

# Oregon OSHA Proposed Changes to Division 3/K – March 2007

Text in [~~brackets with line-through~~] will be removed.

Text in **bold and underlined** will be added.

## **OAR 437-003-0049, Additional Oregon Definitions in Subdivision 3/K**

**Non-conductive, insulating barrier. A structure or installation (such as a wall, fence, pole, or something similar) that stops movement and prevents passage. Its design, material composition, and installation prevents conduction of electricity up to an identified voltage.**

### **Restricted Space.**

**(a) For lines rated more than 600 V to 50 kV, restricted space extends 10 feet in all directions from the surface of the line or equipment.**

**(b) For lines rated over 50 kV, restricted space extends 10 feet plus 0.4 inch for each 1 kV over 50 kV, or twice the length of the insulator (but never less than 10 feet) in all directions from the surface of the line or equipment.**

**(c) For equipment or structures in transit, on level surfaces, restricted space extends 4 feet in all directions from lines or equipment rated 50 kV or less, 10 feet in all directions for lines or equipment rated over 50 kV, and 16 feet in all directions for lines or equipment rated over 345kV up to and including 750kV.**

437-003-0047 [~~Proximity to~~] **Working Near** Overhead High Voltage Lines and Equipment.

(1) General **requirement. Do not enter, perform any function within, or extend anything into the restricted space surrounding an overhead high voltage line or equipment unless:**

**(a) The line and/or equipment is de-energized by the owner of the high voltage system and proper notification is given; or**

**(b) The danger from accidental contact is effectively prevented by use of adequate safeguards and proper notification is given; or**

**(c) You are the owner, an authorized employee, or authorized agent (in writing) of the overhead high voltage system.**

(2) Clearance or Safeguards [Required].

**(a) Required clearances for unguarded energized overhead high voltage lines and equipment are referred to as restricted space, is defined in OAR 437-003-0049, and is reprinted below:**

**Restricted Space:**

**(1) For lines rated more than 600 V to 50 kV, restricted space extends 10 feet in all directions from the surface of the line or equipment.**

**(2) For lines rated over 50 kV, restricted space extends 10 feet plus 0.4 inch for each 1 kV over 50 kV, or twice the length of the insulator (but never less than 10 feet) in all directions from the surface of the line or equipment.**

**(3) For equipment or structures in transit, on level surfaces, restricted space extends 4 feet in all directions from lines or equipment rated 50 kV or less, 10 feet in all directions for lines or equipment rated over 50 kV, and 16 feet in all directions for lines or equipment rated over 345kV up to and including 750kV.**

**(b) Do not move, reposition, or reduce restricted space (in any direction) by applying stress or force to a line, equipment, or supporting structure.**

**(c) Always maintain required clearances from all unguarded energized overhead high voltage lines (by staying out of the restricted space) when handling, erecting, operating, transporting, or storing any tools, equipment or materials; or moving any building or structure.**

**(d) Do not enter or otherwise breach restricted space until:**

**(A) Lines are de-energized and visibly grounded by the owner of the lines or their authorized agent; or**

**(B) Non-conductive, insulating barriers (not part of, or attached to the lines, equipment, or machinery) are erected or**

installed by the owner of the lines or their authorized agent. Barriers must prevent all possible contact with the lines; or

(C) Insulated, non-conductive lines and equipment (designed and engineered to allow contact) are erected or installed by the owner of the lines or their authorized agent.

(e) Use overhead line covers only for visual reference. Covers must be installed by the owner of the lines or their authorized agent, and are not acceptable barriers or guards. Their use does not allow entry into restricted space.

(3) Notify the owner/operator of the line or equipment before any work or operations are performed, or any tools, materials or equipment are handled, moved or operated within restricted space surrounding a high voltage line or equipment. The person(s) responsible for the activity must provide the notification.

(4) Operation of machinery or equipment.

(a) Do not enter restricted space when using insulating links or proximity warning devices on equipment. Use of such equipment does not replace, change, or eliminate any requirements of this standard.

(b) Post a warning sign on each piece of equipment which is capable of vertical, lateral, or swinging motion, such as a crane, derrick, power shovel, drilling rig, or pile driver.

