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Occupational Safety & Health Fact Sheet

Working With or Within Close Proximity to Power Lines/Electrical Hazards

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Working with or within close proximity to electric power lines/electrical hazards presents several unique safety and health concerns and issues for CWA members employed as telecommunications (outside plant) technicians. During the last several years, many CWA telecommunications technicians have suffered work-related accidents, injuries, illnesses, and fatalities as a result of exposure to/contact with electrical power. The increased rate of safety and health problems has occurred as telecommunications employers have placed increased emphasis upon increased productivity and profits at the expense of worker safety and health issues. Other workplace/job design factors related to member reported accidents and health problems include time pressures, poorly designed jobs, employer failure to develop and provide appropriate work practices and procedures, and lack of education and training, as well as ergonomic, well-designed hand tools and electric powered and non-powered equipment, and personal protective equipment. Of particular concern to CWA, the causes for and occurrence of these health problems is in sharp contrast to the increased attention given to the provision of safe and healthful working conditions provided by these employers during previous years.

CWA is both committed to ensuring that represented employers provide safe and healthful working conditions and working towards the prevention of telecommunications worker/member accidents, injuries, illnesses, and fatalities. This fact sheet has been developed by the CWA Occupational Safety and Health Department to provide the Union's members and represented workers with basic safety and health information when working with or within close proximity to electrical power lines/electrical hazards.

Who has the primary responsibility for providing safe and healthful working conditions?

Of importance, let's remember the employer has the primary responsibility for providing her/his employees with working conditions "which are free from recognized hazards that are causing or are likely to cause death or serious physical harm." Thus, as required by the OSHA Telecommunications Standard, 29 CFR 1910.268, regarding work with or within close proximity to power lines/electrical hazards, it is the responsibility of telecommunications employers to provide:

• Appropriate work practices and procedures that will allow CWA members and represented workers to perform their tasks in a safe and healthful manner;

• Appropriate education and training that will allow CWA members and represented workers to complete their work in a safe and healthful manner; and,

• Appropriate and necessary hand tools, related equipment, and personal protective equipment that will provide CWA members and represented workers protection from, contact with, or exposure to hazardous electrical power.*

* Also, it is extremely important that all affected members follow all employer safety and health procedures and policies as well as, where necessary, reminding co-workers to perform tasks in a safe and healthful manner.

In addition, CWA needs to convince represented employers to provide working conditions that are more protective than those required by the OSHA Telecommunications Standard, 29 CFR 1910.268. The standard focuses upon issues such as education and training, work procedures and separation/distance from live electrical sources, hand tools and equipment, and personal protective equipment specific to assigned telecommunications work. However, the Standard does not include comprehensive coverage of work with electrical or power lines and/or exposure to electrical hazards (as provided in OSHA's Electric Power Generation, Transmission, and Distribution Standard, 29 CFR 1910.269). Therefore, provisions of 1910.269 that cross over into telecommunications work should be included in employer work practices and procedures, as well as education and training materials and activities, and, where possible, negotiated into collective bargaining agreements.

CWA Has Identified an Alarming Increase in Member Safety and Health Problems and Fatalities!

• Issues- Safety and Health Hazards

To better determine the incidence and causes of member and represented worker health problems, during the early part of 2006, the Union's Occupational Safety and Health Department developed and distributed the CWA survey "Electrical Hazards, Accidents, Injuries, Illnesses, and Fatalities" to all telecommunications locals. Identified safety and health concerns and problems included work performed outside (e.g., aerial, confined spaces, buried plant, within trenches and sub-stations, and during inclement weather) and inside (e.g., central offices and residential and commercial buildings).

In responding to the survey, several locals indicated that during the last three years their members had been exposed to numerous job-related electrical hazards and, in turn, suffered accidents, injuries, illnesses, and fatalities. In addition, the Department has collected information regarding more recent incidents. Following are highlights of the survey findings and additional accident, injury, illness, and fatality information:

Regarding member injuries and illnesses:

• CWA Local 4630, Madison, Wisconsin, reported a member and AT&T (formerly SBC) employee sustained severe electrical burns and injuries while working on a buried telecommunications line. As he was digging into the area where the telecommunications line was located, the shovel came into contact with an unmarked underground electrical power line causing him to be thrown some 20 feet into the air. Fortunately, the member did not suffer any serious health problems (2005).

