I have been sitting here in front of my computer staring at a blank page trying to decide what should be included in this message, and I am coming up short. For the past several issues of this newsletter, I have stressed the importance of the Utilities Branch and how we could become the largest practice specialty if all ASSE members who worked in the utilities industry, or support the industry as a contractor, joined our merry band. So I will not say too much more on that topic other than David Driver, our Membership Chair, is working on a membership drive; our goal is to exceed 500 members this fiscal year.

My son is in a career crisis, as are many of our children in their early 20s who are seeking a new job and/or career in this day and age. He decided years ago not to follow his “dear old dad” into the safety profession. He wants to be in law enforcement but has become a salesman to pay the bills. The sales thing is hopefully a means to an end. Unfortunately, jobs in the public sector in California, and I assume the rest of the country, including law enforcement, are tough to find due to the current economic situation. At least he has a plan. He is on the list for a slot in the California Highway Patrol’s Academy, but until the state has a budget and there is enough funding for future classes, he bides his time and pays the bills.

The key is that he has a plan and is working to implement it. Over the years, his plan has been revised quite a few times, as all plans must be flexible to work over the long haul. The Advisory Committee will be working on our strategic plan this year to help us stay focused on our near goal but to point us onward into the future as well.

As mentioned, our short-term goal is increasing membership, becoming a full-fledged practice specialty and providing a newsletter with value to our membership. In the long-term, we need to determine what we can do to add value to branch membership so you will want to stay in our group. Over this next year, the Advisory Committee will be working on a multiyear strategic plan to give us focus. Three tasks I want to see are:

- Steadily increasing membership with high retention.
- A newsletter that addresses not only issues common to all utilities, but regular specific sections dedicated to the many industries that make up our group—construction, water, wastewater, power (generation and transmission), telecommunications (cellular and land-based) and contracted engineer and labor/plant operators.
- Learning opportunities, including webinars and tracks at ASSE’s annual Professional Development Conference.

If you would like to add to this list or volunteer to be a part of the Advisory Committee, e-mail or call me at (415) 550-3581.

On a different note, those of us who attended Safety 2011 celebrating ASSE’s 100th anniversary had a great time. The vendor exhibition was extensive, and there were a multitude of technical sessions to meet everyone’s needs. And, the after-hours activities were fabulous. I was told that this conference had the greatest attendance of any previous event, exceeding 4,000 attendees. Congratulations, ASSE!

I would like to congratulate David Driver, Membership Chair, for receiving the Utilities Branch Significant Contributor Award for his dedication and contributions to the Utilities Branch this past year. Without his time and efforts, as well as the rest of the Advisory Committee, the Utilities Branch would not be well on its way to becoming a practice specialty. I also want to extend a big thank you to Tim Fisher, Krista Sonneson and the rest of the ASSE staff for their endless support.

Lastly, I would like to thank each and every Utilities Branch member. Without you, we would not be where we are today, nor would we get to where we want to be in the next year. Thank you for your continued membership and support. I hope to meet you next year in Denver.
Welcome New Members!

We want to thank everyone who has remained a loyal member of the Utilities Branch and welcome the following members who recently joined. We are currently at 399 members and growing. If you have any colleagues who might be interested in joining the branch, please contact Krista Sonneson to request an information packet. If you know anyone who might be interested in joining ASSE, please contact customer service.

Terry Adams
Robert Aenchbacher
Scott Alcantara, South Feather Water & Power Agency
Arturo Alejandro
Alvin Alfiansyah, Chevron Indonesia Company
Frank Armstrong, Houck Group
Kirk Austin
Christopher Averette, CWA Management & Consulting
John Bannen, Severn Trent Services
Jonathan Bechdel
Stephen Becker
Paul Belair
William Bennett
Dean Bernal
Lawrence Bishop, Zenith Insurance Company
Charles Black
Robert Blair
Roger Blank, Pacificorp
Dominic Bosi
Lee Boulanger
Michael Brantmeier, Fluor Corporation
Rickey Bridges, Owens Corning
Michael Bristow, Bureau of Reclamation
Darryl Brooks
Mark Brothers
James Brown, Regulatory Risk Services
Michael Buckingha, Tri-Technic Incorporated
Dennis Burks
Tom Burmeister
Gregory Busby
Ronald Caccamo, Old National Insurance
Derek Carson, American Electric Power
Jose Charles
Laurence Charlton
Don Cheramie, Safety Consulting Services LLC
Brian Cichetti, EE Cruz & Co.
Brian Clarke, Hoffman Construction
Michael Colantouno, EHS Resources LLC
Michael Coleman, N.A. Degerstrom, Inc.
George Courtemanche, ABB Inc.
Alvin Dame
Mark Danielson, JD Abrams, LP
Raymond Dauphinais, Keene State College
Edward Davis
Edward Davis, Wells Fargo Insurance Services
Kenneth Dean, Sheehan Pipe Line Construction
Joseph Del Greco
Walter Dietrich
Randy Dixon
William Donelan, Western Energy Services of Durango Inc.
Reed Engel, Western States Fire Protection
Dennis Enright
Joseph Fabiano, Joseph Fabiano H&S Inc.
Jeanne Fallon-Carine, GE Optimization and Controls
Nicholas Femal
Paul Fickenscher
Bobby Fitzgerald
David Ford, Shaw Nuclear Services
Eric Fullan, City of Portland Water Bureau
Hernando Garcia, Honeywell International
Deborah Garcia-Sanchez, DOE NNSA SSO
Angelo Giannakos
Robert Gilbert
J. Harrell, Safety Management Services
Christopher Helser
Kenton Heuertz, MidAmerican Energy Holdings Co.
Eric Johnson, URS Corporation
Nic Jones
William Junkins
Marko Kaar, Zurich
Patricia Kagerer
Leslie Kantor, NW Natural
John Katchan
Stephen Kauffman, Henkels & McCoy
Shelly Killingsworth
Richard King, Black & Veatch—Centennial
John Kirkland
Monty Kirkwood
OSHA Crane & Derrick Standard: 
Effects on Electric Utilities

By Bill Paolello

On August 9, 2010, OSHA published its much anticipated final rule on Cranes and Derricks in Construction (1926 Subpart CC). Most provisions of this rule went into effect November 6, 2010, with the remaining to follow in one to four years.

