

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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**NOTICE OF PROPOSED MODIFICATION TO
CALIFORNIA CODE OF REGULATIONS**

**TITLE 8: Division 1, Chapter 4, Subchapter 7, Article 2, Section 3228
of the General Industry Safety Orders**

Number of Exits

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 standard in which modifications are being considered as a result of Office of State Fire Marshal comments and/or Standards Board staff consideration.

On October 18, 2007, the Standards Board held a Public Hearing to consider revisions to Title 8, Section 3228 of the General Industry Safety Orders. The Standards Board received oral and written comments on the proposed revisions. The standard has been modified as a result of these comments and Standards Board consideration.

A copy of the full text of the standards as originally proposed, and a copy of the pages with the modifications clearly indicated, is attached for your information. In addition, a summary of all oral and 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 December 31, 2007, at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. The standards 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**

Original signed by

Date: December 11, 2007

Marley Hart, Executive Officer

STANDARDS AS ORIGINALLY PROPOSED

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

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

Amend Section 3228 to read:

§3228. Number of Exits.

~~(a) Every building or usable portion thereof shall have at least one exit, and shall have not less than two exits where required by Table E-1. At least two exits shall be available in a workplace to permit prompt evacuation of employees and other building occupants during an emergency. The exits shall be located as far away as practicable from each other so that if one exit is inaccessible because of fire or smoke, employees can evacuate using the second exit.~~

~~EXCEPTION: Assembly buildings shall be provided with not less than two remotely located exits. (Title 24, Part 2, Section 2-3302(A)(1).)~~

~~EXCEPTION: A single exit shall be permitted where the number of employees, the size of the building, its occupancy or the arrangement of the workplace is such that all employees would be able to evacuate safely during an emergency.~~

~~(b) In all occupancies, floors above the first story having an occupant load of more than 10 shall have not less than two exits. More than two exits must be provided in a workplace if the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would not be able to evacuate safely during an emergency if only two exits were provided.~~

~~NOTE: See subsection (h) for special exit requirements. (Title 24, Part 2, Section 2-3302(a)(2).)~~

~~Note to subsections (a) and (b): For assistance in determining the number of workplace exits, and the necessary distance between exits, consult the Title 24, 2007 California Building Code, Part 2, Chapter 10, Section 1019, Number of Exits and Continuity, and your local jurisdiction fire department.~~

~~(c) Each mezzanine used for other than storage purposes, if greater in area than 2000 square feet or if more than 60 feet in any dimension shall have not less than two stairways to an adjacent floor.~~

~~(Title 24, Part 2, Section 2-3302(a)(3).)~~

~~(d) Every story or portion thereof, having an occupant load of 501 to 1,000 shall have not less than three exits. (Title 24, Part 2, Section 2-3302(a)(4).)~~

~~(e) Every story or portion thereof, having an occupant load of 1000 or more shall have not less than four exits. (Title 24, Part 2, Section 2-3302(a)(5).)~~

~~(f) The number of exits required from any story of a building shall be determined by using the occupant load of that story, plus the percentages of the occupant loads of floors which exit through the level under consideration as follows:-~~

~~(1) Fifty percent of the occupant load in the first adjacent story above (and the first adjacent story below, when a story below exits through the level under consideration).~~

~~(2) Twenty five percent of the occupant load in the story immediately beyond the first adjacent story.~~

**STANDARDS PRESENTATION
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**PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4**

~~The maximum number of exits required for any story shall not be decreased in the direction of exit travel until egress is provided from the structure.~~

~~(Title 24, Part 2, Section 2-3302(a)(6).)~~

~~(g) For purposes of these orders, basements or cellars and occupied roofs shall be provided with exits as required for stories. (Title 24, Part 2, Section 2-3302(a)(7).)~~

~~(h) Every working area specified below shall be provided with at least two exits so located with respect to each other as to provide an alternate means of escape to a place of safety.~~

~~(1) Unless specifically covered elsewhere in these orders, elevated platforms 10 feet or more above ground or floor or pits 30 inches or more in depth, having 200 or more square feet of area, floors or rooms in or on which are located steam, gas, oil or air engines, motors, compressors, steam or hydraulic turbines or pumps, mixing vats, pans, tanks, or chemical processing equipment and where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable, or explosive substances.~~