The local reported another "near miss" event when a member mistakenly lifted an energized electric power line while performing tree trimming work. Fortunately, the affected member only suffered a minor electrical shock (2005).

• CWA Local 9419, Redding, California, reported a "near miss" incident in which a member and AT&T (formerly SBC) employee was working from an aerial platform to correct telecommunications trouble when he noticed (i.e., heard and saw) the bridal wire was arcing. Thus, he descended from the work area and performed a visual inspection of the electrical lead. He found that one leg of the primary electric power line had come off of the electrical insulator and was resting against the metal pin holding the other insulator. In turn, he contacted the Pacific Gas and Electric Company to correct the problem and notified AT&T of this workplace hazard (Summer 2005).

• CWA Local 9431, Auburn, California, reported a member employed by AT&T (formerly SBC) had suffered a "near miss" incident when he was attempting to repair a telecommunications cable. Using an aerial lift to approach the work area, he turned his head to identify any obstructions when his forehead came into contact with the 12 Kilovolt electric power line. The power line had been incorrectly placed at nearly the same pole height as the telecommunications line. As he felt the electric power hit, he was able to lower the platform and call for help. In turn, he was taken to a nearby hospital for treatment and observation. Fortunately, he suffered no ill effects from his exposure to the electric energy (August 2005).

Local 9431 reported an additional "near-miss" case involving a member and AT&T (formerly SBC) employee who was performing work to re-route an existing telecommunications cable. As he was conducting his work, he mistakenly held onto the electrical line resulting in burns to both of his hands. Fortunately, he received medical treatment and returned to his job. Amazingly, the employer had excluded his work crew from training on electrical hazards (December 2006).

• CWA Local 2222, Annandale, Virginia, reported a member and Verizon employee had suffered severe burns to a majority of his body while performing his telecommunications work. The telecommunications line had come into contact with an electric power line creating an electrical fire causing the member

to nearly be thrown out of the aerial bucket. Also, another member, who was assisting him from the ground, was thrown several feet by the electrical blast and suffered hearing trauma (July 2006).

• CWA Local 2004, Morganton, West Virginia, reported two members (one from his local and another from CWA Local 2011) employed as cable splicers by Verizon were involved in a "near miss" electrical hazard incident. While placing and splicing a telecommunications line between two aerial work locations, the telecommunications cable strand and electric power line pulled loose and fell to the ground. Fortunately, as neither of the workers had come into contact with the energized power line, they did not experience any health problems. This incident was caused because the contractor had installed an incorrectly sized strand wrap (October 2006).

• CWA Local 2107, Annapolis. Maryland, reported a member, employed by Verizon as an outside plant technician, suffered an electrical shock and nervous system problems while performing work in an aerial bucket upon a joint telecommunications/electric utility pole. Before initiating the work, the technician had taken all of the proper safety precautions. However, as he was working, it began to rain causing un-insulated electrical wires (left by a non-union subcontractor for the power company) to energize the pole. When the member touched the pole, he received a serious electrical shock. Although the technician spent several days in the hospital, he did not suffer any identified long-term health problems (March 2007).

During the Union's investigation, many additional "near miss" incidents were identified. However, as reported by Local Union leaders and occupational safety and health activists, the cases provided to the Safety and Health Department were not indicative of the total number of "near miss" incidents. Rather, they indicated many more "near miss" cases occur that they don't hear about until some time after the event. The reason for this is simple—affected members are afraid of reporting their case for fear of retaliation from the employer. Of concern, in these instances, the hazardous working condition(s) is/are not abated. Thus, the next technician who performs work at this work location will most likely be exposed to the same electrical hazards.

Regarding member fatalities:

• CWA Local 2004, Morganton, West Virginia, reported an incident in which a member of nearby CWA Local 2006 employed by Verizon was electrocuted while completing his central office work. While connecting a telecommunications pair (of lines) he was hit by an unexpected electric shock. He called out to another nearby technician for help. Unfortunately, the member died en-route to the hospital. The technician's death was the result of electric power draining through the electric service ground connection and bleeding back into the telecommunications line (1999).

• CWA Local 1126, New York Mills, New York, reported a member employed by Verizon as a telephone lineman was electrocuted when the telecommunications line he was raising/tensioning came into contact with a sagging electrical power line (March 2002).

• CWA Local 9410, San Francisco, California, reported a member and employee of AT&T (formerly SBC) had been electrocuted while working to repair a telecommunications line. While working in snowy weather conditions, he correctly placed, reinforced, and climbed the ladder (positioned on the utility pole). While performing his work, the 12 kilovolt electric power line came loose from the pole and fell on the member - electrocuting him (December 2004).

