

# Reducing Electrical Hazards

*How Telecom Techs Can Protect Themselves and Help CWA Hold Employers Responsible*







*Substations contain high-voltage electricity.*



*Certain jobs require two people, which is essential to reducing risk of injury.*

**W**orking with or near electric power lines and other electrical hazards presents unique safety and health concerns for CWA members employed as telecommunications outside plant technicians.

In recent years, many CWA technicians have suffered work-related accidents, injuries and illnesses and six of our members have died since 1999 after contact with electrical power. The rate of these incidents has risen as telecommunications employers have put more emphasis on increased productivity and profits at the expense of worker safety and health. Members report being pressured to work faster with inadequate education and training in jobs without well developed policies or procedures. Also, generally they are not provided ergonomically designed hand tools and other well designed equipment, as well as personal protective gear.

CWA is committed to ensuring that represented employers provide safe and healthful working conditions and is actively working to prevent on-the-job accidents, injuries, illnesses, and fatalities. This brochure, developed by the CWA Occupational Safety and Health Department, is part of that effort.

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

Of importance, the federal Occupational Safety and Health Administration states clearly that the employer has primary responsibility for providing working conditions “which are free from recognized hazards that are causing or are likely to cause death or serious physical harm.”

The OSHA Telecommunications Standard (29 CFR 1910.268) deals specifically with power lines and other electrical hazards. The standard requires telecommunications employers to provide:

- Appropriate work practices and procedures that allow employees to do their jobs in a safe and healthful manner.
- Appropriate education and training.
- Appropriate and necessary hand tools, related equipment, and personal protective equipment.

***It is extremely important that members follow all employer safety and health procedures and policies and, as necessary, remind co-workers to perform tasks in a safe and healthful manner.***



Use insulating pole covers when placing poles in the vicinity of power.



*After testing with a voltage tester, use insulating rubber gloves when placing a temporary bond.*

## Alarming Numbers: Risk, Injuries and Fatalities on the Rise

### ***CWA Identifies Safety and Health Hazards***

In early 2006, CWA's Occupational Safety and Health Department developed and distributed the survey "Electrical Hazards, Accidents, Injuries, Illnesses, and Fatalities" to all telecommunications locals.

The survey indicated that many members had near misses or relatively minor accidents while some suffered serious injuries and even fatalities. Risks identified for outside technicians included aerial work, confined spaces, buried plant, trench work and sub-stations, as well as problems during inclement weather. Hazards were also cited inside central offices and residential and commercial buildings.

### ***Official Numbers Lower***

The survey data differs from what local union leaders say is reported to employers and OSHA. The reason for this is simple: Affected members hesitate to report incidents for fear the employer will blame them and retaliate.

CWA's concern is that the hazard doesn't get fixed when the problem isn't reported. Thus, the next technician who performs work at the same location could be exposed to the same electrical hazards.

Among CWA members, six have been reported killed since 1999 as a result of work-related electrocutions. All of these cases were preventable. It is imperative that CWA leaders and occupational safety and health activists take the lead in ensuring that employers provide technicians with safe and healthful working conditions.



*Use insulating rubber gloves and insulating rubber blanket when placing poles in the vicinity of power.*



*Working near power lines, a technician uses a lasher to join telecom lines.*

## What Can We Do?

First, let's look at the reasons for the significant rise in "near miss" incidents, as well as accidents, injuries, illnesses, and fatalities among telecommunications technicians.

CWA's occupational safety and health leaders and activists have identified three major causes:

- Increased workload and productivity requirements.
- Inadequate work procedures and practices.
- Cutting the amount of workplace safety and health education and training provided to technicians (and supervisors).

### **Higher Workload**

Employers are requiring technicians to complete more assignments during a shift. This puts pressure on them to cut corners with regard to their personal safety to meet the company's demands. The faster pace, coupled with increased overtime hours and the exhaustion factor, is a big part of the problem.