Subpart CC is broad in scope: “This standard applies to power-operated equipment, when used in construction, that can hoist, lower and horizontally move a suspended load.” OSHA estimates that this rule, with its requirements for things, such as ground conditions, crane assembly/disassembly, power line safety and crane operator certification, will cover more than 250,000 workplaces and almost 5 million workers. The 273-page final rule can be downloaded at http://www.osha.gov.

A few areas are of special interest to electric utilities. Subpart CC has multiple exclusions, and two of them are specific to electric utilities. The first one is for all cranes and digger derricks used in the operation and maintenance of existing electric power lines. They would not fall under Subpart CC, rather they must comply with the general industry standard at 1910.269.

How can you tell if the activity you are involved in is maintenance or construction? CPL 02-01-038 Enforcement of the Electrical Power Generation, Transmission and Distribution Standard, lists some clear examples. The second exclusion is for digger derricks used to auger holes, set and remove poles from those holes, and when handling associated material to be installed on or removed from the poles. Additionally, the rule does not cover power shovels, excavators, wheel loaders, track loaders, backhoes, loader backhoes, including when this equipment is used to lift or suspend loads with chains, slings or other rigging. Vehicle-mounted aerial devices used for lifting personnel are excluded as well as self-propelled elevating work platforms. Powered industrial trucks are excluded, except when configured with a winch or hook to hoist and lower and horizontally move a suspended load.

The Edison Electric Institute (EEI) met with OSHA in November 2010 to discuss the electric industry’s main concerns over the requirements and coverage of Subpart CC. The meeting focused on three main issues:

1. The coverage of digger derricks when performing work covered by 29 CFR Part 1926, Subpart V, including the training and certification requirements for line truck operators; 
2. The requirement for voltage information to be supplied to contractors working near utility power lines within 48 hours following a request; and 
3. The implication that utilities would be required to deenergize power lines when work is performed by private crane contractors in the area of an energized line.

EEI has strong support for its position on this rule. Included in the meeting with OSHA were representatives from the International Brotherhood of Electrical Workers. EEI has also received written support from the National Rural Electric Association and the National Electrical Contractors Association.

In a recent development, OSHA has replied to EEI and requested an “Agreement in Principle” as they work toward a settlement of EEI’s lawsuit. To address the three main issues:

- OSHA will propose to amend Subpart CC to exempt digger derricks used by electric utilities and their contractors for any work that is covered by Subpart V.
- OSHA will develop a letter of interpretation to clarify that electric utilities will have “two working days” to provide requested voltage information to those crane contractors working near power lines rather than “48 hours.”
- OSHA will develop a letter of interpretation clearly stating that electric utilities are not required to de-energize power lines and equipment when contractors are working around energized lines.

Finally, know your state and local rules or the rules of the state/municipality in which you work. This new federal rule was clear in that it does not preempt state or local rules. However, states with approved state plans must adopt and enforce standards that are either identical to or at least as
effective as Subpart CC. If you operate a small business in a state plan state, you must determine if there are additional requirements. For more information, visit http://www.osha.gov/cranes-derricks/index.html.

Interview with Stephen Brooks

Please provide a brief description of your professional background and of your position as a safety officer for the San Francisco Public Utilities Commission.

When I began working, I had no background in safety. In fact, I had little to no knowledge of manufacturing processes. I earned my bachelor’s degree in Zoology from the University of California-Santa Barbara. I had imagined myself becoming a veterinarian but soon found out that I could not earn the grade point average needed for that career path. I enjoyed the sciences and stayed in Life Science, expecting to work in some capacity with the state or federal parks services, but back then, as now, we were in a recession and those jobs dried up and went away. I answered an advertisement from a headhunter for prospective employees with science backgrounds—no experience needed—for a career in loss prevention. I had no idea what that was either. My first interview hooked me, and I wanted that job. And, it paid better than the career in teaching that I was considering.

I started my career in December 1980 as a Loss Prevention Representative for Liberty Mutual Insurance Company in Los Angeles, CA. I left in 1992 after relocating to Phoenix, AZ and then to the San Francisco Bay Area as an Assistant Loss Prevention Manager and then as a Technical Consultant in San Bruno, CA. After less than a year with another insurance company, I began my public sector career working for a municipal self-insurance pool. While working there, I also began my five-year tenure as the newsletter editor for what is now ASSE’s Public Sector Practice Specialty. After a short stint working for the City of Oakland, I moved to the San Francisco Public Utilities Commission, a division of the City and County of San Francisco.

How are safety, health and environmental (SH&E) practices effectively managed among your agency’s 2,400 employees?

The health and safety program has a staff of 12 employees, including nine safety professionals, one workers’ compensation manager, one training manager and clerical staff members. We provide services to each of the divisions making up the San Francisco Water Sewer Power Agency. Half of the safety professionals are safety specialists while the remainder are industrial hygienists. Many of the safety professionals hold the Certified Safety Professional and/or Certified Industrial Hygienist designation(s). Other certifications include Associate in Risk Management and other training certifications.