• CWA Local 9423, San Jose, California, reported a member and employee of AT&T (formerly SBC) had been electrocuted while performing aerial work on a joint telecommunications/electric utility pole. When he attempted to remove the cover sheath to expose the strand member, he received a fatal electrical shock. There was an unsuccessful attempt to provide cardiopulmonary resuscitation (CPR). Unfortunately, some telecommunications technicians had/have not received CPR training for several years (August 2005).

• CWA Local 4773, La Porte, Indiana, reported a member and Verizon employee was electrocuted when working to correct telecommunications service problems in a company-owned central office. While performing his work on a frame ladder, he grasped and pulled the rope (made of wire) to release the ladder. Unknown to our member, the plastic covering on the rope had become damaged with several cracks. Unfortunately, the frame and, thus the rope, had become electrically energized. When the member pulled on the rope, he was electrocuted (June 2006).

• CWA Local 2100 reported a member and lineman employed by Verizon, was electrocuted while installing fiber optic cable. While performing aerial work, this tragedy occurred when he came into contact with a power line on a joint utility pole (October 2006).

What Can CWA Leaders and Occupational Safety and Health Activists Do To Prevent Member Near Misses, Accidents, Injuries, Illnesses, and Fatalities Caused by Exposure to/Contact With Electrical Hazards?

Let's first look at the reasons for the significant increase in "near miss" incidents, accidents, injuries, illnesses, and fatalities among telecommunications technicians.

According to CWA's occupational safety and health leaders and activists, three major reasons for affected technicians experiencing safety and health problems are the result of telecommunications employers:

• Instituting increased workload and productivity requirements;

• Providing inadequate work procedures and practices; and,

• Decreasing the amount of workplace safety and health education and training provided to technicians (and supervisors).

Regarding increased workload/productivity requirements, telecommunications employers have increased the number of assignments/tasks that technicians must complete during their work shift. Given that affected technicians do not know the nature of the assigned work, they are unable to determine what needs to be accomplished until they actually arrive at the work location. Increased workload places pressure on them to "cut corners" so that the work can be completed quickly (often, too quickly) to meet the company's increased productivity standards. Unfortunately, working continuously at an increased pace day-in and day-out has led to an increased number of worker "near miss" incidents, accidents, injuries, illnesses, and fatalities. Further, given the requirements for increased overtime work, the likelihood of work-related "near miss" incidents, accidents, injuries, illnesses, and fatalities are magnified.

Using Your Senses

• Seeing: Look for low clearances, i.e., hanging wires/cables, sparks, glowing wires, smoke, evidence of crossed telecommunications and electrical/power lines, or a charred pole.

• Hearing: Listen for buzzing, humming, or hissing sounds. These sounds may indicate large amounts of electric current.

• Smelling: Be alert to the smell of smoldering/burning insulation, smoke, or ozone caused by the electrical energy.

• Touching: Before touching anything that might be an electrical hazard, first test the object(s) with a voltage tester, e.g., 188A/C9970 equipment. Be alert to vibration of voltage or any object to be tested.

Working with or within close proximity to electrical power necessitates represented employers develop work practices and procedures that include coverage of all relevant safety and health issues. For example, where the required work involves working within close proximity to power lines/electrical hazards--a potential imminent danger situation,--a second worker trained in basic first aid and cardiopulmonary resuscitation (CPR) should be assigned to the job/work site. Further, policies and procedures that provide for an initial investigation of working conditions should be developed and implemented to ensure there are no safety and health hazards present, e.g., the stability of utility poles and potential electrical hazards. Also, policies regarding how long it takes

to complete assigned tasks should take specific work requirements of each assigned job into consideration. Said another way, the safety and health of members should take precedence over productivity concerns of represented employers.

Inspect the Work Area and Conduct Voltage Tests

When working outside, technicians should conduct a thorough inspection of the work area/pole lead for potential electrical safety and health hazards including:

• Using a recently calibrated voltage tester, e.g., 188A/C9970 equipment, to determine the presence of electrical hazards. Such testing should include all potential electrical sources such as utility poles, telecommunications and power pedestals, cross boxes, electric meter boxes, un-insulated vertical grounds and conduits, street light fixtures and utility pole hardware, terminals and cabinets, metal-sided buildings and mobile homes, foreign plant in company work space, grounds, bonds, cable strands, power sub-station equipment, metal fences, and any other equipment/material that could be energized.

