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Subchapter 5. Electrical Safety Orders
Group 1. Low-Voltage Electrical Safety Orders
Article 3. Work Procedures

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§2320.2. Energized Equipment or Systems.

(a) Work shall not be performed on exposed energized parts of equipment or systems until the following conditions are met:

- (1) Responsible supervision has determined that the work is to be performed while the equipment or systems are energized.
- (2) Involved personnel have received instructions on the work techniques and hazards involved in working on energized equipment.
- (3) Suitable personal protective equipment and safeguards (i.e., approved insulated gloves or insulated tools) are provided and used.

EXCEPTION: The use of approved insulating gloves or insulated tools or other protective measures are not required when working on exposed parts of equipment or systems energized at less than 50 volts provided a conclusive determination has been made prior to the start of work by a qualified person that there will be no employee exposure to electrical shock, electrical burns, explosion or hazards due to electric arcs.

(A) Rubber insulating gloves shall meet the provisions of the American Society for Testing Materials (ASTM) D120-09, Standard Specification for Rubber Insulating Gloves, and be maintained in accordance with ASTM F496-08, Standard Specification for In-Service Care of Insulating Gloves and Sleeves, which are hereby incorporated by reference.

NOTE: The ASTM F 496-08 standard contains provisions regarding the care, inspection, testing and use of insulating gloves and sleeves. Among other requirements, this standard provides that electrical retests shall not exceed 6 months for insulating gloves and 12 months for insulating sleeves and that insulating gloves and sleeves that have been electrically tested but not issued for service shall not be placed into service unless they have been electrically tested within the previous twelve months.

(B) Insulated tools shall meet the provisions of the American Society for Testing Materials (ASTM) F 1505-01, Standard Specification for Insulated and Insulating Hand Tools, which is hereby incorporated by reference.

- (4) Approved insulated gloves shall be worn for voltages in excess of 250 volts to ground.
- (5) Suitable barriers or approved insulating material shall be provided and used to prevent accidental contact with energized parts.
- (6) Suitable eye protection has been provided and is used.
- (7) Where required for personnel protection, suitable barricades, tags, or signs are in place.
- (8) Each employee who is exposed to the hazards of flames or electric arcs wears apparel that, when exposed to flames or electric arcs, does not increase the extent of injury that would be sustained by the employee. This subsection prohibits clothing made from the following types of fabrics, either alone or in blends, unless the employer can demonstrate that the fabric has been treated with flame retardant: acetate, nylon, polyester, and rayon.

NOTE: to subsection (a)(8): See Section 2320.11 for protection from flames and electric arcs that apply to power generation, transmission and distribution.

(b) Making Connections. The employer shall ensure that employees make connections as follows:

- (1) In connecting deenergized equipment or lines to an energized circuit by means of a conducting wire or device, an employee shall first attach the wire to the deenergized part;
- (2) When disconnecting equipment or lines from an energized circuit by means of a conducting wire or device, an employee shall remove the source end first; and
- (3) When lines or equipment are connected to or disconnected from energized circuits, an employee shall keep loose conductors away from exposed energized parts.

(c) After the required work on an energized system or equipment has been completed, an authorized person shall be responsible for:

- (1) Removing from the work area any temporary personnel protective equipment, and
- (2) Reinstalling all permanent barriers or covers.

(d) Minimum Approach Distance. The employer shall ensure that no employee takes a conductive object closer to exposed energized parts than the established minimum approach distances unless:

Minimum Approach Distances		
Voltage (V)	Phase to Ground	Phase to Phase
0-300	Avoid contact	Avoid contact
301-600	1 foot 1 inch	1 foot 1 inch

NOTE: For voltages greater than 600 Volts, see Section 2940.2.

(1) The qualified employee is insulated or guarded from the energized part (rubber insulating gloves or gloves with sleeves rated for the voltage involved shall be considered insulation of the employee from the energized part upon which the qualified employee is working provided that the qualified employee has control of the part in a manner sufficient to prevent exposure to uninsulated portions of the employee's body), or

(2) The energized part is insulated or guarded from the employee and any other conductive object at a different potential.

Note: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

HISTORY

1. Editorial correction adding NOTE filed 11-2-83 (Register 83, No. 45).
2. Amendment of subsection (a)(3) filed 8-27-86; effective thirtieth day thereafter (Register 86, No. 37).
3. Amendment of subsection (a)(3), new subsection (a)(4), subsection renumbering, and amendment of newly designated subsection (a)(6) filed 1-16-2001; operative 2-15-2001 (Register 2001, No. 3).
4. New subsection (a)(7) filed 8-27-2001; operative 9-26-2001 (Register 2001, No. 35).
5. Amendment filed 4-22-2002; operative 5-22-2002 (Register 2002, No. 17).
6. Amendment of subsections (a)(3)-(a)(3)(B) filed 10-9-2007; operative 11-8-2007 (Register 2007, No. 41).
7. Amendment filed 2-27-2018; operative 4-1-2018 (Register 2018, No. 9).