

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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**FINAL STATEMENT OF REASONS****CALIFORNIA CODE OF REGULATIONS**

TITLE 8: Division 1, Chapter 4, Subchapter 4, Article 15, Sections 1610.3 and 1616.3 of the Construction Safety Orders; Subchapter 7, Article 91, Section 4885 and Article 98, New Section 4993.1 and Sections 4999 and 5001 of the General Industry Safety Orders

Work Area Control (Swing Radius Hazards)**MODIFICATIONS AND RESPONSES TO COMMENTS RESULTING FROM
THE 45-DAY PUBLIC COMMENT PERIOD**

There are no modifications to the information contained in the Initial Statement of Reasons except for the following non-substantive modifications that are the result of public comments and/or Board staff evaluation.

Section 1610.3. Definitions.

Radius (Load) is currently defined as the horizontal distance from the center of rotation of a crane or derrick to the center of the vertical hoist line, or tackle with load applied. A comment was received that some cranes covered by these standards (certain articulating boom cranes for example), do not have a hoist line and that this definition lacked clarity for cranes without a hoist line or suspended tackle. It is, therefore, proposed to add the phrase "hook shank or pin" to this definition. The purpose and necessity for this modification is to cover all types of cranes that might be regulated by this proposed standard.

Section 1616.3(a)(1). Work Area Control.

Subsection (a)(1) provides that work area control requirements apply where there are accessible areas in which the equipment's rotating superstructure poses a "reasonably foreseeable risk" of striking and injuring an employee; or pinching/crushing an employee against another part of the equipment or another object. Comments were received that "reasonably foreseeable risk" is vague and subject to interpretation. It is proposed to replace "poses a reasonably foreseeable risk" with "poses a hazard." The purpose and necessity of this modification is to clarify work area control requirements.

Section 1616.3(a)(3)(B). Work Area Control.

Subsection (a)(3)(B) provides that the crane operator shall not rotate the superstructure until the employee has exited the swing radius hazard location. Federal OSHA has requested that "in a

safe position” be reinstated into this subsection in order to make it commensurate with federal standards. The purpose and necessity of this modification is to assure a level of safety commensurate with federal standards.

Section 4885. Definitions.

Radius (Load) is currently defined as the horizontal distance from the center of rotation of a crane or derrick to the center of the vertical hoist line, or tackle with load applied. A comment was received that some cranes covered by these standards (certain articulating boom cranes for example) do not have a hoist line and that this definition lacked clarity for cranes without a hoist line or suspended tackle. It is, therefore, proposed to add the phrase “hook shank or pin” to this definition. The purpose and necessity for this modification is to cover all types of cranes that might be regulated by this proposed standard, and to harmonize the General Industry Safety Orders (GISO) with the Construction Safety Orders (CSO).

Section 4993.1(a)(1). Work Area Control.

Subsection (a)(1) provides that work area control requirements apply where there are accessible areas in which the equipment's rotating superstructure poses a “reasonably foreseeable risk” of striking and injuring an employee; or pinching/crushing an employee against another part of the equipment or another object. Comments were received that “reasonably foreseeable risk” is vague and subject to interpretation. It is proposed to replace “poses a reasonably foreseeable risk” with “poses a hazard.” The purpose and necessity of this modification is to clarify work area control requirements, and to harmonize the GISO with the CSO.

Section 4993.1(a)(3)(B). Work Area Control.

Subsection (a)(3)(B) provides that the crane operator shall not rotate the superstructure until the employee has exited the swing radius hazard location. Federal OSHA has requested that “in a safe position” be added to this subsection in order to make it commensurate with federal standards. The purpose and necessity of this modification is to assure a level of safety commensurate with federal standards, and to harmonize the GISO with the CSO.

Summary of and Responses to Oral and Written Comments:

I. Written Comments

Bradley Closson, President, CRAFT Forensic Services, by e-mail dated August 6, 2012.

Comment No. 1:

Regarding Sections 1610.3 and 4885, Definitions, “Radius (Load),” Mr. Closson commented that some cranes covered by these standards, certain articulating boom cranes for example, do not have a hoist line; thus, the proposed definition is not adequate for all cranes covered by the

proposed standard. He recommended the definition be modified to be from the center of rotation of the crane or derrick to the center of the crane hook shank or pin, with the load applied. This modification is based on the definition in B30.22, Articulating Boom Cranes.

Response:

The Board accepts this comment and proposes to modify the definition of “Radius (Load)” to better encompass all types of cranes subject to these standards.