Employer policies and procedures should include coverage of the safe and healthful performance of outside work during inclement weather conditions. These practices and procedures should include provisions whereby, at the first sign of a storm, assigned technicians should prepare to close up any wire cable or construction work and discontinue work until the storm conditions have passed. Further, this language should include protective measures technicians can take to prevent exposure, e.g., where possible, parking their vehicle under a highway overpass. Also, technicians should remain in their vehicle, avoid parking under power lines, not touch metal objects such as tools, cable strand, fences, lamp posts, ladders, and pipes as well as stand clear of metal decking and roofing, ladders, scaffolding, and railroad tracks.

Electrical storms can knock out the electrical power resulting in down power lines. In these cases, before resuming work operations, technicians should use the provided and recently calibrated 188A/C9970 equipment to test all work surfaces. If power lines are downed/damaged, technicians should not perform work in the affected area until the hazardous conditions are corrected/cleared. Rather, technicians should place barricades around the site and contact their supervisor and the electric company.

Also, if the technician is near a building, she/he should go inside away from the exterior doors and telephone equipment and try to remain dry. This point is extremely important because if the technician and/or her/his clothing are wet, the possibility that the technician will be exposed to lightning and the resulting electric shock is significantly increased.

Remember lightning is very dangerous. It can be misunderstood, underestimated, and fatally discounted. Exposure can be controlled and reduced by recognizing its potential for harm and acting responsibly. Early recognition of lightning hazards with the awareness of the noted defensive options will provide increased levels of safety.

The employer's provision of appropriate hand tools, electric powered, and non-powered equipment as well as required personal protective equipment is essential to workers performing their jobs in a safe and healthful manner. Failure to provide the required tools, electric powered and non-powered equipment, as well as personal protective equipment, will result in an increased rate of member accidents, injuries, illnesses, and fatalities. Ideally, the employer will ensure work tools and equipment are ergonomic or well designed, thereby allowing technicians to perform their work in a timely, yet safe and healthful manner. Working with well-designed work equipment is especially important when performing aerial or overhead work. Given the different types of work equipment that may be used when performing such work (e.g., bucket trucks, digger derricks, backhoes, dump trucks, and ladders), the need for the employer's provision of well designed equipment is essential.

In instances when aerial/overhead work is performed and work equipment comes into contact with an energized power line, the electric current will flow to the ground. When this occurs and the technician is in the company vehicle or an aerial bucket, she/he should remain in the vehicle/aerial bucket until the electric company has been contacted and de-energized the power line/corrected the source of the problem. Also, affected technicians should not go near energized equipment or attempt to rescue an energized worker until the power is de-energized. If a technician should encounter an electrical shock victim, she/he should not touch or try to move the victim. Rather, the technician should call 911.

When working inside and work equipment comes into contact with an energized line, technicians should turn off the electrical power at the control panel. Also, before drilling into the siding of residential or commercial buildings, technicians should look for any open power panels and damaged or worn power cables/wiring, as well as visually inspecting both inside and outside work areas.

Represented telecommunications employers should provide CWA telecommunications technicians/craft workers with comprehensive education and training allowing our members to develop a high degree of knowledge and thorough understanding of how to perform assigned tasks in an efficient and productive, yet safe and healthful manner. Such training should emphasize important issues like clearance and approach distances and be presented by instructors in an interactive presentation format within a classroom setting. (Computer-based training might be used as a supplement, but not as a replacement for interactive instructor-led classroom training). Ideally, education

and training materials should be jointly developed and presented by company and union safety and health representatives.

Rather than conduct person-to-person education and training efforts, represented telecommunications employers have instituted computer-based training. Such training involves no or, at best, very little interaction with an instructor or opportunity for the affected worker(s) to ask questions or provide opinions; instead the employee merely views the computer program and provides her/his response by entering the correct information via the computer. To make matters worse, according to many CWA leaders and OSH activists, supervisors often encourage the worker(s) to indicate/check-off completion of the training program without actually taking the entire training. In turn, the worker is told to complete the assigned field work; thus, fulfilling the company's productivity demands.