~~This order does not apply to valve pits, utility vaults, or manholes.~~

~~(2) Rooms, except film vaults, where pyroxylin plastics are stored, fabricated, or otherwise processed.~~

~~(3) Rooms where magnesium metal is machined, buffed, or otherwise processed so as to produce waste magnesium dust.~~

~~(4) Rooms where magnesium metal is melted.~~

~~(5) Rooms where flammable organic dusts may accumulate to explosive mixtures.~~

~~NOTE: An outside fire escape will be acceptable as one of the required means of egress for existing installations, but elevators are not acceptable as required means of egress.~~

~~(Title 24, Part 2, Section 2-3302(a)(9)(1)-(a)(9)(6).)~~

~~(i) Boiler, Furnace and Incinerator Rooms. Any room containing a boiler, furnace, incinerator, or other fuel fired equipment must be provided with two means of egress when both of the following conditions exist:~~

~~(1) The area of the room exceeds 500 square feet, or~~

~~(2) The largest single piece of fuel fired equipment exceeds 1,000,000 B.T.U. per hour input capacity.~~

~~EXCEPTION: Rooms housing high pressure boilers (greater than 15 lbs. psi) where either of the conditions listed in (1) or (2) exist shall be provided with 2 exits.~~

~~If two means of egress must be provided, one may be a fixed ladder. The means of egress must be separated by a horizontal distance not less than half the greatest horizontal dimension of the room. All openings shall be protected with a self-closing fire assembly having a minimum one-hour fire protection rating. Where oil fired boilers are used, a 6 inch noncombustible sill (dike) shall be provided. There shall be no interior openings between any occupancy where flammable or explosive concentrations may be expected to accumulate.~~

~~(Title 24, Part 2, Sections 3320(a) and 2-3320.)~~

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

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

~~(j) All parking garages where no one except parking attendants are allowed shall have not less than 2 stairways 3 feet wide. The automobile ramp will be acceptable as one of the required stairways if the remaining stairway is remotely located from the ramp.~~

~~(Title 24, Part 2, Section 2-3302(l).)~~

~~(k) For purposes of determining the number of exits required, the occupant load of a building or portion thereof shall be computed by dividing the floor area assigned to that use by the square feet per occupant as set forth in Table E-1. When the square feet per occupant are not given for a particular occupancy, the number of exits shall be determined by using the square feet per occupant of the occupancy it most nearly resembles.~~

~~(Title 24, Part 2, Section 2-3301(d).)~~

~~(l) Floors above the second story and basements shall have not less than two exits except when such floors or basements are used exclusively for the service of the building.~~

~~NOTE: As provided in Table E-1, only one exit shall be required from a basement within an individual dwelling unit.~~

~~(Title 24, Part 2, Section 2-3302(a)(8).)~~

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943(c), Health and Safety Code.

**STANDARDS PRESENTATION
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**PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4**

Repeat Table E-1 as follows:

TABLE E-1. MINIMUM EGRESS AND ACCESS REQUIREMENTS

| | <i>USE[†]</i> | <i>MINIMUM OF TWO EXITS OTHER THAN ELEVATORS ARE REQUIRED WHERE NUMBER OF OCCUPANTS IS OVER</i> | <i>PER SQUARE FEET OCCUPANT[‡]</i> |
|--------------|--|---|---|
| 1 | Aircraft Hangars (No Repair) | 40 | 500 |
| 2 | Auction Rooms | 30 | 7 |
| 3 | Assembly Areas, Concentrated Use (without fixed seats) | 50 | 7 |
| | Auditoriums Bowling Alleys (Assembly areas) Churches and Chapels Dance Floors Lodge Rooms Reviewing Stands Stadiums | | |
| 4 | Assembly Areas, Less concentrated Use | 50 | 15 |
| | Conference Rooms Dining Rooms Drinking Establishments Exhibit Rooms Gymnasiums Lounges Stages | | |
| 5 | Children's Homes and Homes for the Aged | 5 | 50 |
| 6 | Classrooms | 80 | 90 |

**STANDARDS PRESENTATION
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CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