My agency is really two public agencies; a water/hydroelectric power agency and a wastewater agency. The health and safety program provides safety services to each by assigning technical safety and industrial hygiene staff to each major division. We assist these groups at all levels of their organization.

How would you describe your agency’s safety culture?

I would describe our agency’s safety culture as being in flux. Many of our managers are currently very regulatory-driven in their safety goals. They look to the regulations to determine the minimum that must be done to avoid a citation. We are attempting to refocus their efforts toward developing programs aimed at controlling exposures that cause (or can potentially cause) injuries. It is the Health and Safety Program’s goal to move toward a World-Class Safety Culture. This is a long process involving changing the mindset of an organization for reactive to proactive safety thought process.
What are the greatest SH&E challenges facing your agency, and how is it working to overcome them?

We face many big challenges at the moment. Just like the rest of the world, low back and other musculoskeletal injuries are our biggest sources of loss. On the water side of our agency, digging trenches and placing piping and valves in them is a very demanding job. We use cranes and excavators as much as possible, but with so many underground utilities beneath our feet, a shovel must be used extensively. We train our people in proper body mechanics and provide the latest in ergonomic tools, but we still have injuries.

Our up-country employees face working in remote locations. Many of these facilities are an hour or more from the base of operations. One of our big challenges here is communicating with them. We have many dead zones where cellular phones and radios do not work. We are constantly working to improve our communications ability. Wild land fires, snow and adverse weather are additional concerns for these groups.

No public agency in this country has the funding it once had. We are no different and are constantly making tradeoffs as to which training we must do and which we cannot do. Our training manager is constantly working with vendors for better pricing to stretch our training dollars.

The Baby Boomers (including myself) are reaching retirement age. This presents two problems. Older adults cannot work at the same level they once did. They/we sometimes forget that safety professionals are needed to evaluate tasks to determine how we can make adjustments for them. On top of that, these retiring workers are leaving, and few systems are in place to store the knowledge these older workers have accumulated over the years.

We recently began collaborating with other agencies in the San Francisco Bay Area who are facing similar challenges. We are learning from one another how we can improve interagency training, workforce development and worker knowledge recovery. “BayWork” has recently piloted an interagency training on heat illness to explore how we can use distance learning technology to train multiagency employees all at one time.

As with many cities in the U.S., our infrastructure is aging. The sewer system was started in the mid-1800s, and many miles of the original hand-laid brick sewers are still in use today. We are just beginning to embark on a decade-long program to update the wastewater collection system in San Francisco.

We are currently halfway through a multibillion dollar (funded by public bonds) water system improvement program (WSIP) to improve our water system’s reliability. The Regional Water System, previously known as the Hetch Hetchy Water System, was built in the first half of the 20th century. It was conceived early in the first decade and became a reality in the 1930s. The Great San Francisco Earthquake of 1906 and the fires that destroyed much of the city drove home the need for a reliable source of clean water. California has frequent earthquakes, and on occasion they can be devastating. The most recent ones include Loma Prieta (1989) that caused the freeway collapse in Oakland and the closure of the San Francisco/Oakland Bay Bridge and the Northridge Quake (1994) in Los Angeles that devastated much of the San Fernando Valley and brought the freeways to a halt. Our water system crosses many earthquake fault systems that have the capability of causing similar damage, and it was not designed to withstand them. We are installing many new systems that will require significant training to ensure that no system failures occur.

It is because of WSIP that the health and safety program developed our safe design guidelines in conjunction with operations management and engineering divisions to ensure that we did not continue to design the mistakes of the past into the structures of the future. This was a major collaborative effort culminating in a manual of diagrams and specifications to assist our design engineers to understand the needs of employees who will be operating these new facilities for the next 50 to 100 years. We looked at many things, including designing out permit-required confined spaces and improving the ergonomics of turning valves.
What renewable energy initiatives is your agency pursuing in 2011?

The San Francisco Water Power Sewer Agency has been a leader in green energy. As a provider of hydroelectric power to two public agencies in the Central Valley of California and the City and County of San Francisco’s public operations (including the Municipal Transit Agency’s electric tire and rail bus system), all of our energy has come from renewable sources. These are made up of the forks and creeks of the Tuolumne River in the Sierra Nevada Mountains/Yosemite National Park. We expend no energy pumping water through our 140 miles of pipelines and tunnels. We are a 100% gravity-fed system to the city limits. Additionally, we began a program several years ago to augment city power needs with solar energy. Many city facilities, including several of our water reservoirs in the city and rooftops like Moscone Convention Center, have large solar arrays on them. Later this year, we will begin to replace our old-style sodium vapor streetlights with LED luminaires. This will reduce our energy consumption by 50%.

The new building that will become our home in 2012 will include many green innovations, such as:

- Consumption of 55% less energy using 32% less electricity from the grid, thus saving $118 million in energy cost savings over 75 years.
- Optimization of regional and recycled materials throughout the building.
- 75% cement replacement in the concrete with environmentally friendly materials.
- Harvesting natural light to minimize use of artificial lighting.
- Utilization of highly efficient cooling and heating systems.
- Generation of renewable energy with solar panels and wind turbines to produce 7% or more of the building’s energy needs.
- One of the first office buildings in the nation with onsite treatment of gray and black water.
- Reclaiming water for 100% demand of low-flow toilets and urinals, saving approximately 750,000 gallons per year with additional 900,000 gallons available for future non-potable use in the eco-neighborhood (Civic Center).
- Harvesting of rainwater for irrigation.
- Onsite childcare center and café to support workforce needs.
- Onsite bicycle parking, locker rooms, electric vehicle charge stations and onsite parking limited to four spaces to promote alternative transportation and lower green emissions as part of San Francisco’s Transit First policy.

What current occupational safety and health issues within the utility industry are most important to Utility Branch members?

