

first responder beware®

**Staying Safe While Saving Others:
Electrical Safety for First Responders**



PPL Electric Utilities

- **Firefighters, police, and EMTs are typically first on the scene in an emergency and face the greatest risk from electrical infrastructure contacts.**



- **Understanding the potential dangers and dealing with them correctly makes everyone safer.**
- **This program is designed to supplement, not replace, your department's standard operating procedures (SOPs) on electrical safety.**

Electrical Safety Basics

- **Respect the Power of Electricity**
- **Hands Off Electrical Systems**
- **Protect Yourself and Others from Shock**
- **Always Observe the **20-Foot** Rule**
- **Be Aware of Overhead Power Lines**
- **Use Extra Caution Near Downed Power Lines**
- **Manage Substation and Transformer Fires**

Respect the Power of Electricity

- **Electricity always seeks the easiest, most direct path to ground** through conductors like:
 - Your body
 - Trees
 - Water
 - Metal objects and structures
 - Long or tall equipment
- **Even low-voltage electric shock can be fatal.**
- **Standard-issue protective gear DOES NOT insulate you against electric shock.**
- **Electric shock and burn injuries may include internal tissue damage that is not immediately apparent.** Make sure victims receive thorough medical attention.



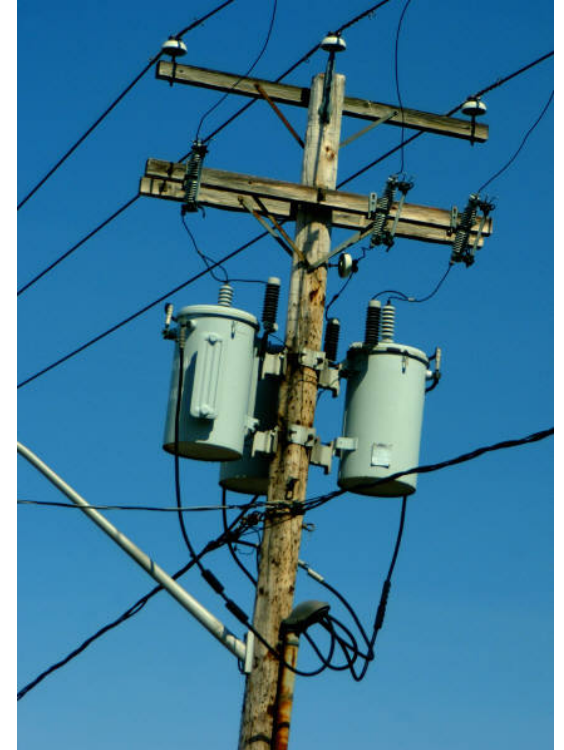
Hands Off Electrical Systems

- **Never attempt to disconnect electrical services:**
 - **Never cut service wires.**
 - **Never attempt to remove electrical meters.** This is extremely dangerous and can cause serious injury or death. Call PPL Electric Utilities to de-energize the electric service.
 - **Never attempt to open or enter a manhole, underground vault, or substation.**
- **Never touch or attempt to move power lines.**



Protect Yourself and Others from Shock

- **Always identify power lines and electrical equipment upon arrival at an incident scene.**
- **Assume all lines are energized** as well as all objects in contact with power lines.
- **If power lines or electrical equipment are involved in an incident,** have your dispatcher contact PPL Electric Utilities.
- **Provide the best possible directions** to the location.
- **Secure the area.**



Always Observe the 20-Foot Rule

- Keep yourself and your equipment **AT LEAST 20 feet away** from overhead power lines.
- Higher voltages require greater clearances.
- There is no uniform system for identifying power line voltage. When in doubt, contact PPL Electric Utilities for clearance information.
- **Electrical safety distances given are minimums. Always use the maximum possible distance.**

Be Aware of Overhead Power Lines

- Park emergency vehicles as far away as possible from overhead power lines.
- Keep aerial equipment **AT LEAST 20 feet away** from overhead lines.
- Never use a solid water stream to fight fires near overhead power lines.