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

| | | | |
|---------------|---|----------------|--|
| 7 | Dormitories- | 10 | 90 |
| 8 | Dwellings- | 10- | 300 |
| 9 | Garage, Parking- | 30- | 900- |
| 10 | Hospitals and Sanitariums-Nursing- Homes- | 5- | 80 |
| 11 | Hotels and Apartments- | 10- | 900 |
| 12 | Kitchen-Commercial- | 30- | 900 |
| 13 | Library-Reading- Room- | 50- | 50 |
| 14 | Locker Rooms- | 30- | 50 |
| 15 | Mechanical- Equipment Room- | 30- | 300 |
| 16 | Nurseries for Children- (Day care)- | 6- | 50 |
| 17 | Offices- | 30- | 100 |
| 18 | School Shops and Vocational Rooms- | 50- | 50 |
| 19 | Skating Rinks- | 50- | 50 on the skating area; 15 on the deck |
| 20 | Stores-Retail Sales- Rooms | | |
| | Basement | 7- | 80 |
| | Ground Floor | 50 | 30 |
| | Upper Floors | 10- | 50 |

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

| | | | |
|---------------|---------------------------|---------------|---|
| 21 | Swimming Pools | 50 | 50 for the pool area; 15 on the deck |
| 22 | Warehouses | 30 | 300 |
| 23 | All others | 50 | 100 |

- ~~1 Refer to Sections 3318 and 3319 for other specific requirements.~~
- ~~2 Elevators shall not be constructed as providing a required exit.~~
- ~~3 Access to secondary areas on balconies or mezzanines may be by stairs only, except when such secondary areas contain the only available toilet facilities.~~
- ~~4 Reviewing stands, grandstands and bleachers need not comply.~~
- ~~5 Access to floors other than that closest to grade may be by stairs only, except when the only available toilet facilities are on other levels.~~
- ~~6 Access to floors other than that closest to grade and to garages used in connection with apartment houses may be by stairs only.~~
- ~~7 See Section 3302 for basement exit requirements.~~
- ~~8 See Section 1213 for access to building and facilities in hotels and apartments.~~
- ~~9 This table shall not be used to determine working space requirements per person. (Title 24, Part 2, Table 33A without Accessibility Column.)~~

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943(c), Health and Safety Code.

PROPOSED MODIFICATIONS
(Modifications are indicated in bold,
double underline wording for new language,
and bold, double strikeout for deleted language.)
(Only the modified page is included)

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§3228. Number of Exits.

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~~EXCEPTION: Assembly buildings shall be provided with not less than two remotely located exits. (Title 24, Part 2, Section 2-3302(A)(1).)~~

~~EXCEPTION: In accordance with Title 24, Part 2, California Code of Regulations, a single exit shall be permitted where the number of employees, the size of the building, its occupancy or the arrangement of the workplace is such that all employees would be able to evacuate safely during an emergency.~~

(b) ~~In all occupancies, floors above the first story having an occupant load of more than 10 shall have not less than two exits. More than two exits must be provided in a workplace if the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would not be able to evacuate safely during an emergency if only two exits were provided.~~

~~NOTE: See subsection (h) for special exit requirements. (Title 24, Part 2, Section 2-3302(a)(2).)~~

~~Note to subsections (a) and (b): For assistance in determining the number of workplace exits, and the necessary distance between exits, consult the Title 24, Part 2, 2007 California Code of Regulations, Building Code, Part 2, Chapter 10, Section 1019, Number of Exits and Continuity, and your local jurisdiction fire department.~~

(c) ~~Each mezzanine used for other than storage purposes, if greater in area than 2000 square feet or if more than 60 feet in any dimension shall have not less than two stairways to an adjacent floor.~~

~~(Title 24, Part 2, Section 2-3302(a)(3).)~~

(d) ~~Every story or portion thereof, having an occupant load of 501 to 1,000 shall have not less than three exits. (Title 24, Part 2, Section 2-3302(a)(4).)~~

(e) ~~Every story or portion thereof, having an occupant load of 1000 or more shall have not less than four exits. (Title 24, Part 2, Section 2-3302(a)(5).)~~

(f) ~~The number of exits required from any story of a building shall be determined by using the occupant load of that story, plus the percentages of the occupant loads of floors which exit through the level under consideration as follows:-~~

~~(1) Fifty percent of the occupant load in the first adjacent story above (and the first adjacent story below, when a story below exits through the level under consideration).~~

SUMMARY AND RESPONSE TO COMMENTS

SUMMARY AND RESPONSE TO WRITTEN AND ORAL COMMENTS

I. Written Comments

Ms. Teresa A. Harrison, Acting Regional Administrator, Region IX, United State Department of Labor, Occupational Safety and Health Administration (OSHA), by letter dated October 9, 2007.

