

WAC 296-24-960 Working on or near exposed energized parts. (1)

Application. This section applies to work performed on exposed live parts (involving either direct contact or contact by means of tools or materials) or near enough to them for employees to be exposed to any hazard they present.

(2) **Work on energized equipment.** Only qualified persons must work on electric circuit parts or equipment that have not been deenergized under the procedures of WAC 296-24-975(2). Such persons must be capable of working safely on energized circuits and must be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

(3) **General requirements - High voltage lines.**

(a) **Minimum clearance.**

(i) You must not perform any work, you must not pile, store, or otherwise handle any material, you must not erect or dismantle any scaffolding, commercial signs, or structures, nor must you operate any tools, machinery or equipment within the specified minimum distances from any energized high voltage electrical conductor capable of energizing the material or equipment; except where the electrical distribution and transmission lines have been deenergized and visibly grounded at point of work, or where insulating barriers not a part of or an attachment to the equipment have been erected, to prevent physical contact with the lines, you must operate equipment proximate to, under, over, by, or near powerlines only in accordance with the following:

(ii) For lines rated 50 kv. or below, minimum clearance between the lines and any part of the equipment or load must be 10 feet.

(iii) For lines rated over 50 kv. minimum, clearance between the lines and any part of the equipment or load must be 10 feet plus 0.4 inch for each 1 kv. over 50 kv., or twice the length of the line insulator but never less than 10 feet.

(b) **Overhead electric lines.** Where overhead electric conductors are encountered in proximity to a work area, you must be responsible for:

(i) Ascertaining the voltage and minimum clearance distance required, and

(ii) Maintaining the minimum clearance distance, and

(iii) Ensuring that the requirements of subsection (3) of this section are complied with.

(c) **Not covered:** Employees working under chapters 296-32 and 296-45 WAC.

(4) **Low voltage lines.** When work is being carried out in proximity to energized electrical service conductors operating at 750 volts or less, you must perform such work in a manner to prevent contact by any worker with the energized conductors.

(5) **Overhead lines.** If work is to be performed near overhead lines, you must deenergize and ground the lines, or provide other protective measures before work is started. If the lines are to be deenergized, you must make arrangements with the person or organization that operates or controls the electric circuits involved to deenergize and ground them. If protective measures, such as guarding, isolating, or insulating, these precautions must prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

(6) **Unqualified persons.** When an unqualified person is working in an elevated position, or on the ground, near overhead lines, the loca-

tion 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:

(a) For voltages to ground 50kV or below—10 ft.;

(b) For voltages to ground over 50kV—10 ft. plus 0.4 inch for every 1 kV over 50 kV.

(7) **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 must not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in subsections (3) and (4) of this section unless:

(a) The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed); or

(b) The energized part is insulated both from all other conductive objects at a different potential and from the person; or

(c) The person is insulated from all conductive objects at a potential different from that of the energized part.

(8) **Vehicular and mechanical equipment.**

(a) You must operate any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines so that a clearance of 10 ft. is maintained. If the voltage is higher than 50kV, you must increase the clearance 0.4 inch for every 1kV over that voltage. However, under any of the following conditions, the clearance may be reduced:

(i) 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, you must increase the clearance 0.4 inch for every 1kV over that voltage.

(ii) 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.

(b) 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 subsections (3) and (4) of this section.

(c) Employees standing on the ground must not contact the vehicle or mechanical equipment or any of its attachments, unless:

(i) The employee is using protective equipment rated for the voltage; or

(ii) 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 this section.

(d) 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 must not stand at the grounding location whenever there is a possibility of overhead line contact. You must take additional precautions, such as the use of barricades or insulation, to protect employees from hazardous ground potentials, depending on earth resis-

tivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

(9) **Illumination.**

(a) Employees must not enter spaces containing exposed energized parts, unless illumination is provided that enables the employees to perform the work safely.

(b) Where lack of illumination or an obstruction precludes observation of the work to be performed, employees must not perform tasks near exposed energized parts. Employees must not reach blindly into areas which may contain energized parts.

(10) **Confined or enclosed work spaces.** When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, you must provide, and the employee must use, protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Doors, hinged panels, and the like must be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts.

(11) **Conductive materials and equipment.** You must handle materials and equipment that are in contact with any part of an employee's body in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, you must institute work practices (such as the use of insulation, guarding, and material handling techniques) which will minimize the hazard.

(12) **Portable ladders.** Portable ladders must have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized parts.

(13) **Conductive apparel.** You must not wear conductive articles of jewelry and clothing (such as watch bands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, or metal headgear) if they might contact exposed energized parts.

(14) **Housekeeping duties.**

(a) Where live parts present an electrical contact hazard, employees must not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided.

(b) You must not use electrically conductive cleaning materials (including conductive solids such as steel wool, metalized cloth, and silicon carbide, as well as conductive liquid solutions) in proximity to energized parts unless procedures are followed which will prevent electrical contact.

(15) **Interlocks.** Only a qualified person following the requirements of this section may defeat an electrical safety interlock, and then only temporarily while he or she is working on the equipment. You must return the interlock system to its operable condition when this work is completed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 15-24-100, § 296-24-960, filed 12/1/15, effective 1/5/16. Statutory Authority: Chapter 49.17 RCW. WSR 94-15-096 (Order 94-07), § 296-24-960, filed 7/20/94, effective 9/20/94; WSR 91-24-017 (Order 91-07), § 296-24-960, filed 11/22/91, effective 12/24/91. Statutory Authority: RCW 49.17.040 and 49.17.050. WSR 82-13-045 (Order 82-22), § 296-24-960, filed 6/11/82; WSR 82-02-003 (Order 81-32), § 296-24-960, filed 12/24/81.]