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TRAINING BULLETIN

January 2, 2018

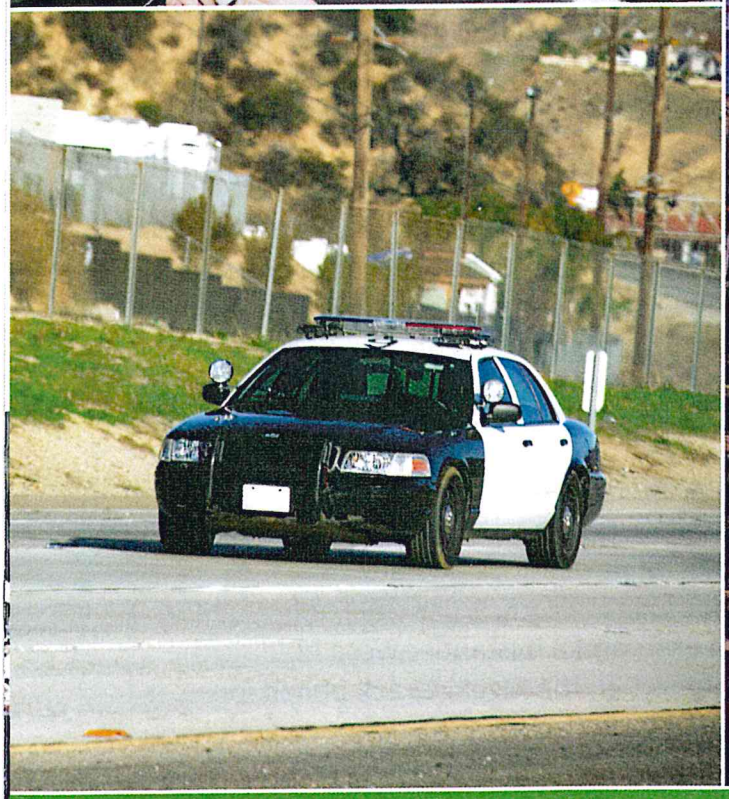
Electrical Safety for First Responders

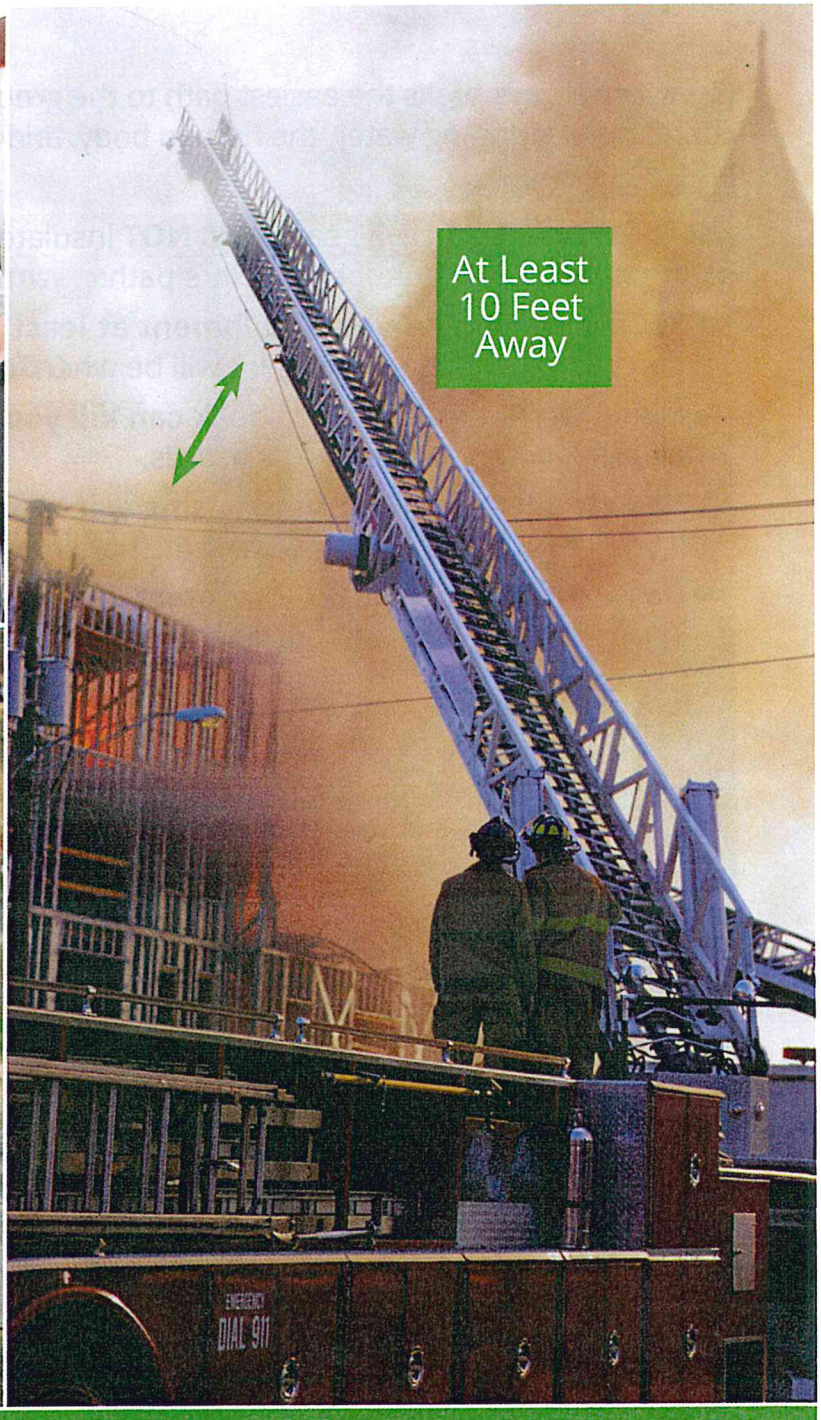
Refer attached safety information provided from SCE for first responders.