I think our members are dealing with many of the same issues I have discussed:

- Aging infrastructure and employees
- Doing more with significantly less funding
- Trying to engineer safety into the facilities/processes we are building
- Coming up with ways to change our organizations’ culture to make safety as much a part of operations as stringing cable and laying pipe

In the end, we all want the same thing—to go home at the end of the day in the same or better shape than we got there in the morning.

Stephen Brooks, CSP, ARM, is Safety Officer for the San Francisco Public Utilities Commission. He holds a bachelor's degree in Zoology from the University of California-Santa Barbara.

Webinars

Please join us on our upcoming webinars. For more information, click the links below or visit http://www.asse.org/education.

Safety Leadership: The Final Hurdle Toward Zero
October 5, 2011
11:00 AM-12:30 PM CDT

A Framework of OSHA’s Proposed Injury and Illness Prevention Program (I2P2): Learning from Cal-OSHA’s Experience
November 9, 2011
11:00 AM-12:30 PM CDT
Ramping Up Utility Safety

Protecting workers sometimes require ramping up safety to another level by enacting more than just company policies but city, county and state laws. Here is an example of what we saw in the Chicago streets during Safety 2011 directly dealing with ongoing utility work.

Photo by Michael Carter and caption by David Driver.

Overhead Power Lines

The following information illustrates that no matter what industry, overhead power lines pose a risk to all.

Trucks Contacting with High-Voltage Line
On February 27, 1997, a Buchanan County truck driver was operating a tractor-trailer coal haulage truck on the mine road. He stopped his truck 0.2 miles from the mine and got out to check his fuel line. When he exited the truck he remembered that he had not put the tarp over the load of coal. He did not realize he had parked his truck underneath the 12,470 VAC power line that crossed the haulage road.

While standing on the wet roadway, he engaged the automatic tarp mechanism and was holding onto the braking mechanism with his left hand as the tarp began to move. The tarp frame (mast) continued to move upward and contacted one of the phase wires of the overhead power line. The injured was discovered lying in the road approximately 135 ft from the truck. First aid was administered, and the victim was transported to the Columbia Clinch Valley Medical Center where he recovered from his injuries.

On March 18, 1997, a fatality occurred in West Virginia due to identical circumstances.

On January 29, 2009, a high-voltage near-miss electrical incident occurred at a District 8 mine. A truck driver came on to mine property to load his truck, and while in the scale area, raised his trailer bed to remove ice from the tarp. The truck bed contacted the 7,200 VAC overhead power lines that supplied power to the scales. A security guard in the area observed an electrical arc to the truck bed. At the point of contact with the raised truck bed, the high-voltage conductor height was 26 ft. After the truck driver saw a flash, he lowered the bed. With the bed lowered, the highest point on the truck was 11.5 ft. The high-voltage line was clearly marked with signs indicating “Danger High Voltage Overhead.”

30 CFR § 77.807-2 requires that “booms and masts of equipment operated on the surface of any coal mine shall not be operated within 10 ft of an energized overhead power line.” 30 CFR § 77.807-2 extends the requirement to equipment required to pass under or by high-voltage lines. Voltages of 69,000 volts or higher require greater clearances. Although this was a power company line, it did not automatically reenergize after the power kicked from contact with the truck bed, which is usually the case. To restore power to the scale area, the power company replaced a fuse in their system.
Best Practices

Study the worksite each time you move equipment, especially when you are operating equipment in areas used for storage, stockpiling or any areas of low power line clearance.

If the vehicle contacts a power line, lower the bed to break contact with the power line, if possible.

If the vehicle contacts a power line, stay in the vehicle until it has been verified that the power is deenergized. If the power line is a utility company line, even though it appears that the power is off, it still may be energized because utility company power line protective devices normally reclose (reenergize) three times to clear any faults. Because of reenergizing the power lines, an electrocution could occur when exiting the vehicle.

Accident Prevention: Overhead Power Line Hazards

Problem
Overhead high-voltage conductors or “lines” are usually bare wires supported by poles or structures, traversing across mine property. A risk of danger exists for personnel when mobile equipment, such as trucks, drill rigs, cranes, etc. contact these lines. Based on accident data recorded by MSHA from 1980 to 1997, 106 accidents have occurred involving overhead lines. Of these 106 accidents, 32 resulted in fatalities.

Overhead lines near the following sites and activities can present a serious hazard:

- Storage yards and delivery areas (where cranes may operate)
- Mobile equipment maintenance, parking and fueling areas
- Haulage and access roads, particularly those near dump/load points, and pull-off areas on these roads (dump-bed trucks running with beds up, cleaning beds and raising tarps)
- Stockpiles, dumping points, loading areas and truck scales (raising truck beds)
- Mining benches and active pit areas in general, particularly near blast hole drilling operations
- Adjacent to mine plant structures, such as processing plants, slopes/hoists, belt lines, transfer points, settling ponds and waste dumps (cranes and dump-bed trucks used in routine maintenance)
- Exploration/test drilling sites
- Construction sites, particularly if cranes or scaffolds are in use
- Unintentional buildup of roadways under overhead lines

Solution
There are several ways to avoid accidental overhead electric power line contact and resulting injuries:

- Position miners as spotters to alert equipment operators of the proximity of their equipment to energized power lines
- Install and maintain commercially available noncontact power line proximity devices. These devices can:
  --provide audible and visual alarms
  --shut down an entire machine or desired functions of a machine
  --be designed to detect power lines from far distances
  --provide protection for the entire length of a boom or truck bed
- Recognize potential hazards. Train workers to look up prior to starting work
- Install physical barriers under overhead lines
- Erect signs to identify a danger zone
- Raise problem sections of overhead line to at least 40 ft above ground
- Have the electric power utility company install insulating barriers or sleeve conductors where equipment must operate
- Have high-visibility spheres installed on energized lines to help make the line location obvious to all workers.
- Have the electric power utility company temporarily deenergize the power lines.
New OSHA Interpretations Will Prompt Changes in Wind Power Design, Operations & Ownership Considerations

By Chuck Palmer

Until this year, the wind power industry was flying beneath OSHA’s radar screen. OSHA has now given notice that it will be targeting the industry. This will require changes in specific design, operation and maintenance features of the industry. This article discusses those changes and makes recommendations for contract provisions between the various parties in the industry.

