

**OCCUPATIONAL SAFETY  
AND HEALTH STANDARDS BOARD**

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Attachment No. 2

**INITIAL STATEMENT OF REASONS****CALIFORNIA CODE OF REGULATIONS**

TITLE 8: Chapter 4, Subchapter 4, Article 19, Section 1632 of the Construction Safety Orders; and Subchapter 7, Article 2, Section 3212 of the General Industry Safety Orders.

**Guarding of Skylights****SUMMARY**

This proposed rulemaking action is being initiated at the request of the Division of Occupational Safety and Health (Division). The Division submitted a Form 9, Request for New, or Change in Existing Safety Order, dated December 1, 2000, to amend the Construction Safety Orders (CSO) Section 1632 to indicate to employers that requirements for guarding existing skylights can be found in General Industry Safety Orders (GISO) Section 3212. The Form 9 contained another request to amend GISO, Section 3212 to make it at least as effective as its federal counterpart regulation by deleting the requirement permitting temporary warning lines and cones positioned 24 inches from the skylight curb.

The Division stated that on review of Title 8 regulations, it appears that existing regulations are not at least as effective as federal counterpart regulations. According to the Division, the federal regulations require guarding the skylights by means of covers, railings or fall protection systems, whereas Title 8 regulations permit the use of temporary warning lines or cones placed near the skylight or roof opening.

The Division indicated that a review of injury and illness data maintained in the Federal Integrated Management System shows that there have been at least 103 instances of falls through skylights in OSHA Region 9 (California, Nevada, Arizona and Hawaii) between 1990 and 2001. Most of these accidents, about 83 percent, occurred in California and of those, 16 were fatal falls through skylights or roof openings. Almost half of these fatalities have occurred since January 1998. Consequently, the Division is requesting the Occupational Safety and Health Standards Board to amend the aforementioned safety orders to effectively address this hazard.

This proposed rulemaking action contains numerous nonsubstantive, editorial, reformatting of subsections, and grammatical revisions. These nonsubstantive revisions are not all discussed in this Informative Digest. However, these proposed revisions are clearly indicated in the regulatory text in

underline and strikeout format. In addition to these nonsubstantive revisions, the following actions are proposed:

Construction Safety Orders, Section 1632(b). Floor, Roof, and Wall Openings to Be Guarded.

Section 1632 applies to temporary or emergency conditions where there is a danger of employees or materials falling through floor, roof, or wall openings, or from stairways or runways. Existing Section 1632(b) requires that floor, roof, and skylight openings be guarded using standard railings and toeboards or covers. Subsection (b) also outlines specific requirements for covers.

For employers to understand the various requirements of this section clearly, it is proposed to further subdivide Section 1632(b) into three subsections. It is proposed to label the first sentence of existing Section 1632(b) as (b)(1), which specifies the methods of guarding floor, roof and skylight openings. For clarity purposes, it is proposed to editorially revise this sentence to read, "Floor, roof and skylight openings shall be guarded by either temporary railings and toeboards or by covers." It is also proposed to add an instructive "note" at the end of subsection (b)(1) to indicate to employers that the requirements for guarding existing skylights can be found in Section 3212 of the General Industry Safety Orders.

Currently, Section 1632 does not address the design, construction, and installation specifications for railings and toeboards that are specified as one of the means of guarding floor, roof, and skylight openings. Therefore, it is proposed to add a new subsection (2) to specify that railings and toeboards shall meet the requirements of Sections 1620 and 1621. Board staff notes that CSO Sections 1620 and 1621 already apply to Section 1632, consequently, the proposed amendment merely clarifies an existing requirement. Also, since the last sentence of existing Section 1632(b) pertains to guardrails, it is proposed to relocate this requirement to proposed new subsection (2), which addresses guardrail requirements.

