

Memorandum

To : ALL STANDARDS BOARD MEMBERS

Date : February 4, 2009

From : Occupational Safety and Health Standards Board
Conrad E. Tolson, Senior Engineer - Standards

Subject : High-Voltage Electrical Safety Orders – Horcher

At the December 18, 2008, Public Hearing, the Occupational Safety and Health Standards Board considered revisions to California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 5, Electrical Safety Orders, Group 2, High-Voltage Electrical Safety Orders (HVESO). These standards are substantially the same as federal standards.

Labor Code Section 142.3(a)(3) exempts the Board from providing a comment period when adopting a standard substantially the same as a federal standard. However, as indicated in the Notice and Informative Digest, the Board still provided a comment period only for the purpose of: 1) Identifying issues unique to California related to this proposal which should be addressed in a subsequent rulemaking and 2) Soliciting comments on the proposed effective date.

As a result of public comments and/or Board staff evaluation, the following changes have been made to the original proposal.

Section 2700, Definitions, Building.

This definition was originally proposed to read:

“Building. A building is a structure which stands alone or which is cut off from adjoining structures by fire walls with all openings therein protected by approved fire doors.”

Since the term “building” is defined differently in other statutes and in other sections of CCR Title 8, it is proposed to clarify that this definition is for the purposes of the HVESO only. The purpose and necessity for this modification is to prevent confusion by providing regulatory clarity.

Section 2700, Definitions, Hoistway.

This definition, as originally proposed, read:

“Hoistway. Any shaftway, hatchway, well hole, or other vertical opening or space that is designed for the operation of an elevator or dumbwaiter.”

It is proposed to delete this definition since it defines a term not used in the HVESO. The purpose and necessity for this change is to delete an unnecessary definition which is not used in the HVESO.

Section 2742.1. Grounding of Supports, Enclosures and Equipment.

This section, as originally proposed, read, in relevant part:

“(b) Exposed noncurrent-carrying metal parts of fixed equipment that may become energized shall be grounded under any of the following conditions:

- (1) If within 8 ft. (2.44 m) vertically or 5 ft. (1.52 m) horizontally of ground or grounded metal objects and subject to employee contact;
- (2) If located in a wet or damp location and not isolated;
- (3) If in electrical contact with metal;
- (4) If in a hazardous (classified) location; or
- (5) If supplied by a metal-clad, metal-sheathed, or grounded metal raceway wiring method.

EXCEPTION for Section 2742.1(b):

Exposed noncurrent-carrying metal parts of the following types of fixed equipment need not be grounded:

1. Enclosures for switches or circuit breakers used for other than service equipment and accessible to qualified persons only.”

“(d) Grounding of equipment mounted on poles shall comply with Rules 58.3-C and 58.4-C, General Order No. 95, 1981 Edition Rules for Overhead Electric Line Construction of the California Public Utilities Commission, which are hereby incorporated by reference.

(e) Where high-voltage equipment and associated metal enclosures or structures are intentionally isolated from ground, provision shall be made to prevent any person who can make contact with ground from contacting the isolated equipment and associated metal enclosures or structures when such equipment is energized. Intentional grounds shall be applied after such equipment is de-energized and before access is permitted, in accordance with Work Procedures, Article 36.”

It is proposed to add a new subsection (b)(6) to require that exposed noncurrent-carrying metal parts of fixed equipment that may become energized shall be grounded if equipment operates with any terminal at over 150 volts to ground. The purpose and necessity for this modification is to provide equivalency to federal standard 29 CFR 1910.304(g)(6)(iv)(F).

It is also proposed to delete the subsection (d) provision that grounding of equipment mounted on poles shall comply with Rules of the 1981 Edition of CPUC General Order No. 95, since this Edition has been superseded, and the referenced CPUC rules are no longer readily available to the regulated public and may conflict with federal standards. Consequently, the provisions of currently proposed subsection (e) are proposed to be renumbered to subsection (d). Furthermore, a new Exception 2 and Note are proposed for Section 2742.1(b) as follows:

“2. Distribution apparatus, such as transformer and capacitor cases, mounted on wooden poles, at a height exceeding 8.0 ft. (2.44 m) above ground or grade level.

NOTE: Clearances prescribed by the California Public Utilities Commission shall apply where applicable if more protective.”

The purpose and necessity for these modifications is to provide equivalency to federal standards [29 CFR 1910.304(g)(6)(v)(B)] and to remove obsolete references to CPUC General Order No.

95 while still assuring that Title 8 standards do not conflict with CPUC Orders in areas where they may apply and where the CPUC standards may be more protective for employees.

Summary and Response to Oral and Written Comments:

I. Written Comments

Ken Nishiyama Atha, Regional Administrator, Region IX, U.S. Department of Labor, Occupational Safety and Health Administration, by letter dated December 17, 2008.

Comment No. 1:

Section 2742.1(d) requires compliance with the California Public Utilities Commission (CPUC) 1981 Edition of Rules for Overhead Electric Line Construction, Sections 58.3-C and 58.4-C. It is unclear whether the reference requires the same 8 foot clearance above ground or grade level as required in 29 CFR 1910.304(g)(6)(v) for ungrounded non-current carrying metal parts of distribution apparatus mounted on wooden poles. Region 9 notes that the 1981 Edition of the CPUC Rules is no longer readily available and their ability to provide any kind of enforcement criteria is a concern.

Response:

The provisions of existing Section 2742.1(d) regarding CPUC General Order 95 are proposed for deletion and 29 CFR 1910.304(g)(6)(v)(C) is proposed to be incorporated substantially verbatim into Exception No. 2 to Section 2742.1(b)(1).

Comment No. 2:

Section 2799.2(b) does not include a requirement for conductors run as open conductors to be fastened at ceiling height every 3.05m (10.0 ft.) consistent with 29 CFR 1910.305(a)(2)(v)(B).

Response:

The Board is of the opinion that 29 CFR 1910.305(a)(2)(v)(B) is intended for low voltage installations and does not apply to high-voltage installations as addressed by the HVESO. Use of open conductors for high voltage wiring is extremely limited by Sections 2717 and 2816 and thus this wiring method is not applicable for high-voltage. Therefore, the Board believes that state standards are at least as effective as 29 CFR 1910.305(a)(2)(v)(B) for high-voltage installations.

II. Oral Comments

Oral comments received at the December 18, 2008, Public Hearing in Sacramento, California.

John Bobis, Director of Safety, Health and Risk Management, Aerojet.

Comment No.1:

The definition of “Building” in Section 2700 is in conflict with Section 3206 of the General Industry Safety Orders (GISO). The definition should be consistent throughout the regulations. Furthermore, there is a statutory definition for “building,” and the commenter opined that this definition should be consistent or at least cross-referenced in the proposal.

Response:

It is not clear which allegedly conflicting definition the commenter is referring to. “Building” is defined in GISO Section 3207. It is also defined in different statutes (for example, Health and Safety Code Section 18908, and Labor Code Sections 7100 and 7250) in different ways. However, in order to avoid any confusion, the Board proposes to clarify that the definition of “Building” in the HVESO is for the purposes of these Orders only.

Comment No. 2:

The definition of “Hoistway” in Section 2700 is inconsistent with the definition contained in Section 3009 of the Elevator Safety Orders.

Response:

Since the term “Hoistway” is not used in the High-Voltage Electrical Safety Orders, it is proposed to be deleted.

The Board thanks Mr. Bobis for his interest and participation in the rulemaking process.

DETERMINATION OF MANDATE

These standards do not impose a mandate on local agencies or school districts as indicated in the Staff Development Memorandum.