



THE ACADEMY OF ELECTRICAL CONTRACTING

PAPER PRESENTED BY FELLOW
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Cultivating Safety through Community:
Training and Best Practices of the Electrical
Transmission and Distribution Partnership

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It was not so long ago that on-job injury and fatality information was held close to the vest by those of us in the Electrical Transmission and Distribution Industry. It was considered proprietary information, the kind of thing you didn't want your competitors to know about your company.

That's what made the foundation of the Electrical Transmission and Distribution (ET&D) Partnership so revolutionary. In 2003, executive leadership from our industry decided it was time to take the unprecedented step of joining together to move aggressively toward reducing or eliminating injuries and fatalities.

First, it was Henkels & McCoy, Inc., MYR Group, Inc., Pike Electric, Inc., Quanta Services, Inc., and Utility Services, Inc. The construction companies were then joined by the National Electrical Contractor Association (NECA), Edison Electric Institute (EEI), and the International Brotherhood of Electrical Workers (IBEW). Finally, the Occupational Safety and Health Administration (OSHA) joined in the discussion as a contributing, but not voting, member of the partnership.

The challenges of the partnership were many: getting industry leaders to set aside generations of competitive training to collaborate; building the trust required to share such sensitive data; and helping OSHA see the value of the first-ever industry-specific safety initiative.

Over the months that followed, executives of each company and representatives of each association met monthly to hash out the wording of a partnership agreement that would go beyond industry regulation, putting safety leadership into the hands of the industry itself.

In addition to the executive committee and the steering committee, four task teams were formed and included a voting representative of each of the partnership members with responsibilities meted out accordingly:

- Task Team 1: Data Analysis
- Task Team 2: Training
- Task Team 3: Best Practices
- Task Team 4: Communications

In August 2004, the ET&D Partnership signed a 2-year agreement with OSHA. In the years since, the 2-year agreements have evolved into 5-year agreements, and a system has been put in place to track comprehensive injury and fatality data. The collected information is more comprehensive than the OSHA data being used as a baseline and yet now, with over 70 percent of industry workers represented, the numbers show a significant reduction in on-job injuries since the partnership began.

The steering committees and tasks teams have continued with their work since the partnership's initial inception, developing 14 Best Practices and two OSHA training programs to further their work.

14 Best Practices for Lineman Safety

The best practices put together by Task Team 3 represent, in many ways, a big culture shift. People who have been working in the industry for decades were reluctant at first to accept several of the Best Practices. The partnership provided a Best Practice implementation timeline and training programs to inform and educate member partners' employees. The education and training on the Best Practices was slow at first but over time they have been accepted and now have become the standard in the industry. Of course, there is no perfection

and we continue to promote and educate our employees on the practices. We understand that to change a culture it takes time but we have seen the adoption of these practices more widely than some initially thought possible, and a resulting positive impact on the industry.

Best Practice #1: Administrative Controls

In order to address injuries due to improper job planning and risk assessment, this Best Practice requires pre-planning to begin at the pre-bid meeting and preliminary job site analysis to include the gathering of all relevant information needed to make a full risk assessment. This also suggests working on de-energized conductors and equipment whenever possible.

Best Practice #2: Pre-Use Inspection of Rubber Protective Equipment

To avoid injuries due to worn, damaged or contaminated insulating equipment, all uniform components are to be inspected prior to use and removed from service if any defect is found.

Best Practice #3: Job Briefings

Held at the project location at the beginning of each work shift, as work tasks or conditions change, and as additional personnel arrive on the job site, this Best Practice provides a standard methodology for sharing key information including hazards, protective equipment to be used, emergency response information and more.

Best Practice #4: Qualified Observer

Injuries caused by unrecognized hazards and changes in work conditions can be offset or eliminated by the use of a qualified observer. These well-informed crew members ensure clearances are maintained, proper equipment

is used, and effective cover-up is installed. This Best Practice also outlines the criteria of a Qualified Observer.

Best Practice #5: Insulate & Isolate Safety Performance Check

To ensure compliance with Isolate and Insulate procedures, this Best Practice requires a safety review process that includes assurances that company safety rules and proper cover-up procedures are being followed.

Best Practice #6: Cradle-to-Cradle Use of Insulating Rubber Gloves and Sleeves

Insulated gloves and sleeves are proven methods for reducing electrical contact injuries and fatalities. This Best Practice details the use of such PPE including when it is to be used and the requirements for the gloves and sleeves utilized while working from an aerial platform.

Best Practice #7: Lock-to-Lock Use of Insulating Rubber Gloves and Sleeves

As with the Cradle-to-Cradle use of insulated gloves and sleeves, the same equipment used while working on pad mounted equipment from prior to unlocking until relocking has been proven to reduce electrical contact injuries and fatalities.

Best Practice #8: Insulate & Isolate for the Live Line Tool Method on Distribution Lines

When working on energized lines, it's critical that workers are qualified and using proper equipment from insulated gloves and sleeves to rubber blankets, line hose, hoods and more. Moreover, remaining physically separated, electrically and mechanically, from the lines and at a safe perimeter to avoid the

effects of induction can eliminate contact and electric arc flash injuries.

Best Practice #9: Rubber Insulating PPE for the Live Line Tool Method on Distribution Lines

Specific to workers utilizing the "live line tool work method" or "hot sticking," this Best Practice details the use of purpose-built insulating tools to avoid direct contact with energized equipment.

