



# Tailgate/Toolbox Safety Training

Safety Services Company-Safety Meeting Division, PO Box 6408 Yuma, AZ 85366-6408 Toll Free (866) 204-4786



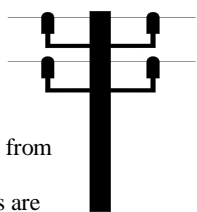
Company Name: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

## Topic 530: Overhead Lines (Electrical)

**Introduction:** Working near overhead lines is dangerous. Following are safety guidelines for working safely around overhead lines:

- **All overhead lines must be** deenergized and grounded, or other protective measures must be provided before work is started.
- **Arrangements are required to be** made with the person, or organization that operates, or controls the electric circuits to deenergize and ground them, if the lines are to be deenergized.
- **When protective measures**, such as guarding, isolating, or insulating, are provided, these **precautions must prevent** employees from contacting such lines directly with any part of their body, or indirectly through conductive materials, tools, or equipment.



**Note:** The work practices used by qualified persons installing insulating devices on overhead power transmission or distribution lines are covered by OSHA in 29 CFR §1910.269.

**Unqualified persons:** When an unqualified person is working in an elevated position near overhead lines, the location must be such that the person and the longest conductive object, he or she may contact, cannot come closer to any unguarded, energized overhead line than the following distances: For voltages to ground 50kV or below -- 10 feet, for voltages to ground over 50kV -- 10 feet plus 4 inches for every 10kV over 50kV.

**Note:** For voltages normally encountered with overhead power lines, objects which do not have an insulating rating for the voltage involved are considered to be conductive.

**Qualified persons:** When a qualified person is working in the vicinity of overhead lines, whether in an elevated position, or on the ground, the person may not approach, or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table S-5 unless:

- **The person is insulated** from the energized part (gloves, with sleeves if necessary, and rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed).
- **The energized part** is insulated both from all other conductive objects at a different potential and from the person.
- **The person is insulated** from all conductive objects at a potential different from that of the energized part.

**Vehicular and mechanical equipment:** Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in for every 10kV over that voltage. The clearance may be reduced under any of the following conditions:

- **If the vehicle is** in transit with its structure lowered, the clearance may be reduced to 4 ft. If the voltage is higher than 50kV, the clearance shall be increased 4 in. for every 10 kV over that voltage.
- **If insulating barriers are** installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.
- **If the equipment is** an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the uninsulated portion of the aerial lift and the power line) may be reduced to the distance given in Table S-5.

Voltage Range (phase to phase)	Minimum Approach Distance
300V and less	Avoid Contact
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm)
Over 750V, not over 2kV	1 ft. 6 in. (46 cm)
Over 2kV, not over 15kV	2 ft. 0 in. (61 cm)
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm)
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm)
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm)
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm)

**Employees standing on the ground may not contact the vehicle, or mechanical equipment, or any of its attachments, unless:**

- **The employee is using protective equipment** rated for the voltage, or the equipment is located so that no uninsulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the line than permitted in line above.
- **If any vehicle or mechanical equipment** capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding may not stand at the grounding location whenever there is a possibility of overhead line contact.
- **Additional precautions**, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet, or more outward from the grounding point.

**Conclusion:** All employees must be trained in the safety of working near overhead lines. Follow these safety guidelines to ensure safe operations.

### Work Site Review

Work-Site Hazards and Safety Suggestions: \_\_\_\_\_

Personnel Safety Violations: \_\_\_\_\_

**Employee Signatures:**

*(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)*

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**Foreman/Supervisor's Signature:** \_\_\_\_\_

*These guidelines do not supersede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.*