



# first responder beware®

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



- **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).**

# Electrical Safety Basics

- **Respect the Power of Electricity**
- **Hands Off Electrical Systems**
- **Protect Yourself and Others from Shock**
- **Always Observe the 10-Foot Rule**
- **Be Aware of Overhead Power Lines**
- **Respond Safely to PV Incidents and Practice Drone Safety**
- **Use Extra Caution Near Downed Power Lines**
- **Manage Substation and Transformer Fires**

# Respect the Power of Electricity

- **Electricity will seek all paths to the ground, including, but not limited to:**
  - Your body
  - Trees
  - Water
  - Metal objects and structures
  - Long or tall equipment
- **Even low-voltage electrical shock can be fatal.**
- **Standard-issue protective gear **DOES NOT** insulate you against electrical shock.**
- **Electrical shock and burn injuries may include internal tissue damage that is not immediately apparent.** Make sure victims receive thorough medical attention.



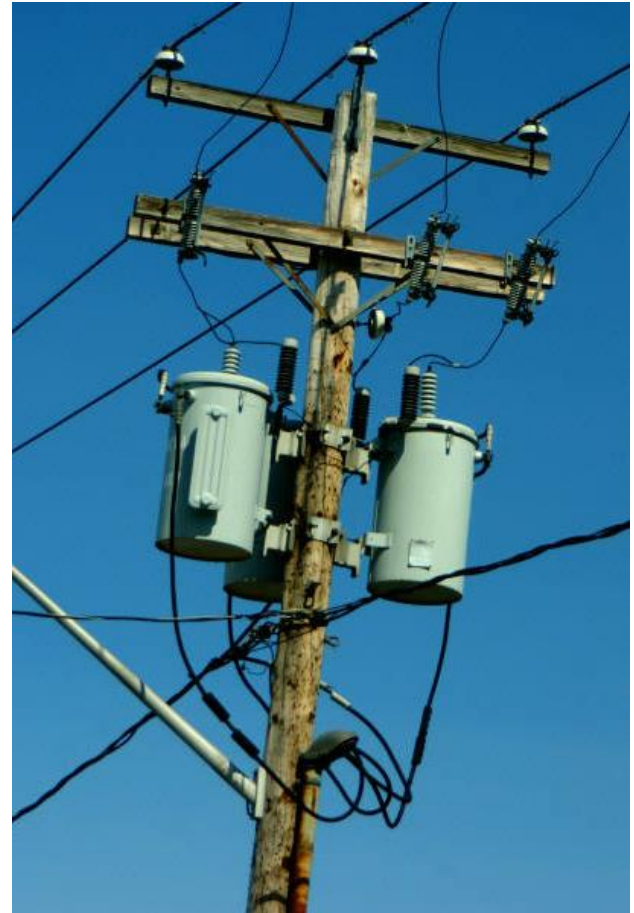
# Hands Off Electrical Systems

- **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. Instead, turn off power at the main circuit breaker.
  - **Never attempt to open or enter a manhole or vault** until you are sure it has been de-energized.
- **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 Dominion Energy.
- **Provide the best possible directions** to the location.
- **Secure the area.**



# Always Observe the 10-Foot Rule

- Personnel, ladders and fully extended aerial equipment must never get closer than **10 feet** from lines up to 50kV.
- Higher voltages require greater clearances. For example, lines on large transmission towers require additional clearances of up to **50 feet**.
- There is no uniform system for identifying power line voltage. If you are unsure of the voltage of a line, consult Dominion Energy to ensure safe working distances.
- **Electrical safety distances given are minimums. Always use the maximum possible distance.**

# Be Aware of Overhead Power Lines



At least 10 feet from lines  
up to 50kV, up to 50 feet  
from lines with higher voltages

- Park emergency vehicles as far away as possible from overhead power lines.
- Keep all personnel and equipment as far away as possible from overhead power lines, including the service wires that run from utility poles to buildings.