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead™

FIRST RESPONDER BEWARE®

Electrical Safety for First Responders





Staying Safe While Saving Others

sce.firstresponderonline.com

RESPECT THE POWER OF ELECTRICITY

Stay Out of Its Path

Electricity always seeks the easiest path to the ground. It will travel there through conductors, including water, the human body, and metal objects such as ladders, poles, and fences.

Your standard protective gear **DOES NOT** insulate against electric shock. To keep yourself safe, you must stay out of electricity's path:

- **Keep yourself and your equipment at least 10 feet from all power lines.** Consider how close equipment will be when fully extended.
- **Even low-voltage electric shock can kill you.** When entering any structure, be alert for indoor electrical hazards.
- **Be extremely cautious when using water to fight fires near power lines.** If you must use water, use only a mist or spray, never a stream.
- **Do not attempt to enter or contact vehicles that may be energized.** This is extremely dangerous and can lead to serious injury or death.

VEHICLE RESCUE GOES AWRY

An emergency medical technician (EMT) and several firefighters responded to an accident involving a car that struck and broke a utility pole. The car laid on its side with an injured passenger pinned inside, just two feet away from power lines that sagged a few feet above the ground.

In an attempt to stabilize the vehicle, rescuers ran a steel winch cable below the sagging power lines and attached it to the car's luggage rack. A fire chief, a firefighter, an EMT, and a bystander were holding the cable when the luggage rack pulled loose; it and the cable contacted the energized lines. The fire chief and bystander were both killed. The firefighter and EMT received severe electrical burns.

This booklet is designed to supplement, not replace, your department's standard operating procedures on electrical safety.

