

**WAC 296-155-452 Specific purpose equipment and installations.**

(1) **Cranes and hoists.** This subsection applies to the installation of electric equipment and wiring used in connection with cranes, monorail hoists, hoists, and all runways.

(a) **Disconnecting means.**

(i) **Runway conductor disconnecting means.** You must provide a readily accessible disconnecting means between the runway contact conductors and the power supply.

(ii) **Disconnecting means for cranes and monorail hoists.** You must provide a disconnecting means, capable of being locked in the open position, in the leads from the runway contact conductors or other power supply on any crane or monorail hoist.

(A) If this additional disconnecting means is not readily accessible from the crane or monorail hoist operating station, you must provide means at the operating station to open the power circuit to all motors of the crane or monorail hoist.

(B) The additional disconnect may be omitted if a monorail hoist or hand-propelled crane bridge installation meets all of the following:

(I) The unit is floor controlled;

(II) The unit is within view of the power supply disconnecting means; and

(III) No fixed work platform has been provided for servicing the unit.

(b) **Control.** You must provide a limit switch or other device to prevent the load block from passing the safe upper limit of travel of any hoisting mechanism.

(c) **Clearance.** The dimension of the working space in the direction of access to live parts which may require examination, adjustment, servicing, or maintenance while live must be a minimum of two feet 6 inches (762 mm). Where controls are enclosed in cabinets, the door(s) must open at least 90 degrees or be removable, or the installation must provide equivalent access.

(d) **Grounding.** All exposed metal parts of cranes, monorail hoists, hoists and accessories including pendant controls must be metallically joined together into a continuous electrical conductor so that the entire crane or hoist will be grounded in accordance with WAC 296-155-447(6). Moving parts, other than removable accessories or attachments, having metal-to-metal bearing surfaces must be considered to be electrically connected to each other through the bearing surfaces for grounding purposes. The trolley frame and bridge frame must be considered as electrically grounded through the bridge and trolley wheels and its respective tracks unless conditions such as paint or other insulating materials prevent reliable metal-to-metal contact. In this case you must provide a separate bonding conductor must be provided.

(2) **Elevators, escalators, and moving walks.**

(a) **Disconnecting means.** Elevators, escalators, and moving walks must have a single means for disconnecting all ungrounded main power supply conductors for each unit.

(b) **Control panels.** If control panels are not located in the same space as the drive machine, they must be located in cabinets with doors or panels capable of being locked closed.

(3) **Electric welders - Disconnecting means.**

(a) **Motor-generator, AC transformer, and DC rectifier arc welders.** You must provide a disconnecting means in the supply circuit for each motor-generator arc welder, and for each AC transformer and DC

rectifier arc welder which is not equipped with a disconnect mounted as an integral part of the welder.

(b) **Resistance welders.** You must provide a switch or circuit breaker by which each resistance welder and its control equipment can be isolated from the supply circuit. The ampere rating of this disconnecting means must not be less than the supply conductor ampacity.

(4) **X-ray equipment.**

(a) **Disconnecting means.**

(i) **General.** You must provide a disconnecting means in the supply circuit. The disconnecting means must be operable from a location readily accessible from the X-ray control. For equipment connected to a 120-volt branch circuit of 30 amperes or less, a grounding-type attachment plug cap and receptacle of proper rating may serve as a disconnecting means.

(ii) **More than one piece of equipment.** If more than one piece of equipment is operated from the same high-voltage circuit, you must provide each piece or each group of equipment as a unit with a high-voltage switch or equivalent disconnecting means. This disconnecting means must be constructed, enclosed, or located so as to avoid contact by employees with its live parts.

(b) **Control-radiographic and fluoroscopic types.** Radiographic and fluoroscopic-type equipment must be effectively enclosed or must have interlocks that deenergize the equipment automatically to prevent ready access to live current-carrying parts.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 16-09-085, § 296-155-452, filed 4/19/16, effective 5/20/16; WSR 06-05-027, § 296-155-452, filed 2/7/06, effective 4/1/06. Statutory Authority: Chapter 49.17 RCW. WSR 88-11-021 (Order 88-04), § 296-155-452, filed 5/11/88.]