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing or maintenance of the equipment.”

The current National Electrical Code (NEC) requirement for application of hazard warning labels on electrical equipment, NEC 2008, does not require that the specific information, such as the PPE Hazard/Risk Category, incident energy, boundary distances and other data that would be provided by the arc flash hazard analysis, be included on the label. However, the current NFPA 70E 2009, in article 130.3(C) has elevated the labeling requirement by stating “equipment shall be field marked with a label containing either the incident energy or required level of PPE.”

**Additional Best Practices**

**Appoint an electrical safety program manager.** Identify an individual from the organization that has vast knowledge and experience within the electrical industry. This should be a well organized, responsible individual who will take the position seriously. Having a single individual who is familiar with electrical code requirements and other safety issues will pay off.

**Maintain all electrical distribution system components.** All electrical distribution systems contain active components, such as fuses, circuit breakers and protective relays, that help protect the system in the event an electrical fault occurs. These components, called over-current protective devices, have a critical role in protecting the system, but are also crucial when it comes to protecting workers from the hazards of arc flash and arc blast. Modern, properly adjusted over-current protective devices that have been well maintained are able to detect an arcing condition almost instantaneously and clear the fault quickly. This always results in significantly reducing the amount of incident energy that is released. Many existing electrical distribution systems have old components that have not been well maintained over long periods of time.

In actual field testing of these devices, it is often apparent that their ability to react to an arcing event is much slower than would be the case with a modern, well-maintained device. Unless the protective device optimally reduces the time to clear the fault, the hazard to a worker standing within the flash protection boundary can dramatically increase. In the past, attention to maintenance and condition of these devices in many facilities has not been a primary concern for most facility owners, as in many cases it was not clearly understood that poor condition or inadequate maintenance of the devices presents an elevated safety hazard for workers. With the current focus on workplace hazards and electrical safety, companies are more vigilant when it comes to the condition and maintenance of its electrical system. This requirement for maintenance of electrical distribution equipment has also been incorporated in NFPA 70E in 2009.

**Maintain and update electrical distribution documentation.** Electrical distribution system documentation is another important area that has not been well managed in many facilities. Documents, such as the electrical one-line diagram (essential to safety when performing the lockout/tagout process), short circuit and coordination studies and other critical documents, often are not well maintained. When system components change due to revisions or facility expansions, this documentation is often not updated to reflect these changes. Lack of attention to documentation management makes the cost and work scope of providing accurate arc flash hazard analysis much greater. Since these documents are such a critical part of electrically safe work practices, lack of attention creates additional legal liability if an accident occurs.

Joseph Weigel is a product manager for Square D Services marketing. He has been involved in the development of the arc flash safety program for Schneider Electric to educate customers on emerging arc flash safety standards. He is also a member of the National Fire Protection Association (NFPA) and the Institute of Electrical and Electronics Engineers, Inc. (IEEE).
Mark Your Calendars!

Registration for ASSE’s annual Professional Development Conference & Exposition opens December 15, 2010.

The conference will commemorate the Society’s 100-year anniversary in 2011, and the conference theme will be “Your Safety Is Our Business. Your Future Is Our Mission.” The Society will deliver a technical program that reflects the breadth and depth of the profession and addresses the professional development needs of SH&E professionals.

For more information, visit http://www.asse.org/education/safety2011-teaser.php.

LinkedIn Discussion on CUSP

The following thread is excerpted from a recent discussion on the Utility Branch’s LinkedIn group page.

Q: Is anyone aware of the Certified Utility Safety Professional (CUSP) certification? Who is the certifying organization, and is this certification worth pursuing?

A: I sat for the initial CUSP exam in May of this year (and also took the two-day prep class prior to the exam, which I recommend). The certification was conceived and developed by a group involved with incident prevention. They started the Utility Safety and Ops Network (USOLN), which is the sponsoring organization for the CUSP certification.