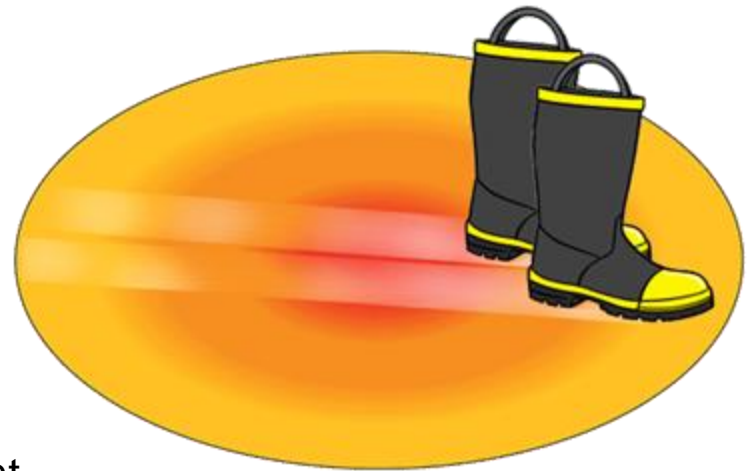
# Be Aware of Overhead Power Lines

- **If your equipment contacts a power line:**
  - The equipment should be considered energized.
  - **Call Dominion Energy.**
  - If you can do so safely, **move the equipment far away from the line.**
  - **If the equipment cannot be moved, stay put, and warn others to stay away** until utility 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 the ground at the same time. Land with your feet together.
- **Shuffle at least 30 feet away**, keeping both feet close together and on the ground at all times. Shuffle by sliding your feet on the ground in a heel-to-toe motion.
- **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.



# Respond Safely to PV Incidents and Practice Drone Safety

- **In incidents involving PV systems:**
  - **Prepare for fires near a rooftop array to grow unexpectedly.**
  - **Consider all PV equipment, junction boxes and wiring to be energized.**
  - **Always wear full protective clothing and SCBA.**
- **Do not fly drones near power lines or other electrical equipment.**
- **Never try to retrieve a drone** that has crashed into electrical facilities. You may be shocked if you touch or even approach the power line, equipment or the drone.

# Use Extra Caution Near Downed Power Lines



- **Park emergency vehicles away from fallen lines.**
- **Secure the area:**
  - Keep yourself and the public as far away as possible from fallen power lines and objects that may be energized—never get closer than 30 feet.
  - Transmission lines from large towers require a distance of 100 feet.
- **Never touch or attempt to move fallen lines or objects contacting them.**



# Use Extra Caution Near Downed Power Lines

- **DO NOT** enter, approach or contact areas or vehicles that may be energized.
  - Call Dominion Energy.
  - Instruct occupant(s) to drive the vehicle far away from the line if can be done safely.
  - If the vehicle cannot be moved, **instruct the occupants to stay put until utility personnel give the all clear.** Staying in the vehicle is their **BEST** protection against electrical 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 at least 30 feet away, keeping both feet close together and on the ground at all times.
  - They should shuffle by sliding their feet on the ground in a heel-to-toe motion. They should not allow any distance between their two feet, as this increases their risk of electrical shock.
  - Demonstrate the proper procedure from a distance.
- **If victims 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.

# Manage Substation Fires

- **Burning electrical equipment is already ruined and will be replaced. The safest course of action is to LET IT BURN.**
- **Contact Dominion Energy and wait for their personnel to arrive. Never attempt to enter a substation without utility personnel present.**
- **Isolate the area AT LEAST 300 feet in all directions. Keep unauthorized persons away.**
- **Electrical equipment contains oil. Be alert for explosions and toxic smoke.**
- **Monitor for oil runoff.** Direct any oil away from catch basins and surface waters.
- **Protect area exposures** to prevent fire from spreading.
- **If an equipment fire must be suppressed,** utility personnel and the incident commander will tell you how to proceed.

# Manage 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 Dominion Energy, evacuate the public and protect area exposures.**
- **Let transformers burn until otherwise instructed by utility 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 Dominion Energy.**
- **Hands off electrical systems.**
  - Never attempt to disconnect electrical service.
  - Never touch power lines.
- **Keep all personnel and equipment as far away as possible from overhead power lines**, including the service wires that run from utility poles to buildings. Assume all power lines are energized.
- **Even low-voltage electrical shock can be fatal**, and your gear does not insulate you against electrical shock.
- **When responding to a substation or transformer fire, let it burn**, evacuate the area and protect exposures.

# Contact Information

- In case of emergency, call Dominion Energy:
  - NC, VA: **866-DOM-HELP (366-4357)**
  - SC: **888-333-4465**
  - TX: **911**
- Visit **firstresponder.domsafety.com** for advanced electrical safety information and training tools.



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