Best Practice #10: Safety at Heights – Lattice Towers

When working on lattice structures, it is critical that fall hazards are assessed including a full identification of the tasks to be performed as well as suitable anchorage points for those tasks; that proper 100 percent Fall Protection Equipment from ascent to descent and throughout the job is utilized; and that rescue procedures are proactively addressed.

Best Practice #11: Safety at Heights – Wood Poles

This Best Practice outlines the use of 100 percent Fall Protection Equipment from ascending to descending and all points between such that an employee cannot fall more than two feet. It is also important that each structure be inspected prior to climbing and that rescue procedures are proactively addressed.

Best Practice #12: Insulate & Isolate Techniques for the Rubber Glove Method

Through the use of protective equipment and appropriate I&I procedures, this Best Practice ensures the safety of qualified line workers using the rubber glove method while working on energized lines and equipment.

Best Practice #13: Rubber Insulating PPE – for Live Line Tool Method on Distribution Lines

Addressing the safety of power-line workers using the "live line tool work method" or "hot sticking," maintaining a Minimum Approach Distance (M.A.D.) will prevent electrical contact injuries and fatalities. This Best Practice also details when it is safe for a worker to remove rubber insulating gloves and sleeves.

Best Practice #14: Information Transfer

Not all hazards are anticipated. By sharing information between Contractors and Host Employers, we can ensure that the most up-to-date information about a work site is known to all who might come into contact with it.

By communicating these Best Practices proactively and consistently, our industry will continue to see a trend of decreasing injuries as safety efforts that once were novel become the norm. Effective, trained, empowered leadership will deepen those efforts, which bringing us to our training programs.

ET & D OSHA 10- and 20-Hour OSHA Training Programs

While the Best Practices were being developed, approved and implemented, Task Team 2 stepped into innovate new methods for ensuring training reached not only the linemen but management and foremen who set the standards on the worksites. At the time, OSHA had a construction-focused 10 hour safety training program. This innovative ET&D OSHA 10-hour industry-specific program has since become the benchmark for other industries in creating their own tailored safety programs.

The development of the 10-hour course took most of 2004 and into 2005 to create and get OSHA approval.

The OSHA Electrical Construction Industry Outreach training course is based on the OSHA 1910 and 1926 standards while extending out to industry-specific course materials such as equal-potential grounding, electrical arc protection, and PPE relevant to electrical hazards. The hands-on modules detail OSHA regulations as well as the hazards and regulations within the industry including electrical safety, grounding, personal protective equipment, rigging and lifting, confined and enclosed spaces, trenching and excavating, fall protection, and pre-job briefings. For completing this course, students receive a traditional OSHA 10-Hour for Construction card on which the Partnership logo is stamped.

With these Best Practices understood and training program completed, the ET&D Partnership addressed what is arguably the most dangerous time for workers within our industry: the first one to three months after joining a new company. Uncertain and/or varied training practices in individual companies have led all too often to missteps in the field. Once a lineman is familiar with the above Best Practices and has graduated from the 10-hour training program, the chance of a misstep or misunderstanding due to new work environment decreases significantly.

Compliance on the frontlines is only as good as the modeling and oversight of its leaders, though, and for that, the ET&D Partnership created a 20-hour program, the Supervisory Leadership Skills Outreach Training course.

Designed for general foremen, supervisors, foremen, lead persons, or any person responsible for managing industry work and employees, the goal is to create positive safety cultures at worksites. In addition to hands-on experiences, this course also utilizes scenarios, case studies, and discussion to aid leaders in finding their own voices in the safety discussion.

Topics covered include Supervisor Training in Accident Reduction Techniques (START), On the Front Line, Listen Up, Speak Up, Job Hazard Analysis, Pre-Job Briefings, Site Inspections, Skills Assessments, Effective Safety Meetings, and Company Specifics.

Graduates of this program receive a card from the OSHA Training Institute similar to the card that is historically issued for the completion of a traditional construction or general industry 10- and/or 30-hour courses.

Task Team 2 implemented Train-The-Trainer courses for the ET&D 10- and 20-hour programs to ensure that only qualified instructors in the partnership would deliver the training materials. Task Team 2 and member partners have qualified over 400 instructors to deliver the ET&D 10- and 20-hour courses.

As an industry, our goal is to send our workers home each and every night unscathed and satisfied with a well-accomplished day of work. With the ongoing work of the ET&D Partnership, we're gathering critical data to help us better understand the hazards, uncover more tools for safety, and reduce our injury and fatality numbers year by year.

About Wilson M. Yancey, Jr.

Wilson Yancey is the Vice President of Safety, Health and Environment for Quanta Services, Inc. He has been instrumental in the advancement and success of Quanta's safety systems and program since June of 1999.

Throughout his career, Yancey has demonstrated safety excellence through the development of educational and training programs to enhance safety compliance. Yancey has 36 years of continued career growth and safety experience in chemical plants, refineries, pipeline maintenance and construction, waste water treatment plants, surface mining operations, telecommunications, and electrical power transmission and distribution.

Yancey holds a B. S. degree in business management from Lamar University. He and his wife, Carol, have been married for 49 years and reside in The Woodlands, Texas. Their two daughters and their husbands have given them seven grandchildren.

For additional information, please visit:

<https://www.osha.gov/>

<http://www.neca-neis.org/powerlinesafety/>

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