

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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NOTICE OF PROPOSED MODIFICATIONS TO
CALIFORNIA CODE OF REGULATIONS

TITLE 8, Division 1, Chapter 4, Article 19, Sections 8495, 8496, 8497 and 8500
of the Tunnel Safety Orders

Cranes and Derricks in Construction – Underground and Demolition

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written comments on the above-named standards in which modifications are being considered as a result of public comments and/or Board staff consideration.

On July 18, 2013, the Standards Board held a Public Hearing to consider revisions of Title 8, Sections 8495, 8496, 8497 and 8500, of the Tunnel Safety Orders. The Standards Board received written comments on the proposed revisions. The proposal has been modified as a result of these comments and Board consideration.

A copy of the full text of the standard, with these modifications clearly indicated, is attached for your information. In addition, a summary of all written comments regarding the original proposal and staff responses is included.

Any written comments on these modifications must be received by 5:00 p.m. on October 21, 2013, at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833 or submitted by fax to (916) 274-5743 or e-mailed to oshsb@dir.ca.gov. This proposal will be scheduled for adoption at a future business meeting of the Standards Board.

The Standards Board's rulemaking files on the proposed action are open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m., at the Standards Board's office.

Inquiries concerning the proposed changes may be directed to the Executive Officer, Marley Hart, at (916) 274-5721.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Date: October 2, 2013

Marley Hart, Executive Officer

PROPOSED MODIFICATIONS
(Modifications are indicated in bold,
underline wording for new language
and bold, strikeout for deleted language.)

**STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4

Subchapter 20. Tunnel Safety Orders
Article 19. Shafts and Hoisting Systems

§8495. Hoisting Equipment and Systems.

(a) General Requirements.

(11) A non-combustible hoist house shall be constructed and wherever possible, provide a clear and unobstructed view of the shaft collar. Physical protection shall be provided for the hoistman, hoist drum(s), braking system and drive motors.

(A) A fire extinguisher that is rated at least 2A:10B:C (multi-purpose, dry chemical) shall be mounted in each hoist house.

(16) ~~The h~~**Hoists** shall be ~~of such design~~ **designed so** that the load **hoist drum** is powered ~~up and down in both directions of rotation and so that brakes are automatically applied upon power release or failure~~. There shall be no friction gearing or clutch mechanism by which the motor or other power source can be disconnected from the hoisting drum.

(b) Personnel Hoisting Systems.

(2) Hoists shall be equipped with limit switches to prevent over travel at the top and bottom of the hoistway.

(5) Personnel hoists shall be equipped with at least two brakes, either each of which is capable of stopping and holding 150 percent of the hoist's rated line pull. ~~At least One~~ shall be an automatic brake that will be applied whenever the power fails, is shut off or when the power control lever is in the "off" position. The other brake shall be a hand or foot brake that operates on the hoist drum. A broken-rope safety, safety catch, or arrestment device is not a permissible means of stopping under this section.

(c) Shaft Conveyances.

(4) Conveyances used for the movement of personnel shall be provided with sheet iron or steel side-casings not less than six feet in height and not less than 14 gauge one-sixteenth inch thick or with one-half inch (12.70 mm) wire mesh (not less than No. 14 gauge or equivalent) netting ~~composed of wire not less than one-sixteenth inch in diameter (the maximum size of openings of wire netting shall not be greater than one inch)~~, and with gates of not less than four and one-half feet in height and made of such materials as specified for side-casing, either hung on hinges or working in slides; provided, however, that this safety order does not preclude the use of other

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PROPOSED STATE STANDARD,
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materials having equivalent strength and providing equal safety. The conveyance shall have handholds provided so that each person will have a convenient means for steadying themselves.

(A) All personnel conveyances shall be provided with a positive locking door and/or gate that does not open outward.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

§8496. Shafts and Raises Under Construction.

(c) In areas of shaft construction where buckets or cages without guides are used for handling personnel and material, the arrangements must be such that:

(3) The travel speed **for personnel hoisting** shall not exceed 200 feet per minute. ~~**Where practicable, governor controls set for 200 feet (60.96 m) per minute shall be installed in the control system and shall be used during personnel hoisting.**~~

(4) For mine-type hoists, a governor system set for a maximum speed of 200 feet per minute shall be installed in the control system and shall be used during personnel hoisting. The governor shall be tested, operated, and maintained in accordance with the manufacturer's recommendations.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

§8497. Wire Rope and Sheaves.