Comment No. 2:

Regarding Section 1616.3, Work Area Control, subsection (a)(1), the term “accessible” is unclear; i.e. is this access from the ground, or from a location on the crane’s superstructure? The commenter recommends that this be clarified.

Response:

The Board is of the opinion that limiting the hazard zone to ground level may not protect employees working on the non-rotating carrier or deck of the crane who might still be subject to being struck, pinched or crushed by the rotating portion of the crane superstructure. Subsections (a)(1)(A) and (B) of Section 1616.3 sufficiently clarify the hazard. The Board, therefore, declines to change the proposal in this regard.

Comment No. 3:

Regarding Section 1616.3, Work Area Control, subsection (a)(1), “reasonably foreseeable risk”, this term is vague and lacks clarity. Furthermore, the crane safety orders address hazards, not risks. The commenter recommends this portion be clarified.

Response:

The Board accepts this comment and proposes to clarify Section 1616.3(a)(1) and corresponding Section 4993.1(a)(1), accordingly.

Comment No. 4:

Regarding Section 1616.3, Work Area Control, subsection (a)(2) which reads: “To prevent employees from entering these hazard areas, the employer shall:...” The commenter opines that the following subsections only require training and warnings, and will not prevent employees from entering hazard areas. He recommends that subsection (a)(2) be modified to read: “To alert employees of the hazards in these areas, the employer shall:...”

Response:

The subsections following subsection (a)(2) describe the necessary precautions. Furthermore, changing from “prevent” to “alert” could be argued as not being at least as effective as the federal standard. The Board, therefore, declines to modify the proposal pursuant to this comment.

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

Gerald Fulghum, CSP, CHST, by e-mail dated September 6, 2012.

Comment:

Regarding use of “reasonably foreseeable risk” [in Sections 1616.3(a)(1) and 4993.1(a)(1)], the commenter opines that this term is fraught with uncertainty and lacks clarity. He recommends that verbiage be modified by striking “reasonably foreseeable” in order to make the standard clear, concise and enforceable.

Response:

The Board accepts this comment. See the response to Mr. Closson’s Comment No. 3.

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

David Shiraishi, MPH, Oakland Area Director, U.S. Dept. of Labor, Occupational Safety and Health Administration (OSHA), by letter dated September 19, 2012.

Comment:

A side-by-side comparison with 1926.1424(a)(3)(ii) indicates that Sections 1616.3(a)(3)(B) and 4993.1(a)(3)(B) omit “in a safe position” which is contained in the federal verbiage. The Area Director recommends that “in a safe position” be inserted into the text to make the proposal commensurate with the federal standard.

Response:

The Board accepts this comment and will revise the last sentences of Sections 1616.3(a)(3)(B) and 4993.1(a)(3)(B) to include “and is in a safe position” as requested by the OSHA Oakland Area Office.

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

II. Oral Comments

No oral comments were received at the September 20, 2012, Public Hearing in Sacramento, California.

MODIFICATIONS AND RESPONSES TO COMMENTS RESULTING FROM
THE 15-DAY NOTICE OF PROPOSED MODIFICATIONS

No further modifications to the information contained in the Initial Statement of Reasons are proposed as a result of the 15-Day Notice of Proposed Modifications mailed on October 23, 2012.

Summary of and Responses to Written Comments:

I. Written Comment

David Shiraishi, MPH, Oakland Area Director, U.S. Dept. of Labor, Occupational Safety and Health Administration (OSHA), by letter dated November 9, 2012.

Comment:

Federal OSHA believes that the proposed occupational safety and health standard appears to be commensurate with the federal standard.

Response:

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

ADDITIONAL DOCUMENTS RELIED UPON

1. ASME B30.3-1996, American National Standard: Construction Tower Cranes, page 7, definition of “*radius (load)*.” American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017.
2. ASME B30.4-2003, American National Standard: Portal, Tower, and Pedestal Cranes, page 4, definition of “*radius (load)*.” American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016.
3. ASME B30.22-2010, American National Standard: Articulating Boom Cranes, page 6, definition of “*load radius*.” American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016.

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 Drive, Suite 350, Sacramento, California.

ADDITIONAL DOCUMENTS INCORPORATED BY REFERENCE

None.

DETERMINATION OF MANDATE

These regulations do not impose a mandate on local agencies or school districts as indicated in the Initial Statement of Reasons.

ALTERNATIVES CONSIDERED

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, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law. To the contrary, the proposed coordination and harmonization of CSO and GISO standards for crane swing radius hazards is anticipated to simplify compliance and to promote operating efficiencies.