Comment:

Ms. Harrison stated that as proposed Board staff's amendments to Section 3328 provide protection that is at least as effective as (ALAEA) the counterpart federal OSHA standards in 29 CFR 1910.36(b), Number of Exit Routes.

Response:

The Board notes federal OSHA's opinion that the proposed amendments to Section 3228 are ALAEA the counterpart federal standard.

Ms. Diane Arend, Regulations Coordinator, Office of the State Fire Marshal (OSFM), Code Development and Analysis, by letter dated November 13, 2007.

Comment:

Ms. Arend stated that OSFM approval of the proposal is contingent on three clarifying revisions that would 1) set aside the proposed deletion of the existing phrase "every building or useable portion thereof shall have at least..." and retain the existing subsection (a) language, 2) add a clarifying reference to the exception statement for Title 24, Part 2, California Code of Regulations and, 3) delete the proposed reference to Title 24, 2007 California Building Code, Part 2, Chapter 10, Section 1019, Number of Exits and Continuity and replace it with a reference to Title 24, Part 2, California Code of Regulations. Ms. Arend stated that the proposed revisions will provide more concise coordination of Title 8 and Title 24 requirements and improve clarity for employers seeking guidance on determining occupant load, number, size, location and distance to exits.

Response:

The Board agrees with Ms. Arend's comments and will incorporate the suggested clarifying revisions into the proposal. The Board will make an editorial deviation to Ms. Arend's comment pertaining to the Exception statement. The Exception statement following subsection (a) will be reworded to state, "In accordance with the requirements of Title 24, Part 2, California Code of Regulations, a single exit shall be permitted where the number of employees...."

The Board thanks Ms. Arend for her participation in the Board's rulemaking process.

II. Oral Comments

Oral comments received at the October 19, 2007, Public Hearing in Sacramento, California.

Dr. Jonathan Frisch, Occupational Safety and Health Standards Board Member

Comment:

Dr. Frisch asked how employers are to demonstrate that they do not need more than one exit and if there is a document to which employers could refer to determine whether or not more than one exit is needed. Dr. Frisch also asked Board staff to ensure that the proposal is consistent with the requirements of Title 24, California Building Code which becomes effective in January 2008.

Response:

The Board recognizes that the California Building Code, which becomes operative on January 1, 2008, contains criteria which employers are to use to determine if more than one exit is required and, if so, the necessary number or whether a single exit may be sufficient. The California Building Code, based on the standards of the 2006 International Building Code (IBC), is referenced in the proposal. The 2006 IBC describes criteria such as, but not limited to, occupancy, number of employees or occupant load, arrangement and distance to exits, and the number of building floors. The California Building Code addresses these criteria and provides tables that guide the employer in selecting the correct number of exits for the building's occupancy.

The Board staff and Board agree that the proposal should be consistent with the requirements of the California Building Code, as is demonstrated by the inclusion of the reference to Title 24 and the California Building Code requirements pertaining to the number of exits and consultation with the employer's local jurisdiction fire authority. Consultation with local fire authorities during the construction of buildings will ensure exit issues are properly addressed. The local fire authorities also play a significant role in ensuring that older, existing buildings are provided with the proper number of exits.

Mr. Jack Kastorff, Occupational Safety and Health Standards Board Member

Comment:

Mr. Kastorff asked why the proposal references the Title 24 California Building Code versus the National Fire Protection Association (NFPA) 101 Life Safety Code.

Response:

One goal of this proposal is to harmonize the language of the proposal with the exit requirements of the California Building Code which becomes effective on January 1, 2008. This code is based on the 2006 International Building Code, which as determined by Board staff and federal OSHA, is at least as effective as federal OSHA standards in addressing the issue of the minimum number of exits for various occupancies. The California Building Standards Commission conducted hearings resulting in public testimony weighing in heavily on the side of the International

Building Codes versus the NFPA 101 Life Safety Code. In the final analysis, the Building Standards Commission adopted the 2006 IBC as the California Building Code. The Board also recognizes that for the sake of harmony with local fire and building jurisdictions throughout California, it was imperative that Title 8 and California Building standards be harmonized.