### **Spelling Out Procedures**

Employers with workers in close proximity to electrical power must develop practices and procedures covering all relevant safety and health issues. For example, a second worker trained in basic first aid and CPR should be assigned to any job where there is a risk of electrical exposure. Further, potentially risky worksites should be investigated before employees begin a job to determine the stability of utility poles and electrical hazards. Policies should set forth how long it takes to complete assigned tasks, with the specific requirements of each job taken into consideration.

Said another way, the safety and health of members should always take precedence over employers' concerns about productivity.





Appropriate insulating rubber gloves, inner cotton liners and outer protectors, as well as insulating rubber blankets, are among essential protective gear when testing for electrical power. Also pictured is the 188A/C9770 voltage tester.



Foreign voltage test set



A worker uses a voltage tester to re-test telecom pedestal on joint-use pole.

## Inspect the Work Area and Conduct Voltage Tests

When working outside, technicians should conduct a thorough inspection of the work area by first “using their senses” and, second, by conducting voltage tests.

- **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 calibrated voltage tester (e.g., 188A/C9770, Foreign Voltage Detector, or similar equipment). 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 (e.g., mobile homes and trailers), foreign plant in company work space, grounds, bonds, cable strands, power sub-station equipment (e.g. building entrance terminals and/or high voltage protection equipment), ceiling grids and support wires, metal fences, and any other equipment/material that could be energized.



## Bad Weather

At the first sign of a storm, technicians should prepare to close up any wire, cable or construction work and discontinue the job until storm conditions have passed. Employers must make this clear in their policies and procedures and explain ways for technicians trapped in storms to avoid electrical exposure. These include parking their vehicle under a highway overpass, staying in the vehicle, avoid parking under power lines, not touching metal objects such as tools, cable strand, fences, lamp posts, ladders, and pipes and standing clear of metal decking and roofing, ladders, scaffolding and railroad tracks.

### **Downed Lines**

If a storm has knocked down power lines, technicians should not perform any electrical work until all hazardous conditions are corrected. Once the electric utility company has cleared the trouble(s), technicians should use their voltage tester to test all areas before resuming work. If technicians find a downed power line, they should call 911, remain at a safe distance (i.e., at least 50 feet) from the downed power line, barricade the location and call their supervisor.

### **Lightning**

Technicians who are near a building during a storm should go inside, away from the exterior doors and telephone equipment, and try to remain dry. This is extremely important as wet clothing greatly increases the chance of being exposed to lightning and electric shock. Lightning is too often misunderstood, underestimated, and fatally discounted. Exposure can be controlled and reduced by recognizing its potential for harm and acting responsibly.

### **Equipment**

Appropriate hand tools, electric powered and non-powered equipment, as well as personal protective gear is essential to performing work in a safe and healthful manner. An employer's failure to provide these items increases the rate of accidents, injuries, illnesses, and fatalities.

Ideally, the employer will ensure that work tools and equipment are designed to reduce the risk of repetitive motion, strain and other ergonomic injuries. Well designed equipment is especially important when doing aerial or overhead work.

### **Exposure**

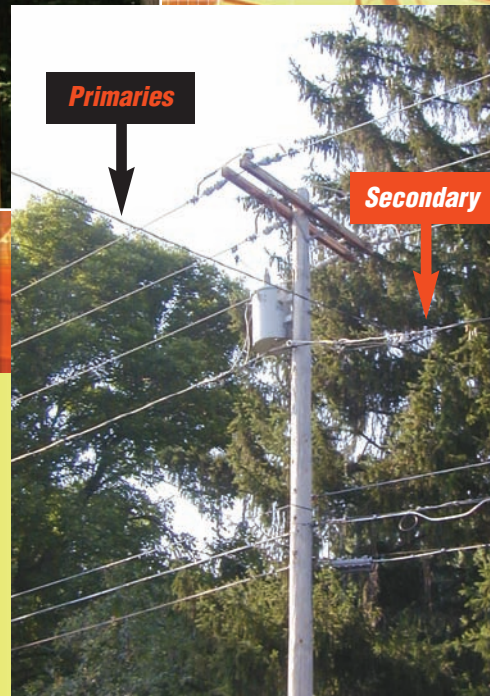
In aerial and overhead work, if equipment comes into contact with an energized power line, the electric current will flow to the ground. When this occurs, technicians in a company vehicle or an aerial bucket should remain where they are until the electric company has been contacted and de-energized the power line or corrected the problem. Technicians on the ground should not go near energized equipment or attempt to rescue an energized worker until the power is shut off. Co-workers who encounter an electrical shock victim, should not touch or try to move the victim. Instead, call 911 immediately.