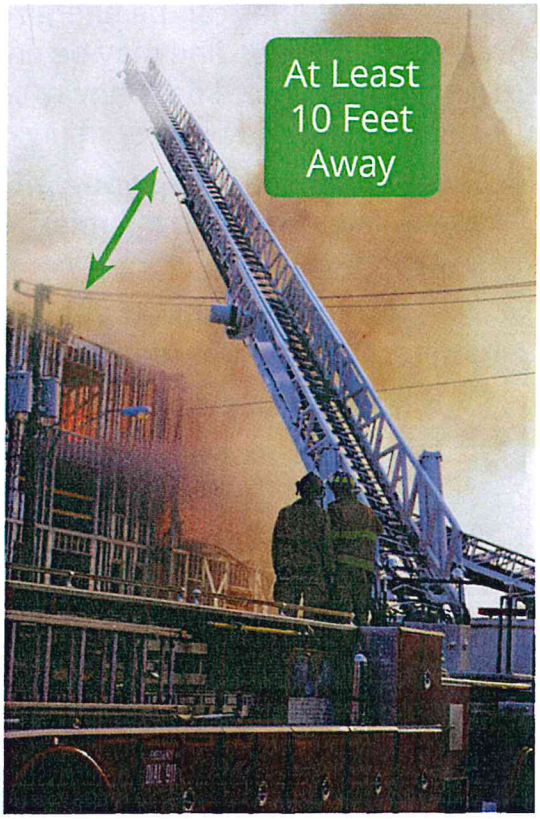
AVOID OVERHEAD POWER LINES

Be Alert for Power Lines and Follow the 10-Foot Rule

Upon arrival at every incident scene, survey the area to find overhead power lines and poles:

- **Locate overhead power lines.** Check for downed lines as well.
- **Park emergency vehicles as far from overhead lines as possible.**
- **Keep all aerial equipment at least 10 feet from overhead lines at all times.** Remember that wind can move lines or equipment.
- **All power lines are energized** and potentially dangerous as well as all objects in contact with power lines.

Electrical safety distances given are minimums. Higher voltages require greater clearances. Always use the maximum possible distance.



FIRE CAPTAIN ELECTROCUTED BY DOWNED LINE

A fire captain was fatally shocked when he brushed against a fallen 12,000-volt power line while fighting a predawn house fire. The line had fallen into a nearby pine tree and was dangling just above the ground.

DOWNED POWER LINES

Never Attempt to Move a Downed Wire

Downed power lines can be energized even if they don't hum or spark, and anything contacting a downed line may be energized—including the ground. If you know or even suspect that a power line is down, call Southern California Edison (SCE) immediately, secure the area, and wait for utility crew members to give the all clear.

- **Secure the area. Keep yourself and the public at least 30 feet away from fallen power lines. Fallen transmission lines from large towers require 100 feet of clearance.**
- **Do not enter or contact vehicles that may be energized. This is extremely dangerous and can lead to serious injury or death.** Instead:
  - **Instruct victims to drive the vehicle away from the line if they can do so safely.**
  - **If the vehicle cannot be safely moved, instruct victims to stay put until utility crew members give the all clear.** Staying in the vehicle is their best protection against electric shock.
  - **If victims are in imminent danger from fire or other hazards, stay away, and instruct them to jump clear without touching the vehicle and the ground at the same time. They must land with their feet together and shuffle away with small steps, keeping both feet on the ground.**
  - **If victims are injured, disabled or otherwise unable to safely exit the vehicle,** your incident commander will tell you how to proceed.

DOWNED POWER LINE KILLS STATE TROOPER

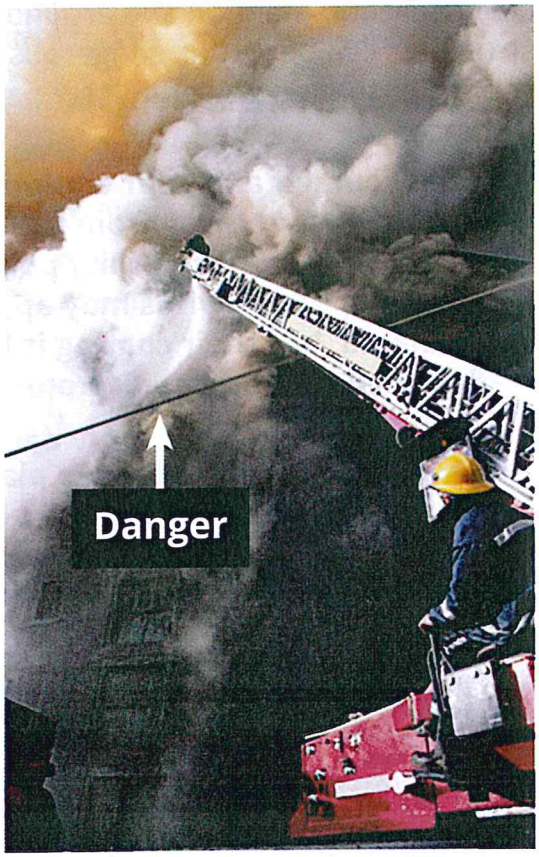
A state trooper came to the aid of a motor vehicle that struck a utility pole. A high-voltage power line hung several feet off the ground and was blowing in the wind. As the trooper approached the wrecked vehicle, the power line touched the side of his neck. He died en route to the hospital.