(a) Factor of Safety. All rope to be used for regular hoisting shall be wire rope providing a factor of safety not less than five to one for material hoist and ten to one for personnel hoist when new, which shall be calculated by dividing the breaking strength of the wire rope as given in the manufacturer's published tables, by the total load to be hoisted including the total weight of the wire rope in the shaft when fully let out, plus a proper allowance for impact and acceleration. The acceleration allowance shall be in accordance with manufacturer's recommendations, but in all cases the factor of safety of five or more must be maintained when the load, used in determining it, is greater than the actual weight by a percentage that is numerically three times the acceleration or deceleration, whichever is greatest. For example, a deceleration or acceleration of two feet per second that increases the load would require use of an effective load 6 percent greater than the actual weight, in the calculation of a factor of safety.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

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Attachment No. 1

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PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4

§8500. Hoisting Operations.

(p) Personnel and materials or equipment, other than small tools and supplies secured in a manner that will not create a hazard to employees, shall not be hoisted together in the same conveyance. However, if the cage operator is protected from shifting of materials and equipment, then the cage operator may ride with material or equipment in cages or skips which are designed to be controlled by an operator within the cage or skip.

(t) General requirements for cranes and hoists.

(1) Materials, tools, and supplies being raised or lowered, whether within a cage or otherwise, shall be secured or stacked in a manner to prevent the load from shifting, snagging or falling into the shaft.

(2) A warning light suitably located to warn employees at the shaft bottom and subsurface shaft entrances shall flash whenever a load is above the shaft bottom or subsurface entrances, or the load is being moved in the shaft. This section does not apply to fully enclosed hoistways.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

SUMMARY AND RESPONSE TO COMMENTS

SUMMARY AND RESPONSE TO WRITTEN AND ORAL COMMENTS

I. Written Comment

David Shiraishi, MPH, Area Director, U.S. Department of Labor, Occupational Safety and Health Administration, Oakland Area Office, by letter dated July 17, 2013.

Comment No. 1:

Section 8495(b)(5) states that at least one brake shall be an automatic brake that will be applied whenever the power fails or is shut off, or when the power control lever is in the “off” position. 29 CFR 1926.800(t)(3)(i) states that hoists shall be designed so that “brakes” are automatically applied upon power release or failure. The commenter interprets the federal standard to require both brakes to be automatic.

Response:

Section 8495(b) applies to personnel hoisting with a mine-type hoisting system. The Mining and Tunneling Unit has carefully reviewed OSHA’s comment and has informed Board staff that a mine-type hoist always has an automatic brake and a non-automatic operating brake (the operating brake is a hand-lever brake). If power should fail to the mine-type hoist, the automatic brake will immediately stop the hoist drum, independent of the manual brake. We believe the federal verbiage (“brakes”) may have been taken out of context and that there is no federal OSHA requirement for a secondary automatic braking system on a fixed/anchored wire rope personnel hoist (mine hoist). The term “brakes” may be intended for operations using a crane suspended personnel platform which would be covered by 29 CFR 1926.1431(d)(5)(vi) and previously approved state counterpart CSO Section 1616.6(d)(5). Board staff has also discussed this matter with the federal OSHA Area Office and believe that modifications being proposed to Section 8495(a)(16) and (b)(5) will satisfactorily address OSHA’s concerns.

Comment No. 2:

Regarding Section 8496(c)(3) which, as originally proposed, stated: “Where practicable, governor controls set for 200 feet (60.96 m) per minute shall be installed in the control system and shall be used during personnel hoisting.” OSHA recommends that “where practicable” be deleted from the state proposal.

Response:

The Board accepts this comment and proposes to revise Section 8496(c)(3) to remove “where practicable.” The modified verbiage will be consistent with a proposed update for the Tunnel Safety Orders (to be noticed for public comment at a future date yet to be determined).

The Board thanks OSHA for their participation in the rulemaking process.