When work equipment inside a building comes in contact with an energized line, technicians should turn off the electrical power at the control panel. Also, before drilling into a wall or other structure, technicians should inspect the work area, inside and out, to make sure the path is clear of obstacles, power lines, or other utilities. Never drill blindly.





*Telecom lines should be at least 40 inches below power lines. When working in a bucket, make sure to maintain appropriate approach distances at all times.*



*Primary and secondary power lines on a joint-use pole.*

## Education & Training

Comprehensive employer-provided training is essential for our members to do their jobs in an efficient and productive manner that is also safe and healthful. Training should emphasize vital issues such as clearance and approach distances and be presented by instructors in a classroom setting. Computer-based training can be a useful supplement but is not a replacement for interactive instructor-led classes.

New employees should get immediate training and all workers should get annual refresher training. Weekly or monthly “tailgate” meetings (which are required by several companies) are a good way to pass on information and assess technicians’ concerns. Unfortunately, some telecom companies have cut back on or eliminated these informal but important meetings, or have scheduled but repeatedly postponed them because of higher work loads.

Tailgate discussions should include, but not be limited to:

- Inspection of the work area before work is performed for potential safety and health hazards.
- Safe work practices for specific work operations.
- Methods to protect against hazards, e.g., engineering controls such as shielding devices and specialized equipment or the provision and safe use of ergonomic hand tools and related work equipment.
- Use and inspection of personal protective equipment such as insulating rubber gloves and rubber blankets, safety goggles, safety shoes and appropriate clothing.
- Use and inspection of voltage tester.

### **Management**

Managers’ qualifications are a serious concern. More and more, telecom employers are hiring supervisors who do not have the proper training or work experience. Without these vital skills and background, supervisors can’t competently train others or ensure that work is done in a safe and healthful way. Therefore, all supervisors responsible for field work should be required to participate in the same education and training program that is required of company technicians.