The USOLN website includes an informative pamphlet about the exam and prep process. The credential was created to answer a perceived need in our industry, as there are few, if any, types of nationally recognized certifications that recognize the uniqueness of our work and the knowledge and skill set required for it. Because it is so new and so early in the process, it is impossible to predict how the credential will eventually be perceived and accepted in our industry. My personal belief, however, is that it is much-needed and will become a great asset to safety professionals in our field.

A: The National Safety Council (NSC) also has a Certified Utility Safety Administrator (CUSA) certification. It has been around for about 15 years.

A: It is my understanding that NSC discontinued offering the CUSA certification a year or two ago.

A: You are correct. When NSC published the notice, they stated that they may restore the certification with new parameters in the future.

A: One reason why USOLN was formed and the CUSP was developed was because of the void left when NSC discontinued the CUSA. I have had no exposure to the CUSA process, but my understanding from talking to those who have is that the CUSP is more specific to our work and more comprehensive. This is not to disparage the CUSA program, just to say that USOLN wanted to go beyond what it could offer and provide a suitable credential for us. ANSI certification of the exam and the credential are in process.

Safety from the Ground Up

By Greg Haren

From my personal experience, people are more willing to participate in something that they believe in, as opposed to a program that is perceived as just another requirement. This holds true with my children; if I tell them they have to clean their room, they get the job done, but they do not do a good job and give half-hearted effort. However, when my kids take pride in having a clean room and want to do a good job, their room is spotless.

This way of thinking is also true for employees with regards to safety at the workplace. When employees go through their safety checklist only because it is required by management, they are probably just going through the motions. Conversely, employees who truly believe a checklist will keep them safe will thoroughly review their
checklist, and sometimes doublecheck it, to ensure they got it right.

Employee-driven safety programs have been proven to work best. Management should have employees involved in the safety process. Guidelines and rules always need to be in place, but you can have employees help create the rules.

In addition, a commitment to safety is necessary from management. It is hard for workers at a jobsite to execute safe work practices when they were not properly taught the rules and made aware of the severity of an improper action. Great examples of companies that demonstrate these qualities are Daveer Electric and Mechanical Contracting, Inc. in Pacific, MO, All-Brite Electric, Inc. in West Haven, CT, and IES Commercial, Inc. in Littleton, CO. These three companies were winners of the IEC-CNA Safety Award in 2009.

These companies “get it,” they know what it takes to keep their employees safe and go above and beyond what OSHA requires. I encourage all companies that have a superb safety program to apply for the Independent Electrical Contractors (IEC)-CNA Safety Award. It is a recognition program for companies that excel beyond OSHA’s recordable incident rates.

In addition to recognizing safe companies, IEC also helps inform them of ways to keep employees safe through the IEC-OSHA Alliance. As a result of the alliance, IEC and OSHA work together to keep members informed of the latest regulations and other information to promote safety. However, under the new administration, increased emphasis is now being put on OSHA enforcement as opposed to their cooperative programs.

Recently, IEC spoke at an “OSHA Listens” forum about the benefits to cooperative programs. Hopefully, OSHA will see the light and realize my original point: employees are more successful when they believe in what they are doing. While enforcement is necessary for the companies that refuse to protect their workers, funding is equally needed for cooperative programs that support companies that actively participate in safety at all levels.

Before anything else, management’s focus should be on keeping employees safe. Every worker has the right to return home from work the same way they left.

Greg Haren is IEC’s 2010 national president. He serves as chair to the Board of Directors, House of Delegates and Executive Committee. In addition to his IEC leadership, Haren has more than 25 years’ experience in the electrical industry. He is also CEO of Enertech Electrical, one of the founding member companies of IEC’s Western Reserve chapter.

This article is from the May/June 2010 issue of Insights magazine. It is reprinted with the permission of Independent Electrical Contractors, Inc. (IEC). For more information on Insights, please visit IEC’s website at http://www.ieci.org.