IF YOUR AERIAL EQUIPMENT CONTACTS A POWER LINE

Warn Others Away

If there is no immediate danger, take these steps:

- **Stay put.** Have someone call SCE immediately at 1-800-611-1911.
- **Warn others to stay away. When equipment hits a line, people standing on the ground are in the greatest danger.**
- **Move the equipment away from the line if you can do so safely.**



If you **must** get off the equipment due to fire or other imminent danger, **jump clear, land with your feet together, and shuffle away with small steps.**

- **Do not touch the equipment and the ground at the same time. If you do, you will become electricity's path to the ground and you will be seriously—or fatally—shocked.**
- **Do not run or take large steps. When equipment contacts a line, electricity spreads out in the ground. If your legs bridge two areas of different voltage, you could be shocked.**

FIREFIGHTER BURNED WHEN LADDER BOOM STRIKES POWER LINE

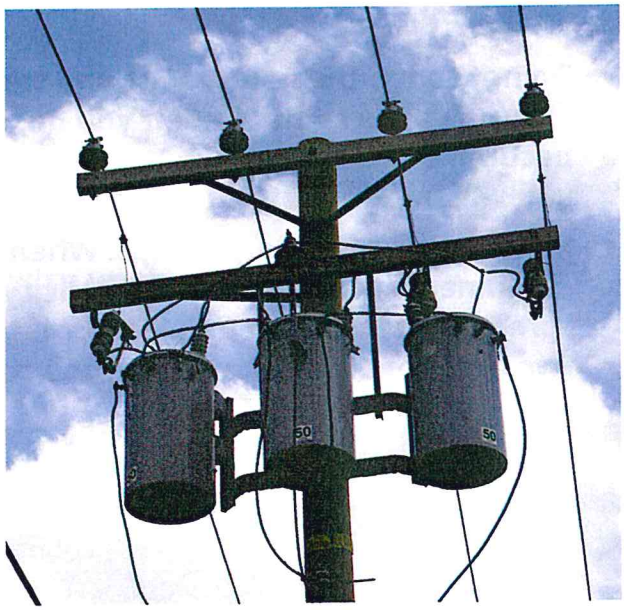
Firefighters arrived at a burning warehouse intending to douse the roof with water. While a firefighter on the ground was trying to connect a pumper truck hose to a fire hydrant, the truck's ladder boom hit a 7,200-volt power line. Electric current traveled through the ladder and hose, severely burning the firefighter.

HANDS OFF ELECTRICAL SYSTEMS

Don't Become Part of the Circuit

Electrical equipment on and around structures can be just as dangerous to contact as that on power poles. Keep your distance.

- **Keep yourself and your equipment at least 10 feet away from the service drops that run from utility poles to buildings. These wires may appear insulated, but their coating is NOT designed to protect you from electric shock.**
- **Have a spotter monitor the placement of ladders near power lines to ensure they remain a safe distance away from service drops and other power lines.**
- **Do not cut service wires or remove electrical meters. This is extremely dangerous. Instead, turn off power at the main circuit breaker.**
- **Never attempt to open or enter a manhole or vault until SCE has de-energized the area.** Then follow your department's safety procedures for confined space entry.



LADDER HITS LINES: FIREFIGHTER DIES

Three firefighters were positioning a 35-foot aluminum extension ladder outside a three-story building with an active fire on the third floor. Two of the firefighters apparently slipped on ice and snow on the sidewalk and lost control of the ladder, which fell against a 7,600-volt power line. One firefighter was killed and one was seriously injured.