Announcements at Windpower 2011
During the American Wind Energy Association (AWEA) WindPower 2011 Conference and Exhibition in Anaheim, CA, representatives from OSHA gave a presentation on their vision for enforcing employee safety regulations in the industry. Starting next year, OSHA will embark upon a national emphasis program (NEP) to target the industry. In the interim, OSHA will inspect wind farms as issues arise, such as complaints or accidents. Later this year or next year, OSHA is likely to start systematically visiting wind farms in its Region 5 (Illinois, Wisconsin, Minnesota and Michigan). Since Minnesota and Michigan are state plans, it is unclear whether the initiative will include systematic inspections in those states. After that, the systematic inspections will spread nationwide. There is not much time to become compliant, and existing and new contracts, such as turbine supply agreements and operation and maintenance agreements need to be reviewed and revised to address the new realities.

Turbine Supply Agreements
Agreements for the purchase of wind turbines and related equipment should address several aspects of OSHA’s new enforcement interpretations and initiatives. Included in these challenges are the following:

- **Equipment Capable of Being Locked Out**
  All equipment where the unexpected startup or release of stored energy could result in injury to repair, maintenance or other personnel, must be capable of being locked out. This applies to electrical panels, gear boxes and other moving or electrical equipment that could release stored energy and cause amputation, struck-by hazards, entrapment or electric shock. For manufacturers, it is important to know that OSHA does not address product design directly, but its interpretations can have significant impact on not only sales, but also on product liability claims. So manufacturers should be concerned about this aspect of OSHA enforcement and interpretation. Turbine supply agreements that require OSHA-compliant
equipment probably require equipment to be capable of lockout.

- **Fall Protection Tie-Offs**
  There is no uniformity among manufacturers in this area. This makes compliance with fall protection difficult for maintenance personnel and can raise the stakes of litigation in accident cases. Turbine supply agreements that require OSHA-compliant equipment probably require equipment to have tie-off anchorages that are engineered to withstand at least 5,000 lbs of force.

- **Confined Spaces**
  Depending on the configuration and potential hazards inside specific models of wind turbines, these may be considered confined spaces or permit-required confined spaces. There are detailed requirements for permit-required confined spaces. The following spaces are discreet portions of a wind tower that must be considered: the blades tower, rotor hub, tower, nacelle, tower basement and pad mount transformer. The industry currently considers the blade to be a permit-required confined space, because of the entrapment hazard between the 90° and 270° positions. However, if machine guarding, fall or electrical hazards are present in the nacelle, that is likely to be considered a permit-required confined space by OSHA. Manufacturers should consider this in their designs and owner/operations manuals and should give proper warnings to purchasers and operators.

- **Warranty Periods**
  Many turbine purchase agreements may contain requirements for manufacturers or suppliers to train the ultimate user in operation and maintenance. OSHA will look at wind turbine manufacturers to determine whether they have properly trained the operators who will be taking over the operation. Manufacturers might be cited for failure to train.

**Operations & Maintenance Agreements**

OSHA's enforcement programs will impact the cost of wind power operations and maintenance. Those operators entering into long-term operations contracts should be aware of what is coming down the track and should address contract provisions and financial considerations with this in mind. OSHA has created a task force to focus its attention to the industry following several accidents. OSHA held a three-day session at its training center near Chicago, IL, and identified questions that would be addressed in a compliance directive later this year or next. Accidents and complaints will immediately result in inspection. In one recent case, the wind operator was fined nearly $400,000, and received negative publicity.

OSHA has announced that wind turbine operation and maintenance will be governed by regulations that were written for traditional power plant operators. Specifically, OSHA will apply 29 CFR 1910.269. These regulations address the following potential subject areas that may lead to citations.

- **Requirements that all machines be capable of being locked out.** OSHA’s hope is that manufacturers will equip wind power electrical and mechanical parts of the towers with the capability to be locked out during maintenance. However, if they do not, the operators who work on this equipment may be issued citations anyway. Turbine supply agreements should be reviewed.

- **Electrical training.** OSHA expects wind technicians to have a high level of training on electrical safety, comparable to electrical contractors and traditional power plant personnel.

- **Grounding.** OSHA will require proper grounding of equipment.

- **Tie-off points for fall protection.** There is no standardization among manufacturers on tie-off points. This will complicate fall protection compliance among operators. Tie-offs that are not OSHA-compliant could be a source of product liability claims for manufacturers.

- **Lockout/ tagout.** OSHA will require that each employee have his or her own lock and key for maintenance on turbines. If multiple employees will work on the same equipment, each must apply his or her lock.

- **Electrical safety equipment.** At Wind Power 2011, it was suggested that OSHA’s rules may require the use of electrical safety protective equipment and clothing consistent with NFPA 70E rules. This may require that those
individuals working on wind turbines wear special clothing, and in certain cases, wear flash hoods or blast helmets.

- **Job briefings.** Under the traditional power plant regulations, the crew is required to hold a job briefing each day (29 CFR 1910.269). OSHA will require this for wind power maintenance crews as well.