*Telecommunications lines should not be attached to an electrical power mast.*

*Extreme risk: Power lines and telecom lines should never be connected.*



*Improper ground on a joint-use pole.*



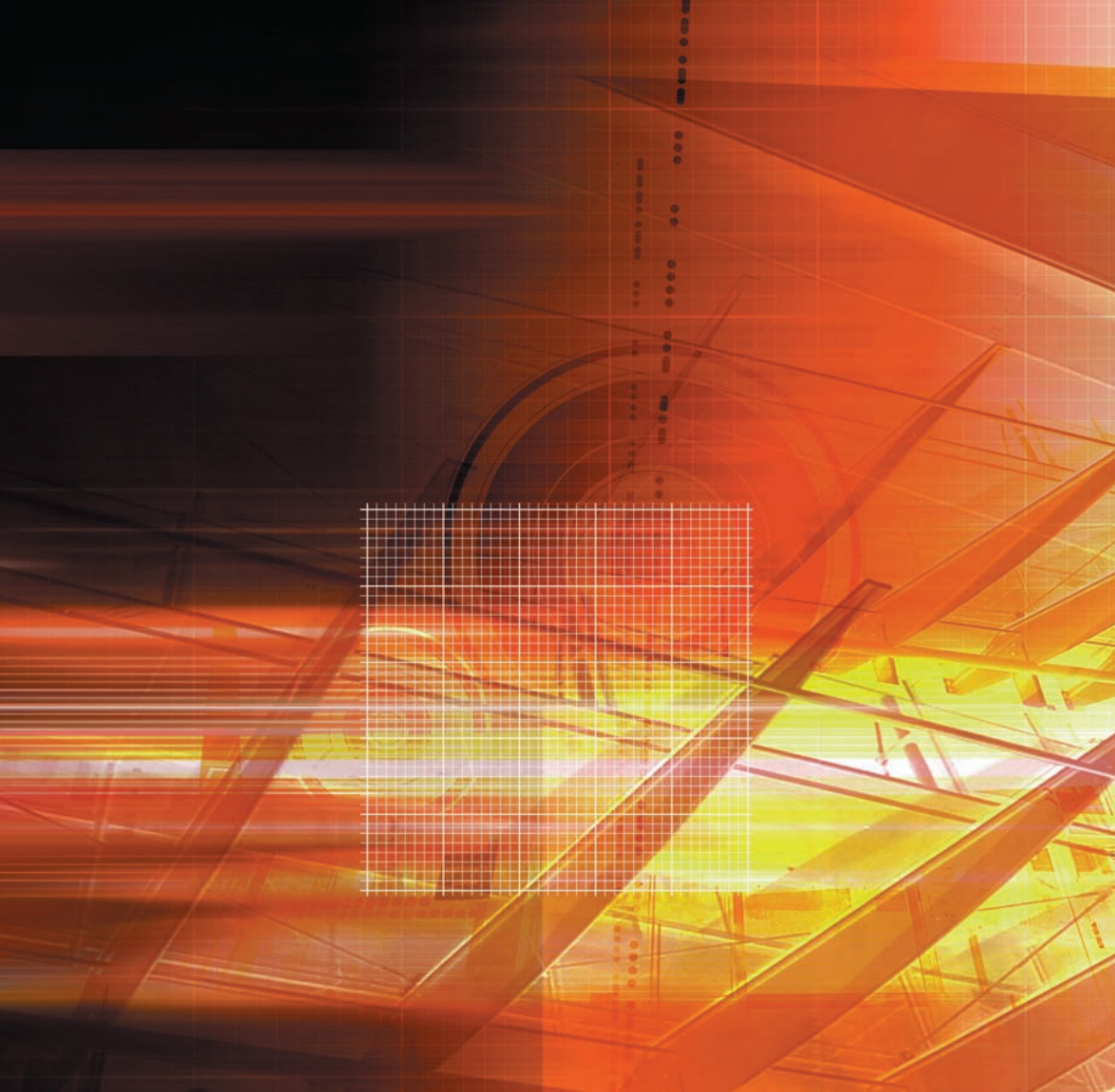
*Moisture-laden vines on poles that cross power lines and are in telecom space create electrical risks. The protruding cable box represents another hazard for workers climbing the pole.*

## Reporting Hazardous Working Conditions

When employers aren't providing safe and healthy working conditions or the necessary training, CWA members should report the problems to their union representative as well as the company supervisor. Here are some guidelines:

- ▶ In instances when working conditions may pose imminent danger of injury or loss of life, members should report it to the union and the company and offer to perform other, safer work until the hazard is corrected. Never walk away or leave the worksite until alternative work has been assigned. If the hazardous working conditions aren't fixed, members should contact their local union representative to consider filing an OSHA "imminent danger" complaint.
- ▶ If the matter can't be resolved, filing a grievance may be the next step. Details gathered during the union's investigation of the incident 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 the matter will be resolved through the grievance process, dangerous working conditions can be addressed through OSHA. Local union leaders should discuss the issue with an OSHA representative and, if necessary, file a formal complaint.





**For more information, CWA local union leaders and occupational safety and health activists are encouraged to contact us at:**

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