



**ARCADIA FIRE DEPARTMENT  
STANDARD OPERATING GUIDELINE**

**ELECTRICAL EMERGENCIES**

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**PURPOSE**

This guideline will establish a standard approach and response to the report of utility pole or transformer fire incidents.

Electricity always seeks the lowest level or a ground and will travel any path necessary as it seeks a ground. A direct path to ground is when contact is made between something energized and a portion of the body such as a hand, arm, head or other body part. An indirect path to ground occurs when contact is made with something that is energized including, equipment, or straight stream hose line.

Personnel should use caution when spraying water on or around energized electrical equipment. Hose streams conduct current. Never spray directly into power lines or energized equipment. Your responsibility is to protect life and the surrounding area.

When transformers burn, some may contain Polychlorinated Biphenyls (PCB) which are very hazardous and can be fatal. PCB is a mixture of chemicals that are clear to yellow oily liquids or solids. They are used as insulating fluids in electrical systems. Contact with both gases and oils released during incident should be avoided and runoff must be contained.

**POLICY**

It is the policy of the Arcadia Fire Department that personnel should take all necessary precautions and follow procedures as stated in this document when responding to incidents involving utility poles and transformer fires.

**PROCEDURE**

1. Determine the type of electrical problem and request the appropriate power company to respond, if needed.
2. Give dispatcher proper location of incident (pole number, address, etc).
3. Set up an exclusion zone. Request Police Department assistance when necessary. The rule of thumb for establishing an electrical incident exclusion zone is to maintain the distance of one complete span of wires on either side of fallen wires.
4. Park apparatus outside of exclusion zone.
5. Order additional resources as necessary.

## A. SAFETY

1. Do not fight electrical fires with water unless you or the power company has de-energized the system. Protect exposures if power has not been shut off.
2. Be careful when spotting equipment and deploying hose lines. Electrical lines may fall on apparatus, personnel or hose lines.
3. Do not walk under transformers as they may contain PCB's, or burning oil. Transformers will explode.
4. Wear protective clothing in accordance with Arcadia Fire Department SOG # 101, Personal Protective Equipment.
5. Do not open shutters on vaults. This may cause an explosion due to accumulation of flammable gases and the introduction of oxygen.
6. Keep bystanders clear of hazardous area.
7. Do not open pole-mounted switches; they are for use by power company personnel only.
8. Do not assume that telephone or cable wires are not energized; they may be in contact with energized electrical wires.
9. Do not use water to control pole fires unless de-energized by the power company. Protect exposures if power has not been shut off.
10. Avoid standing in puddles of water run-off during fire fighting operations when energized electrical equipment may be involved or nearby.
11. Assume that all wires down are energized and act accordingly.
12. If the incident requires the handling or cutting of energized/possibly energized lines, Full PPE, eye protection, and Class 00 Electrical safety gloves must be worn.
13. All rated Hot Sticks, Pigtails, and Hot Cutters must be dry and wiped clean with Rosin cloth prior to use.
14. Do not use non-rated equipment such as pike poles, non-rated cutters and non-rated ropes to handle downed wires.
15. Electrical fires can be handled effectively by shutting down power source.

## B. WIRES DOWN

1. Consider all downed wires energized.
2. If downed wires are present, locate both ends.
3. Request PD for possible evacuation and street closures.
4. Members should not move wires unless necessary to rescue victims, and then only after all safety precautions have been observed.
5. Be careful when laying hose lines and spotting apparatus as additional power lines may fall.
6. Establish an exclusion zone; include fences, vehicles, guardrails, railroad tracks and puddles of water that may be electrically energized.
7. Standby and keep the public away from the scene until wires are de-energized by power company personnel.

### C. CUTTING WIRES

1. Electrical wires should only be cut if absolutely necessary.
2. Cutting should be confined to the "low side", 480 volts or less, and only with electrical cutters and Class 00 electrical safety gloves that are rated higher than the voltage being cut.
3. Wear full structure PPE, including eye protection, and Class 00 electrical safety gloves with protective liners.
4. When it is necessary to cut the service lines to a structure, cut power at the drip loops. Do not cut the ground wire (the center aluminum braided wire). Cut each wire at different lengths to reduce the possibility of the cut lines arcing against each other. Turn head to avoid sparks and possible arching when cutting.
5. When cutting a wire at the pole, cut one wire at a time, the power side first and as high as possible. Cut each wire at different lengths to reduce the possibility of the cut lines arcing against each other. Turn head to avoid sparks and possible arching when cutting.

### D. UTILITY POLE / TRANSFORMER FIRE CONTROL

1. Do not extinguish utility pole or transformer fires with water unless life is threatened or a major structural component of power pole is threatened or until directed by power company personnel.
2. Request Police Department for possible evacuation and street closures.
3. Request utility company to respond.
4. Give pole number if available.
5. Dry chemical is the best extinguishing agent for energized electrical fires.
6. Contain pools of oil around transformer, call for appropriate Haz-Mat response.
7. If a structure fire involves electrical service or wiring, the power to the building will be shut off.
8. Power company personnel will be notified anytime fire department personnel shut off electrical service to a structure.

### E. VEHICLE RESCUE

1. Uninjured or mildly injured victims should stay in vehicle until Power Company personnel can shut off power to downed lines.
2. If an uninjured person desperately wants to remove them self from an energized vehicle, advise them to jump well clear of the vehicle without touching any part of the vehicle and the ground at the same time.
3. If it is necessary to care for an injured patient or remove patient from an energized vehicle prior to power company arrival, proceed with the proper PPE and proper electrical equipment (rated hot sticks, pig tail, cutters, class 00 gloves etc.), the wire can be pulled or cut free of the vehicle.
4. Do not utilize pike poles, non-rated ropes or equipment not rated to handle energized electrical lines during vehicle rescues.