- **First aid and rescue.** Since most wind turbines are in remote areas, medical facilities and rescue personnel are often far away. Wind power operators who do not provide first-aid equipment, first-aid training or rescue equipment/training are likely to be cited for this.

**Owners/ Host Employers**

**Host Employer Responsibility**
Some wind farms are set up on a business model in which the landowner invests some money and other partners assist in providing additional funding and the expertise and financial support to bring the project to market. How will OSHA view the liability for compliance on such projects?

OSHA has experienced recent success in issuing enforcement actions against employers whose own employees were not exposed. So contracting to have work performed by others may not sufficiently insulate a company from liability. In certain cases, OSHA intends to issue citations to owners of wind turbines in the event that operators are not sufficiently trained and capable of working safely.

**Recommendation for Contracts**
Many well-written contracts contain provisions that allow an adjustment to the contract, including pricing, based on a change of law. However, OSHA has no intent to adopt regulations specific to the wind power industry. Instead, OSHA intends to interpret existing law to regulate the industry. Nevertheless, the world of safety in the industry will change, and with those changes will come added costs for equipment, clothing, training and man hours dedicated to compliance. Contract clauses should be reviewed and changed to address these concerns.

When buying a wind turbine, careful consideration should be given to lockout capability. Contracts should also address whether the design requires the tower to be treated as a permit-required confined space and whether tie-offs for fall protection are OSHA-compliant.

Finally, if the tower contains a power lift, make certain that the lift is on separate power from other equipment up tower. If the maintenance personnel must climb up and down the tower to do maintenance, there is a good chance they will not lock out the electrical equipment since that will deactivate the lift.

**Conclusion**
This new emphasis by OSHA will change some design features of turbine equipment as well as maintenance procedures. However, that will not happen fast enough for OSHA, and large penalties may be issued to wind turbine owners, operators or manufacturers. Parties to a wind turbine project must understand the law and the new focus of OSHA and must obtain proper legal counsel to limit their liabilities and to assign responsibility for OSHA compliance. Failure to do so will increase project costs, litigation and other costs and will reduce the long-term ability of a company to succeed. Legal counsel should be consulted concerning project development. There are many traps to these projects and the financial and legal documents must be developed and prepared by counsel to address the safe design and operation of wind turbines. Otherwise, projects may not provide the return on investment that is expected and may damage not only the reputation involved in the specific project, but also that of the industry.

Chuck Palmer is office managing partner in Michael Best’s Waukesha Office. He also is a member of the Employment Relations Practice Group and co-chair of the Construction Group. His practice in Wisconsin focuses on federal labor law, labor negotiations, employment and safety-related litigation, Wisconsin Employment law, Equal Employment Opportunity law, pipeline and construction safety laws, OSHA laws and regulations, restrictive covenants, independent contractor and employment contracts and workers’ compensation.

Reprinted with permission from [http://www.renewableenergyworld.com](http://www.renewableenergyworld.com).

August 2011
OSHA Cites Wind Farm Servicing Company for 6 Willful Safety Violations

Outland Renewable Services has been issued six citations for willful safety violations after a wind farm technician suffered severe burns from an electrical arc flash on Oct. 20, 2010. OSHA issued the citations following an investigation at the Iberdrola Streator Cayuga Ridge South Wind Farm near Odell. The company, a servicing and maintenance provider in the wind tower industry faces proposed penalties of $378,000.

“Green jobs are an important part of our economy, and sectors, such as wind energy, are growing rapidly. That growth comes with a continued responsibility for employers to ensure that the health and safety of workers is never compromised,” says Secretary of Labor Hilda L. Solis. “Outland's management was aware of the potentially hazardous conditions to which its workers could have been exposed and showed intentional disregard for employee safety by ignoring OSHA's requirements for isolating energy sources during servicing operations. Employers must not cut corners at the expense of their workers' safety.”

Outland Renewable Services was issued the citations for exposing maintenance technicians to electrical hazards from the unexpected energization of transformers in three wind turbine towers. A willful violation is one committed with intentional knowing or voluntary disregard for the law’s requirements or with plain indifference to worker safety and health.

On the day of the incident, Outland Renewable Services failed to ensure that technicians working in wind farm towers affixed their own energy isolation devices—also known as personal lock and tag devices—on the tower turbine switch gear at ground level. That created the possibility for other workers to energize transformers in the turbine towers, upon which technicians were working at a distance of approximately 350 ft above ground. The injured worker suffered third-degree burns to his neck, chest and arms, and second-degree burns to the face as a result of an arc flash that occurred when a transformer was unexpectedly energized by another worker.

The egregious violations in this case fall under the requirements of OSHA’s Severe Violators Enforcement Program. Initiated in the spring of 2010, the program is intended to focus on employers who endanger workers by committing willful, repeat or failure-to-abate violations in one or more of the following circumstances: a fatality or catastrophe; industry operations or processes that expose workers to severe occupational hazards; exposure to hazards related to the potential releases of highly hazardous chemicals; and all per-instance citation (egregious) enforcement actions. For more information about the Severe Violators Enforcement Program, visit http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=4503.

Outland Renewable Services’ corporate offices are located in Canaby, MN. This OSHA inspection was the first conducted at the Iberdrola Streator Caugya Ridge South Wind Farm.

Juvenile Arthritis Awareness Month
By Michael Carter

In the 1940s, Professor Abraham Maslow wrote an influential paper regarding fundamental human needs. The professor surmised that we have an ascending order of needs, and he placed these in a hierarchal pyramid to visualize and explain his theory. At the bottom of the pyramid he placed what he termed our “physiological needs,” which include the basics, such as food, water and sleep, that we all need to survive. Physiological needs encompass the maintaining and safeguarding of the human body. If we are unwell, then little else matters until we recover.