Be Aware of Overhead Power Lines

- **If your equipment contacts a power line:**
 - The equipment should be considered energized.
 - **Call PPL Electric Utilities.**
 - If you can do so safely, **move the equipment away from the line.**
 - **If the equipment cannot be moved, stay put, and warn others to stay away** until PPL Electric Utilities personnel give the all clear.

Be Aware of Overhead Power Lines

- **If fire or other imminent danger forces you off the equipment:**
 - **Jump clear**, keeping both feet together and without touching the equipment and ground at the same time.
 - **Shuffle away with small movements**, keeping your feet close together and on the ground at all times.
 - **Do not run or take large steps.**
When equipment contacts a line, electricity spreads out in the ground like ripples in a pond and the voltage decreases with distance from the point of contact. If your legs bridge two areas of different voltage, you could be killed.



Use Extra Caution Near Downed Power Lines



- Park emergency vehicles away from fallen lines.
- Secure the area:
 - Keep yourself and the public **AT LEAST 100 feet away** from ALL downed power lines and objects that may be energized.
- Never touch or attempt to move fallen lines or objects contacting them.
- Never use a solid water stream to fight fires near downed lines.

Use Extra Caution Near Downed Power Lines

- **DO NOT** enter, approach, or touch areas or vehicles that may be energized.
 - Call PPL Electric Utilities.
 - Instruct vehicle occupants to drive the vehicle away from the line if this can be done safely.
 - If the vehicle cannot be moved, **instruct the occupants to stay put until PPL Electric Utilities personnel give the all clear.** Staying in the vehicle is their **BEST** protection against electric shock.

Use Extra Caution Near Downed Power Lines

- If occupants in an energized vehicle are in imminent danger from fire or other hazards:
 - Instruct them to jump clear **without contacting the vehicle and the ground at the same time.**
 - Tell them to shuffle away with small movements, keeping both feet close together and on the ground at all times.
 - Demonstrate the proper procedure from a distance.
- If vehicle occupants are injured, disabled, or otherwise unable to safely exit the vehicle on their own, your incident commander will assess the situation and tell you how to proceed.

Substation Fires

- **Burning electrical equipment is already ruined and will be replaced. The safest course of action is to LET IT BURN.**
- **Contact PPL Electric Utilities and wait for their personnel to arrive. Never attempt to enter a substation without utility personnel present.**
- **Evacuate the area** and keep everyone **AT LEAST 500 feet away** from the substation.
- **Electrical equipment may contain oil. Be alert for explosions and toxic smoke.**
- **Protect exposures**, such as trees and buildings, to prevent fire from spreading.
- **Prevent contamination of water resources.** Monitor for oil runoff and direct it away from catch basins, surface waters and wetlands.
- **Never attempt to open, or disturb, or operate** any PPL Electric Utilities equipment or facility.



Transformer Fires

- **Do not open or enter switch cabinets or pad-mounted transformers.**
 - **Never cut locks or pry cabinets open.** Equipment contains live electrical components, and if you contact them you could be killed.
- **Call PPL Electric Utilities, evacuate the public, and protect area exposures.**
- **Let transformers burn until otherwise instructed by PPL Electric Utilities personnel.**



Electrical Safety Review

- **Identify all overhead power lines and electrical equipment upon arrival at an incident scene.**
- Whenever you suspect electrical infrastructure is involved, or when in doubt, **call PPL Electric Utilities.**
- **Hands off electrical systems.**
 - Never attempt to disconnect electrical service.
 - Never touch power lines.
- **Assume all power lines are energized and keep yourself and your equipment *AT LEAST 20 feet away*.**
- **Even low-voltage electric shock can be fatal**, and your gear does not insulate you against electric shock.
- **When responding to a substation or transformer fire, let it burn**, evacuate the area, protect exposures, and direct any oil runoff away from water resources.

Contact Information

- In case of emergency, call PPL Electric Utilities at **1-800-342-5775 (1-800-DIAL-PPL)**
- For additional information, visit our website at **ppl.e-smartresponders.com**



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Thank You