Education and training materials and instruction should be provided to employees upon initial assignment to their jobs (or at a mutually agreeable future date). The development and conducting of comprehensive education and training materials and multi-day training sessions regarding working with/within close proximity to electrical power is necessary to increase worker awareness and knowledge. In turn, such increased awareness and knowledge among affected outside plant technicians would reduce the possibility of the work being performed in an unsafe and unhealthful manner. In addition, refresher/update training materials/programs should be developed and such training programs should be provided to employees annually and/or whenever work tasks/jobs and/or equipment have significantly changed.

The provision of regular refresher/update educational sessions is of significant importance. One method of providing workplace safety and health updates/information to affected technicians is by conducting weekly or semi-monthly "tail-gate" meetings. These meetings are led by a company supervisor and/or technicians and conducted when the job is assigned at the reporting garage/work location. Topics include safety and health issues and subjects specific to the assigned work, e.g., aerial, manhole/confined space, buried plant, commercial, residential, and/or central office. Unfortunately, some represented telecommunications companies have cut back on the frequency, number, and/or have totally eliminated "tail gate" meetings. Also, some employers have postponed "tail-gate" meetings due to increased work loads.

Issues that should be raised include work with/within close proximity to power lines/electrical hazards and methods to ensure that involved workers are not exposed to electrical hazards.

Such discussions should include:

• Inspection of the work area (before work is performed) for potential safety and health hazards;

• Provision of engineering controls, e.g., shielding devices and specialized equipment;

• Provision of ergonomic hand tools and related work equipment; and,

• Provision of appropriate Personal Protective Equipment, e.g., insulated rubber gloves and rubber blankets, safety goggles, safety shoes/footwear, and clothing.

Another very important concern deals with the qualifications of managers. More and more, telecommunications employers are hiring supervisors who do not have the proper training and/or work experience. Needless to say, without these important skills, supervisors are unable to competently conduct the necessary education and training or ensure the assigned work is performed in a safe and healthful manner. Therefore, all supervisors responsible for field work should be required to participate in the same comprehensive education and training program as is required of company technicians.

In instances where the represented telecommunications employer(s) does/do not provide safe and healthful working conditions (including required safety and health education and training), affected CWA members and represented workers should:

• Report this issue to her/his local union representative as well as to the company supervisor. In turn, the local union representative should report this matter to the District/Bargaining Unit CWA Staff Representative who has workplace safety and health responsibilities. Ideally, the Staff Representative and the local union representative can work with the employer to identify and resolve the safety and health issue(s). In addition, the involved CWA Staff Representative should provide this information to CWA's Occupational Safety and Health Department. In turn, the Department may be able to assist in the resolution of the identified safety and health concerns.

• In instances where the technician believes the working conditions may pose an imminent danger, i.e., serious injury, or loss of life might occur if she/he performs the assigned work, the member(s) or represented worker(s) should notify the supervisor and explain the hazardous working conditions. Also, the affected worker(s) should provide this information to her/his/their local union representative, and offer to perform other, safe work, until the hazard(s) is/are corrected. Never walk away or leave the worksite until alternative work has been assigned. If the hazardous working condition(s) is/are not corrected, the member(s) should contact the local union representative to consider filing an OSHA "imminent danger" complaint.

• If this matter cannot be resolved, the local union representative should consider filing a grievance. Details gathered during the union's investigation of the incident(s)/working condition(s) should be used as the basis for the grievance.

Remember, the grievance must be well documented and processed in a timely manner.

• If the local representative does not believe this matter will be resolved through the grievance process and there is a potential violation of an OSHA standard (or lacking an OSHA standard), the assigned work is not free from recognized hazards that are causing or are likely to cause death or serious physical harm to affected employees, the local should discuss the issue(s) with an OSHA Representative; and, if necessary, file an OSHA complaint. (See Chapter IX, "Resources," CWA Occupational Safety and Health Manual for the address and contact information of the federal and/or state occupational safety and health agency within your geographic area).

What Can You Do?

All CWA members should make sure their employer is maintaining a safe and healthful workplace. The key to making the workplace safe for all CWA members is strong, active local safety and health committees. The committee can identify dangerous conditions at the workplace and discuss them with management. If the employer refuses to resolve the safety and health hazard(s), the committee can request an OSHA inspection. The committee should always coordinate its activities through the local officers, the CWA Representatives, and negotiated safety and health committees. Local union members are encouraged to participate in their local union's occupational safety and health committee. Also, CWA local union leaders and occupational safety and health activists are encouraged to contact the:

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Developed in 2007 and revised in 2009.

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