With this information in mind it, becomes clear how our overall well-being and our ability to focus on our personal safety, and the safety of others, go hand in hand. Thus, it is important for us to keep well-being in the forefront as well.
July was Juvenile Arthritis Awareness Month. This topic hits especially close to home for me as my father struggled with the effects of rheumatoid arthritis for about 20 years. The following are potential exercise types I learned from him and ways in which these activities may actually help reduce joint pain and stiffness and increase the mobility of joints (before undertaking any exercise program, speak with your doctor to find the program that is right for you):

- Strength-building exercises strengthen and condition the musculoskeletal system, improving muscle tone and endurance
- Aerobic exercise helps us use oxygen more efficiently and makes our heart and lungs stronger and more efficient
- Stretching exercises improve our muscle flexibility and enhance blood flow to the muscles
- Water exercise is a non-weight-bearing activity that improves muscular endurance

As you develop your routine and begin exercising regularly, you will realize how the effects positively impact the “psychological need” of maintaining and safeguarding your body. These activities will not only have your muscles and joints feeling better—you will feel better too!

**Question Corner**

**Question:** My agency is implementing NFPA 70E and is currently evaluating its properties. Most of our properties are agency-owned and operated, but we have a small number of facilities we own and lease to others. Who is responsible for completing the arc flash analyses for the leased facilities—the owner (my agency) or the leasee occupying the structure, who is also responsible for the maintenance of the facility?

**Answer:** It depends if there is a contract in place and what the contract states. In most cases, contracted (third-party) building maintenance would not have 70E compliance obligations or responsibilities for more than maintaining compliance (theirs and yours) once implemented under the code.

For properties you own and operate, in the absence of detailed third-party maintenance or engineering support agreements, responsibility for compliance is the owner’s obligation, which can be handled by the owner's area facility management, in-house safety, engineering or electrical professionals or other competent persons.

It is important to remember that failure to be in compliance, especially if a serious injury occurs, falls on the principle stakeholder. In situations where injury occurs, contracts are helpful during the litigation process, and specific language in the contract will provide clarity and speed up the process. Contracts rarely bar owner entanglement, so contract formulation is key in this situation.

In conclusion, if it is not being done and you have the power and position to take appropriate steps, the action item is in your court. You have a variety of options that are best executed with a detailed contractual agreement.

**Utilities Branch Resources**

- **Mentoring Services:** Visit the Members Only section of ASSE’s website and click “Mentor Contacts” or contact ASSE staff.
- **Job Search Assistance:** Visit Nexsteps, ASSE’s Career Resources LinkedIn site or your local chapter site to view SH&E job postings.
- **Career Resources:** Use the Career Resource Center.
- **Networking:** Join our LinkedIn and Facebook group or view all of ASSE’s social media sites.
- **Technical Advice:** Use our 24/7 online question submission form or contact the branch’s volunteer Advisory Committee with any technical questions.
- **Publication Opportunities:** We can help you get published (earn COCs). We also welcome topic suggestions and interview requests.
- **Educational Resources:** Utilities Branch website; SH&E Standards Digest; special issues and Best of the Best publication; Key Issues publication; interviews; Business of Safety Committee (BoSC); Nanotechnology Support Site; webinars.
- **Standards:** ANSI/ASSE SH&E Standards Information Center, new standards, and ASSE’s Standards Development Committee.
Join the Utilities Branch Advisory Committee

Do you have a desire to get involved with our Utilities Branch Advisory Committee? If so, here is an opportunity to work with and interact with individuals within electrical, solar and wind generation, natural gas transmission and distribution, water/wastewater, telecommunications, public works and other utility areas. How? By volunteering, learning, communicating and donating a small portion of your time.

Check out a new opening and the related activities below!

**Website Chair**
- Monitor the Utilities Branch website on a regular basis
- Develop new hot topics and content for the website
- Provide valuable links
- Suggest valuable news feeds or additional features
- Ensure that all content on the site is up-to-date and all links are active
- Promote the website via social networking and other sites to increase awareness of the website
- Provide website changes to ASSE staff

If this position does not interest you but you would still like to get involved, we welcome volunteers to work on special projects, whether it is a project we already have in the pipeline or a project you would like to work on, we can get the resources to help you pursue the project of your choice.

For more information, visit [http://www.asse.org/cops/volunteers](http://www.asse.org/cops/volunteers).

---

**Leading Change**
by John P. Kotter

*Book Review by Bill Paolello*

For years, maybe even decades, we in safety have preached the need for the transformation of the safety culture. While most of these sermons have focused on why it needs to be done, how to do it seems to be lacking. Although *Leading Change* was published in 1996, I believe the lessons learned from John Kotter's study of both successful and unsuccessful business transformations are still relevant and provide a valuable toolkit for safety professionals who have been looking for the “how."

Kotter identifies an eight-stage process that he believes, if followed, leads to successful changes. He also claims that making a mistake in any of these phases can have a negative impact on the change by slowing momentum or negating gains.

**Stage 1: Establishing a Sense of Urgency**
Identify and discussing crises, potential crises or major opportunities.

**Stage 2: Forming a Powerful Guiding Coalition**
Assemble a group with enough power to lead the change effort.

**Stage 3: Creating a Vision**
Create a vision to help direct the change and to develop strategies to achieve that vision.

**Stage 4: Communicating the Vision**
Using every vehicle possible to communicate and teach new behaviors by the example of the guiding coalition.

**Stage 5: Empowering Others to Act on the Vision**
Remove obstacles to change and challenge systems that undermine the vision.

**Stage 6: Planning for and Creating Short-Term Wins**
Plan for visible performance improvements and recognize and reward employees involved in the improvements.