The remaining portion of existing Section 1632(b), which addresses requirements specific to covers, is proposed for renumbering as subsection (3). Currently, this portion of existing Section 1632(b) specifies that covers be capable of safely supporting the greater of the weight of a 200-pound person or twice the weight of the employees, equipment and materials that may be imposed on the cover at any one time. Board staff recognized and the advisory committee concurred, however, that twice the weight of the employees, equipment and materials will always be more than the weight of a 200-pound person. Therefore, it is proposed to change the weight requirement from a 200-pound person to "the weight of 400 pounds," which is twice the weight of a 200-pound person. In addition, the current regulation considers this 200-pound strength requirement to be applied over the entire surface of the cover. Board staff recognizes, however, that this load is actually imposed on only the area of the cover where the falling person makes contact. Consequently, staff proposes to amend this requirement to read "Covers shall be capable of safely supporting the greater of the weight of 400 pounds or twice the weight of the employees, equipment and materials that may be imposed anywhere on one square foot area of the cover at any time."

The proposed amendments to Section 1632(b) are necessary to clarify the regulation, make it consistent with other Title 8 requirements, and ensure that floor, roof and wall openings are effectively guarded. The proposed amendments are also necessary to ensure that the state's skylight guarding requirements are at least as effective as its federal counterpart.

General Industry Safety Orders, Section 3212. Floor Openings, Floor Holes and Roofs.

Existing Section 3212 address requirements for guarding floor openings, floor holes, skylights and roofs. Skylights, however, are not included in the current heading of this section. Therefore, it is proposed to amend the heading to read, "Floor Openings, Floor Holes, Skylights and Roofs." The proposed amendment is necessary to provide clarity to the regulations.

Section 3212(a)(1)

Existing Section 3212(a)(1) specifies the guarding requirements for floor openings. It is proposed to have these requirements apply to roof openings as well and relocate the parenthetical phrase, "except at the entrance to stairway or ladder way" to the end of the subsection as an "exception". To make this section applicable to both floor and roof openings, it is proposed to delete the words "floor" and "permanent floor" in the last two sentences of this subsection. The proposed revisions are necessary to clarify the regulation and ensure that the requirements of this subsection are applicable to both roof and floor openings, consistent with the section title.

Section 3212(b)

Existing Section 3212(b) requires that the construction of floor opening covers be made of materials that meet the strength requirements of the surrounding floor. Board staff recognizes and the advisory committee concurred that this requirement is vague and unenforceable. Therefore, it is proposed to revise this subsection by incorporating the strength requirements for opening covers consistent with that of proposed Section 1632(b)(3). It is also proposed to have these requirements apply to roof openings as well as floor openings. The proposed amendments are necessary to clarify the regulation, make it consistent with other Title 8 requirements, and ensure that floor and roof opening covers are effective in supporting the weight of employees, falling equipment and/or materials.

Section 3212(e)

Existing Section 3212(e) addresses the requirements for guarding skylights. The current section has only two subsections (e)(1) and (e)(2). Subsection (e)(1) specifies the requirements for skylight screens, whereas subsection (e)(2) contains the requirements for guarding existing skylights via the use of a fall protection system, covers, or guardrails.

It is proposed to reformat Section 3212(e) and add a new opening statement, taken in part from existing subsection (e)(2), which requires that any employee approaching within 6 feet of any skylight be

protected from falling by any of the methods outlined in proposed subsections (e)(1) through (e)(5) as follows:

Subsection (e)(1)

Existing subsection (e)(1) contains the construction and mounting specifications for skylight screens and requires that they be capable of withstanding a load of 200 pounds applied perpendicularly at any one square foot area on the screen. To be consistent with the proposed strength requirements of opening covers, it is proposed to amend this requirement to read, “The design, construction and installation of skylight screens shall meet the strength requirements equivalent to that of covers specified in subsection (b) above.” For clarity, it is further proposed to editorially revise the remaining subsection to reference “design loads” vs. “ordinary loads” and that the grillwork contain openings not more than “4 inches x 4 inches” vs. “4 inches.” A revision is also proposed to delete the Title 24 reference at the end of this subsection due to recent Labor Code revisions resulting from AB 3000. The proposed amendments are necessary to clarify the regulation and make it consistent with other Title 8 requirements by ensuring that skylight screens meet strength requirements equivalent to those of coverings.