(A) The sign must be made of durable material.

(B) It must be in clear view of the operator.

(C) The message must be legible to the operator when at the controls.

(D) The message must be understood by the operator.

(E) The message must clearly convey that it is “Unlawful to operate the piece of equipment within 10 feet of high voltage lines”.

(c) Use an observer to provide audible warning (able to be clearly heard over surrounding noise) when it becomes difficult for an operator to identify restricted space by using visual means. The

**observer's only task is to watch the clearance and warn the operator if it appears that restricted space will be breached.**

**(d) Restrict, barricade, or otherwise make it impossible for a machine or piece of equipment to reach into restricted space if it is reasonable to anticipate that the operator's attention may be focused on the work process rather than the location of an overhead high voltage line or equipment (such as during excavating, or other fast-paced, repetitive work).**

**(5) Railway and commuter systems**

**(a) Standard rail equipment (used to transport freight and/or passengers), and relief trains or other equipment used in emergencies, may enter restricted space surrounding high voltage lines or equipment.**

**(b) Qualified employees, authorized and supervised by a person familiar with the hazards of the railway high voltage system, may perform normal repair or construction work within restricted space prior to compliance with the clearance and safeguard requirements in sections (1) through (4).**

\*\*\*Printed below is 437-003-0047 as it currently reads. Wording will be replaced with the text above.\*\*\*

437-003-0047 Proximity to Overhead High Voltage Lines and Equipment.

(1) General. No employer shall require or permit any employee to enter or to perform any function in proximity to high-voltage lines, unless danger from accidental contact with said high-voltage lines has been effectively guarded against.

(2) Clearance or Safeguards Required.

(a) The operation, erection, or transportation of any tools, equipment, or any part thereof capable of movement; the handling, transportation, or storage of any materials; or the moving of any building, near high-voltage lines, is prohibited, if at any time it is possible to bring such object within 10 feet of high-voltage lines.

(b) Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, equipment or machines shall be operated near power lines only in accordance with the following:

(A) For lines rated 50 kV. or below, minimum clearance between the lines and any part of the object shall be 10 feet;

(B) For lines rated over 50 kV. minimum clearance between the lines and any part of the object shall 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.

(C) For equipment in transit, on smooth surfaces, the clearance shall be a minimum of 4 feet for voltages less than 50 kV., 10 feet for voltages over 50 kV., up to and including 345 kV., and 16 feet for voltages up to and including 750 kV.

(D) A person shall be designated to observe clearance and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.

(c) Insulating links, or proximity warning devices may be used on equipment, but the use of such devices shall not alter the requirements of any other regulation of this part.

(d) The 10-foot requirement shall not be reduced by movement due to any strains impressed upon the structures supporting the high-voltage line and upon any equipment, fixtures, or attachments thereon.

(3) Warning Signs Required. The employer shall post and maintain in plain view of the operator on each crane, derrick, power shovel, drilling rig, hay loader, hay stacker, pile driver, or similar apparatus, any part of which is capable of vertical, lateral, or swinging motion, a durable warning sign legible at 12 feet reading "Unlawful to operate this equipment within 10 feet of high-voltage lines."

(4) Notification to Power Company and Responsibility for Safeguards.

(a) When any operations are to be performed, tools or materials handled, equipment is to be moved or operated within 10 feet of any high-voltage line, the person or persons responsible for the work to be done shall promptly notify the operator of the high-voltage line of the work to be performed, and shall be responsible for the completion of the safety measures as required before proceeding with any work which would impair the aforesaid clearance.

(b) This section when applied to railway systems, shall be construed as permitting operation of standard rail equipment, which is normally used in the transportation of freight and/or passengers, and the operation of relief trains, or other equipment in emergencies, at a distance of less than 10 feet from any high-voltage conductor; but shall be construed as prohibiting normal repair or construction operations at a distance of less than 10 feet from any high-voltage conductor by other than properly qualified and authorized persons or employees under the direct supervision of any authorized person who is familiar with the hazards involved, until the safety provisions of the foregoing sections have been complied with.

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89.