

STANDARD OPERATING GUIDELINE - 4.4.2

TOPIC - ELECTRICAL EMERGENCIES & RELATED ISSUES

PURPOSE:

To establish a standardized approach to the safe handling of emergencies involving potentially electrically energized materials.

GENERAL:

Many of the emergencies which we respond to are further complicated by the introduction of electricity through the actual or perceived contact of an item with energized equipment. For our survival, it is vital that we understand our limitations and adhere to a set of strict standards.

During responses to storm related emergencies, fires of all types, and motor vehicle and other accidents we have the potential to come into contact with electrical distribution systems with voltage ranges between 110-1,000,000 volts. Some of these systems will be over-head while some are underground, neither is more safe than the other. Our basic approach will be a cautious one.

GUIDELINE:

OVERVIEW:

1. Contact the utility company as early into the incident as possible.
2. Distribution lines are to be presumed energized unless verified otherwise by the utility servicing that line.
 - a. Transmission lines - 115,000 to 1,000,000 volts
 - b. Sub-Transmission lines - 7,500 to 34,000 volts
 - c. Primary distribution lines - 4,800 volts
 - d. Service lines - 480 / 220-110 volts
3. Keep personnel, apparatus and public well away from any energized equipment or items.
4. Do not touch, pick up, step over or drive over any energized equipment or items.
5. As necessary, have utility company shut down power prior to beginning any direct operation.
6. Do not enter underground utility vaults.

SPECIFIC CONDITIONS: Add the following to the above considerations.

LINES DOWN

1. Advise other responding units and crews.
2. Maintain wide clearance from wires. Understand that voltage can arc substantial distances.
3. Establish perimeter with cones and/or warning tape. Distance is the best precaution, the amount of distance is a variable based upon the voltage and actual conditions at the scene, greater distance is better than too little.
4. Establish traffic control on both sides of the downed line whenever it is across a roadway.
5. If lines are across a vehicle instruct occupants to remain inside the vehicle, and to touch nothing until utility can be shut off. Do not attempt any rescue until utility is shut off.
6. If line is across victim:
 - a. Have dispatch request that the utility shut down the grid and notify you when this is accomplished.
 - b. If grid is shut off, use a pair of fiber glass handled pike poles to remove wires from victim.
7. If lines are across a house, set up for full structural operation without touching house until power is shut off.
8. Consider other items which may have become energized by the downed power line. **NOTE: Even though you may not see the point of contact items can be energized.**

STORMS:

1. Assume that any downed tree may be energized until proved otherwise. Do not touch or cut any downed tree.
2. Do not place apparatus or personnel in positions under power lines.
3. Understand that a line under tension, due to items leaning on it, may recoil when it breaks, stay well away.
4. Understand that fences may be energized by downed power lines or

through some other conducting source. Assume that all fences are energized until proved otherwise.

FIRES:

1. Maintain a high awareness of overhead wires during all phases of structural fire operations.
2. Do not pull the electrical meter under any circumstances.
3. Whenever there is a need to shut down the main breaker, be sure to shut off all sub-breakers first.
4. As necessary and when applicable, use a non-conducting extinguishing agent on energized equipment fires.
5. Do not use any water on transformer fires. Let the transformer burn and address any subsequent fire away from the energized equipment.