Subsection (e)(2)

Existing subsection (e)(2) requires that where existing skylights are not guarded in accordance with subsection (e)(1), and where there is a need for any employee to approach within 6 feet of any skylight, employee(s) shall be provided with fall protection for the duration of fall exposure by: (A) the use of an approved safety belt and lanyard securely anchored to a solid structure, or (B) temporary covers capable of sustaining the weight of a 200-pound person installed over the skylight, or (C) temporary 42-inch railing enclosures, temporary warning lines, or cones installed/positioned no closer than 24-inches from the skylight curb. It is proposed to amend and relocate these options to proposed subsections (e)(3), (4) and (5), respectively. The existing requirement in subsection (C), which lists cones as an option of protecting the skylight, renders this Title 8 regulation less effective than its federal counterpart and is therefore proposed for deletion. New subsection (e)(2) is proposed which reads, “Guardrails meeting the requirements of Section 3209.” The proposed amendments are necessary to clarify the use of guardrails as a fall exposure protection option, make it consistent with other Title 8 requirements, and ensure that state regulations are at least as effective as federal counterpart regulations.

New subsection (e)(3)

New subsection (e)(3) is proposed which amends the fall protection option as a means of guarding skylights, derived from existing Section 3212(2)(A). The proposed new subsection reads, “The use of a personal fall protection system meeting the requirements of Section 1670 of the Construction Safety Orders”. The proposed new subsection is necessary to clarify the fall protection option and make it consistent with other Title 8 requirements.

New subsection (e)(4)

New subsection (e)(4) is proposed which amends the use of covers as an option for guarding skylights, derived from existing Section 3212(2)(B). The proposed new subsection reads, “Covers meeting the

requirements of subsection (b) installed over the skylights”. The proposed new subsection is necessary to clarify the use of covers as a fall exposure protection option and make it consistent with other Title 8 requirements.

#### New subsection (e)(5)

New subsection (e)(5) is proposed which amends the use of temporary warning lines as an option for guarding skylights, derived from existing Section 3212(2)(C). The proposed new subsection permits the use of temporary warning lines as a means to protect an employee from falling through the skylight or skylight opening. The temporary warning lines must be installed not less than 6 feet from the curb of the skylight or roof or floor opening, and when used, shall consist of ropes, wires, or equivalent materials and supporting stanchions as follows:

(A) The supporting stanchions (portable or fixed) supporting the warning lines shall be designed and installed or positioned to minimize tip over or displacement under normal working conditions.

(B) Each line shall be flagged or otherwise clearly marked at not more than 6 – foot intervals with high-visibility material.

(C) Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches from working level/working area and its highest point not more than 45 inches.

(D) Each line as installed shall have a minimum breaking strength of 200 pounds.

The proposed new subsection differs from federal counterpart regulations, contained in 29 CFR 1926.502(f)(2)(ii) and (iv), in that the height range of the warning line is taller, 39 to 45 inches vs. 34 to 39 inches, and is believed to be more visible and less of a trip hazard. In addition, the strength requirement for temporary warning lines is less stringent than the one required by federal regulations, 200-pound breaking strength vs. 500-pound breaking strength, since the state provides a 6-foot margin of safety between the curb of the skylight or roof or floor opening and the warning line itself. The state believes that this 6-foot safety margin, along with a clearly visible warning line, is sufficient to prevent falls through such openings. Anyone approaching such openings within this 6-foot safety margin must utilize the fall protection methods prescribed under preceding subsections (1) through (4), i.e., skylight screens, guardrails, covers, or a personal fall protection system.

The proposed new subsection is necessary to clarify the requirements regarding temporary warning lines as a means of protecting employees from falling through skylights or skylight openings.