**Stage 7: Consolidating Improvements and Producing Still More Change**

Use increased credibility to change systems and policies that do not fit the vision.

**Stage 8: Institutionalizing New Approaches**

Articulating the connections between new behaviors and corporate success.

Kotter provides depth and clarity to each stage by devoting a chapter to each one. He also provides many examples of what happens when a stage is ignored.

---

**Safety 2011 Recap**

Safety 2011 was a huge success, with record attendance and special events to celebrate ASSE’s 100th anniversary. The Utilities Branch held its annual face-to-face meeting with the Construction Practice Specialty. We discussed hot topics and our focus for 2011-12. Branch leadership attended the biannual Council on Practices and Standards meeting where growth and technological engagement were discussed and the Health and Wellness Branch was approved. Branch volunteers also helped answer questions at the Practice Specialties booth where free practice specialties were raffled off, complimentary newsletters were available for all 28 groups and mouse pads and candy were given out. [Click here for our blog recap](#) of what happened in Chicago at our biggest and best conference yet! You can also order [CD or MP3 audio recordings](#) from Safety 2011 conference sessions. If you were unable to make it to Safety 2011, please mark your calendar now for Safety 2012 in Denver, CO, June 3-6, 2012.

---

**Utilities Branch Membership Report**

*By David Driver*

**“Only One” Membership Campaign**

We are requesting each of our members; let your voice be heard with your fellow colleagues! We are requesting that every member of the branch recruit one, yes, just one, colleague to join our Utilities Branch. The “Only One” Campaign is a simple reminder that:

1. “Only One” person can do this task—YOU, and
2. “Only One” recruit is needed from you.

For many, this may be as simple as talking to one of your colleagues within your own organization. You, the member, are truly the best resource to “talk it up” to others.

In addition, you will have a chance to win a free practice specialty.

The primary reason for this campaign is for the branch to become a practice specialty. Becoming a practice specialty would provide a larger knowledge base to field answers to members’ safety and health issues and questions, expanded networking opportunities in individual utility areas (e.g., wastewater), a seat on the Council to vote on important Council issues, an enhanced newsletter, a unified voice on regulatory matters within ASSE and much more.

Utilities have a large membership potential with such a diverse population (water, wastewater, power generation and transmission, telecommunications, etc. in both operations as well as construction). We want to be able to tap into all of the resources out there.

The branch’s goal is to become a practice specialty by June 2012 at the latest. However, we would prefer to hit this milestone by the end of the year and make that our stretch goal. To become a practice specialty, we must have at least 500 members.

**Summary of Branch & Current Member Goals**

**Branch Goals:**
- 500+ members
- Growth
- Before Safety 2012, average 11 new members per month.
- By the end of 2011, stretch goal of an average of 18.5 new members per month.

**Current Member Goals:**
• Each member recruits one colleague within his/her organization or in a neighboring utility.

Win a Free Practice Specialty
Those current Utilities Branch members who recruit at least one new member will have a chance to win a free practice specialty of his/her choice. The chance to win begins with the August 2011 issue of The Utility Connection and will expire November 30, 2011.

To be included in this opportunity, the following steps must be followed:

1. Recruit a new member. If you recruit more than one member, your name will be entered again into the drawing for every individual recruited.
2. Send an email to David Driver at dadriver@tva.gov with the following information:
   a. Your name and ASSE membership number
   b. Name of the person you recruited
   c. Practice specialty you would be interested in if your name is drawn
3. Once the new recruit is validated in our membership reports, you will be entered into the drawing.

The drawing for the free practice specialty will be held in January 2012.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Members</td>
<td>60</td>
<td>170</td>
<td>181</td>
<td>182</td>
<td>343</td>
<td>368</td>
<td>379</td>
<td>389</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500+</td>
</tr>
</tbody>
</table>

**Utilities Branch Membership Report**

ASSE and the Utilities Branch would like to congratulate David A. Driver, CSP, who was awarded the Utilities Branch Significant Contributor award. Driver currently works for the Tennessee Valley Authority as Safety and Health Manager. He is also the volunteer Membership Development Chair for the branch and has been instrumental in their growth. His contributions, great ideas and positive attitude have made him a model volunteer and contributor to the safety community. To find out more about the Council on Practices and Standards’ awards program, visit [http://www.asse.org/ps/awards](http://www.asse.org/ps/awards).

**Utilities Branch Update**

ASSE and the Utilities Branch would like to welcome Gary Keith, CSP to the Utilities Branch Advisory Committee as the new Conference and Seminars Chair. Keith spent three years as a law enforcement officer in public safety, three years at DTR Tennessee as a Safety Engineer and two years as a Safety Consultant III for the Tennessee Valley Authority Fossil and Hydro Divisions. He holds an A.S. in Criminal Justice from Walters State Community College, a B.S. in Training and Development from the University of Tennessee-Knoxville and an M.S. in Occupational Safety from Eastern Kentucky University. He also won the VPP award at DTR Tennessee in 2009.

If you would like to get more involved and work with this great group of volunteers, please visit [http://www.asse.org/cops/volunteers](http://www.asse.org/cops/volunteers) for more information.

George Pearson & David Driver

August 2011
Best of the Best

ASSE would like to congratulate the authors selected for inclusion in the Council on Practices and Standards’ 2010-11 Best of the Best publication. All 17 practice specialties nominated one article as their best article of the year to be featured in this special publication. John Mroszczyk’s article was selected by the Council as the top overall article, which was awarded $150. Click here to view this compilation of technical material and visit http://www.asse.org/ps for more information on the different group offerings or http://www.asse.org/JoinGroups to add an additional practice specialty to your membership. If you are interested in writing, please click here.