SUBSTATION AND TRANSFORMER EMERGENCIES

If a Substation or Transformer Is Burning, Let It Burn and Immediately Contact SCE and Wait For Crew Members to Arrive

Burning electrical equipment is already ruined and will be replaced. Your safest course of action is to let it burn unless or until otherwise instructed by an SCE crew member.

Contact SCE immediately at 1-800-611-1911 and wait for crew members to arrive.

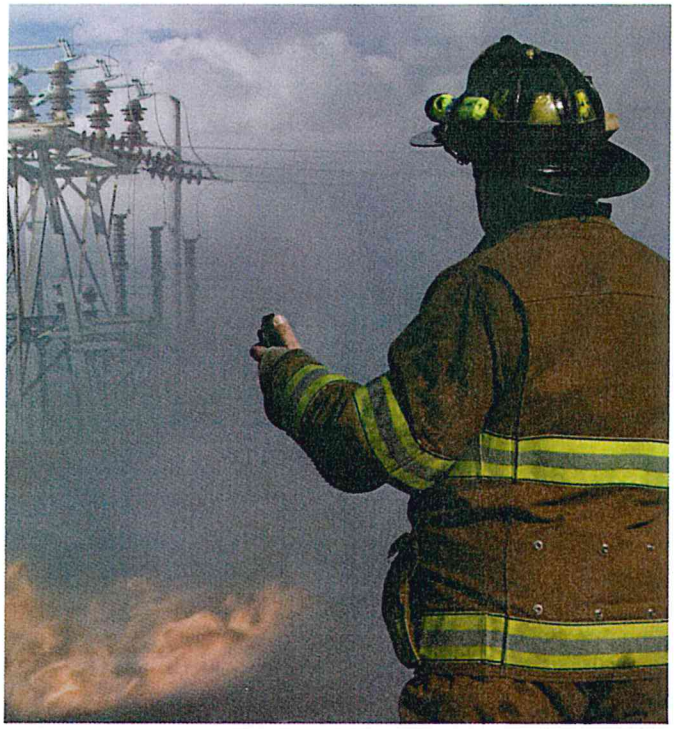
While you are waiting, secure the area:

- **Evacuate the area. Keep people at least 300 feet away from a burning substation.**
- **Be alert to explosion and toxic-smoke hazards because electrical equipment contains oil.**
- **Protect area exposures to prevent fire from spreading.**
- **Never attempt to open a ground transformer or switch cabinet.**

If an equipment fire must be suppressed, utility crew members and the incident commander will tell you how to proceed.

SUCCESSFUL RESPONSE TO SUBSTATION FIRE

A circuit breaker filled with 20 gallons of mineral oil caught fire and exploded at a rural electric substation. Flames and smoke shot 200 feet into the air. Firefighters evacuated nearby residences within 300 feet, set up a 100-foot perimeter around the substation, closed the nearby highway, and let the fire run its course. Thanks to proper response procedures, no one was injured.



FIRST RESPONDER BEWARE®

When You Suspect Electrical Hazards, Ask Your Dispatcher to Contact SCE

Firefighters, police, and EMTs are typically the first on the scene in an emergency and face the greatest risk from electrical hazards. Understanding the potential dangers of electricity and dealing with them correctly makes everyone safer.

- **Your body is a conductor, and your protective gear DOES NOT insulate against electric shock. Even low-voltage shock can be fatal.**
- **Always identify possible electrical hazards upon arrival at an incident scene, and contact SCE immediately.**
- **Secure the area.**
- **All power lines are energized and potentially dangerous as well as all objects in contact with power lines.**
- **Never cut service wires or remove electrical meters.**
- **Never attempt to move fallen power lines or contact energized vehicles until utility crew members give the all clear.**
- **Never use a solid water stream to fight fires near power lines.**
- **Keep yourself and your equipment at least 10 feet from all power lines.**
- **If an electrical equipment fire must be suppressed, await instruction from an SCE crew member and the incident commander.**