#### Proposed new subsection (f)

New subsection (f) is proposed which specifies that access on to glazed surfaces, such as roofs, vaults, canopies, or skylights glazed with transparent or translucent materials is prohibited unless an engineer registered in the State of California and experienced in the design of such glazed structures has certified that the surface will support all anticipated loads. Employees working on such surfaces shall be protected by a fall protection system meeting the requirements of Section 1670 of the Construction Safety Orders. The proposed new subsection was based on the recommendations of the advisory

committee. The proposed new subsection is necessary to ensure that employees are prevented from accessing glazed surfaces, unless such surfaces are certified to support all anticipated loads and employees are otherwise protected by a fall protection system.

Proposed new subsection (g)

New subsection (g) is proposed which specifies that when glazed surfaces cannot be accessed safely for maintenance in accordance with subsection (f), scaffolds, catwalks, rolling ladders, platforms or other methods of safe access shall be provided. The proposed new subsection is necessary to provide safe, alternative means to access glazed surfaces for maintenance purposes.

DOCUMENTS RELIED UPON

1. Division of Occupational Safety and Health, Request for New, or Change in Existing, Safety Order (Form 9) and attachments, dated December 1, 2000.
2. Department of Labor, Occupational Safety and Health Administration (OSHA), 29 Code of Federal Regulation (CFR) Parts 1910.23, 1926.501, and 1926.502.

These documents are available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

DOCUMENTS INCORPORATED BY REFERENCE

None.

REASONABLE ALTERNATIVES THAT WOULD LESSEN ADVERSE ECONOMIC  
IMPACT ON SMALL BUSINESSES

No reasonable alternatives were identified by the Board and no reasonable alternatives identified by the Board or otherwise brought to its attention would lessen the impact on small businesses.

SPECIFIC TECHNOLOGY OR EQUIPMENT

This proposal will not mandate the use of specific technologies or equipment.

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

No costs or savings to state agencies will result as a consequence of the proposed action.

Impact on Housing Costs

The Board has made an initial determination that this proposal will not significantly affect housing costs.

Impact on Businesses

The Board has made an initial determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states.

Cost Impact on Private Persons or Businesses

The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

Costs or Savings in Federal Funding to the State

The proposal will not result in costs or savings in federal funding to the state.

Costs or Savings to Local Agencies or School Districts Required to be Reimbursed

No costs to local agencies or school districts are required to be reimbursed. See explanation under “Determination of Mandate.”

Other Nondiscretionary Costs or Savings Imposed on Local Agencies

This proposal does not impose nondiscretionary costs or savings on local agencies.

DETERMINATION OF MANDATE

The Occupational Safety and Health Standards Board has determined that the proposed regulations do not impose a local mandate. Therefore, reimbursement by the state is not required pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code because the proposed amendments will not require local agencies or school districts to incur additional costs in complying with the proposal. Furthermore, these regulations do not constitute a “new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution.”

The California Supreme Court has established that a “program” within the meaning of Section 6 of Article XIII B of the California Constitution is one which carries out the governmental function of providing services to the public, or which, to implement a state policy, imposes unique requirements on local governments and does not apply generally to all residents and entities in the state. (County of Los Angeles v. State of California (1987) 43 Cal.3d 46.)

These proposed regulations do not require local agencies to carry out the governmental function of providing services to the public. Rather, the regulations require local agencies to take certain steps to ensure the safety and health of their own employees only. Moreover, these proposed regulations do not in any way require local agencies to administer the California Occupational Safety and Health program. (See City of Anaheim v. State of California (1987) 189 Cal.App.3d 1478.)

These proposed regulations do not impose unique requirements on local governments. All employers - state, local and private - will be required to comply with the prescribed standards.

#### EFFECT ON SMALL BUSINESSES

The Board has determined that the proposed amendments may affect small businesses.

#### ASSESSMENT

The adoption of the proposed amendments to these regulations will neither create nor eliminate jobs in the State of California nor result in the elimination of existing businesses or create or expand businesses in the State of California.

#### ALTERNATIVES THAT WOULD AFFECT PRIVATE PERSONS

No reasonable alternatives have been identified by the Board or have otherwise been identified and brought to its attention that would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.