

WAC 296-32-23514 Grounding for employee protection—Pole lines.

(1) Power conductors. Electric power conductors and equipment must be considered energized until the utility or utility representative has verified to the telecommunications employer/employee(s) on-site that the line(s) have been deenergized and grounded as listed in subsection (4) of this section. Guidance on grounding for the protection of employees is found in WAC 296-45-345 and must be followed and verified complete before a line can be considered deenergized.

(2) Nonworking open wire. Nonworking open wire communications lines must be bonded to one of the grounds listed in subsection (4) of this section.

(3) Vertical power conduit, power ground wires and street light fixtures.

(a) Metal power conduit on joint use poles, exposed vertical power ground wires, and street light fixtures which are below communications attachments or less than twenty inches above these attachments, must be considered energized and must be tested for voltage unless the employee can visually determine that they are bonded to the communications suspension strand or cable sheath.

(b) If no hazardous voltage is shown by the voltage test, a temporary bond must be placed between such street light fixture, exposed vertical power grounding conductor, or metallic power conduit and the communications cable strand. Temporary bonds used for this purpose must have sufficient conductivity to carry at least five hundred amperes for a period of one second without fusing.

(4) Protective grounding. Acceptable grounds for protective grounding are as follows:

(a) A vertical ground wire which has been tested, approved for use and found safe, provides for 20 kV voltage protection, and is connected to a power system multi-grounded neutral or the grounded neutral of a power secondary system where there are at least three services connected; a 20 kV voltage detector is required for the test.

(b) Communications cable sheath or shield and its supporting strand where the sheath or shield is:

(i) Bonded to an underground or buried cable which is connected to a central office ground; or

(ii) Bonded to an underground metallic piping system; or

(iii) Bonded to a power system multi-grounded neutral or grounded neutral of a power secondary system which has at least three services connected.

(c) Guys which are bonded to the grounds specified in (a) and (b) of this subsection and which have continuity uninterrupted by an insulator; and

(d) If all of the preceding grounds are not available, arrays of driven ground rods where the resultant resistance to ground will be low enough to eliminate danger to personnel or permit prompt operation of protective devices.

(5) Attaching and removing temporary bonds. When attaching grounds (bonds), the first attachment must be made to the protective ground. When removing bonds, the connection to the line or equipment must be removed first. Insulating gloves, suitable for voltage levels that may be encountered, must be worn during these operations.

(6) Temporary grounding of suspension strand.

(a) The suspension strand must be grounded to the existing grounds listed in subsection (4) of this section when being placed on jointly used poles.

(b) Where power crossings are encountered on nonjoint lines, the strand must be bonded to an existing ground listed in subsection (4) of this section as close as possible to the crossing. This bonding is not required where crossings are made on a common crossing pole unless there is an upward change in grade at the pole.

(c) Where traveling roller-type bonds are used, they must be restrained so as to avoid stressing the electrical connections.

(d) Bonds between the suspension strand and the existing ground must be at least No. 6AWG copper.

(e) Temporary bonds must be left in place until the strand has been tensioned, dead-ended, and permanently grounded.

(f) Covered strand (insulated) must be grounded at the reel during stringing operations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 20-20-109, § 296-32-23514, filed 10/6/20, effective 11/6/20. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and chapter 49.17 RCW. WSR 17-20-069, § 296-32-23514, filed 10/2/17, effective 1/1/18.]