

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
Tel: (916) 274-5721 Fax: (916) 274-5743
Website address www.dir.ca.gov/oshsb



NOTICE OF PROPOSED MODIFICATIONS TO

Subchapter 4, Construction Safety Orders Article 2, Definitions, Section 1504

Article 12, Pile Driving and Pile Extraction, Section 1600

Article 15, Cranes and Derricks in Construction, Sections 1610, 1610.1, 1610.2, 1610.3, 1610.4, 1610.5, 1610.6, 1610.7, 1610.8, 1610.9, 1611, 1611.1, 1611.2, 1611.3, 1611.4, 1611.5, 1612, 1612.1, 1612.2, 1612.3, 1612.4, 1613, 1613.1, 1613.2, 1613.3, 1613.4, 1613.5, 1613.6, 1613.7, 1613.8, 1613.9, 1613.10, 1613.11, 1613.12, 1614, 1615, 1615.1, 1615.2, 1615.3, 1616, 1616.1, 1616.2, 1616.3, 1616.4, 1616.5, 1616.6, 1616.7, 1617, 1617.1, 1617.2, 1617.3, 1618, 1618.1, 1618.2, 1618.3, 1618.4, 1619, 1619.1, 1619.2, 1619.3, 1619.4, and 1619.5 Article 28, Miscellaneous Construction Tools and Equipment, Section 1694

Subchapter 5, Electrical Safety Orders

Group 2, High-Voltage Electrical Safety Orders

Article 37, Provisions for Preventing Accidents Due to Proximity to Overhead Lines,
Section 2946

Subchapter 7, General Industry Safety Orders

Group 1, General Physical Conditions and Structures Orders, Article 1, Definitions, Section 3207
Group 13, Cranes and Other Hoisting Equipment, New Sections 4880, 4881, 4883; Section 4884;
New Section 4884.1; Section 4885;

Article 93, Boom-Type Mobile Cranes, Section 4924; New Section 4928.1;

Article 94, Hydraulic Cranes and Excavators, Section 4949;

Article 95, Derricks, New Section 4959; Section 4960; New Sections 4960.1, 4960.2, 4960.3,
4960.4; Section 4961; and New Section 4962.1;

Article 96, Tower Cranes, Section 4965; New Section 4965.1; Sections 4966, 4968; New Sections
4968.1, 4968.2;

New Article 97.1, Floating Cranes/Derricks and Land Cranes/Derricks on Barges, New Sections
4988.1, 4988.2, 4988.3, 4988.4, 4988.5, 4988.6, 4988.7, 4988.8;

Article 98, Operating Rules, Section 4991; New Section 4991.1; Sections 4994, 4999, 5001; New
Sections 5001.1, 5001.2, 5001.3; Section 5002; New Sections 5003.1, 5003.2, 5003.3, 5003.4;
Sections 5004, 5005, 5006.1; New Section 5006.2; Section 5008; New Sections 5008.1, 5010,
5010.1, 5010.2, 5010.3, 5010.4, 5011, 5012;

New Article 98.1, Safety Devices and Operational Aids, New Sections 5017, 5018;

Article 99, Testing, Section 5022;

Article 100, Inspection and Maintenance, Section 5031; New Sections 5031.1, 5031.2, 5031.3,
5033.1, 5036, 5037

Group 26, Article 153, Commercial Diving Operations, Section 6060

Proposal to Consolidate Construction Safety Orders, Article 15 (Cranes and Derricks in Construction), into General Industry Safety Orders, Group 13 (Cranes and Other Hoisting Equipment)

Pursuant to Government Code section 11346.8(c), the Occupational Safety and Health Standards Board (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 May 20, 2021, the Board held a Public Hearing to consider revisions to various sections within the Construction Safety Orders (CSO), High-Voltage Electrical Safety Orders (HVESO), and General Industry Safety Orders (GISO). The Board received written and oral comments on the proposed revisions. The standards have been modified as a result of these comments and Board consideration.

Section 1610. General Requirements.

Subsection (a).

This subsection requires cranes and derricks used in construction to comply with the provisions of the GISO, article 13, with exceptions as provided. The reference to article 13 is incorrect. A modification is proposed to change the reference from article 13 to group 13. The purpose and necessity of this modification is to clarify to the employer that the GISO crane orders are contained in group 13 which is the correct location of the orders pertaining to cranes and derricks.

Subsection (b)(3).

A modification is proposed to make overhead lowercase. The term overhead does not require capitalization and should be consistent with its use in subsection (b)(1).

Section 3207. Definitions.

Section 3207 defines terms applicable to the GISO. A nonsubstantive modification is proposed to the definition of qualified person to change "his" to "their."

Section 4880. Scope.

Subsection (c) Exclusions. Group 13 does not cover:

This subsection contains 15 examples of machinery and equipment that is not covered by the requirements of group 13, which includes but is not limited to machinery and equipment adapted for non-hoisting use such as power shovels, excavators and concrete pumps. The purpose of this modification is to delete a sentence from subsection (c)(2) which excludes power shovels and excavators (except as prescribed by article 94), wheel loaders, backhoes and similar equipment when used with chains, slings or other rigging to lift suspended loads. This modification is necessary to avoid any semblance of conflict between GISO section 4880(c) and CSO section 1537(n), which requires all slings used to suspend loads comply with the requirements of article 101.

Section 4885. Definitions.

This section contains definitions of key terms used throughout the newly consolidated GISO cranes and other hoisting equipment standards. A modification is proposed for Employer-Made Equipment to delete the term “floating” in front of the words “cranes/derricks”. The purpose of the proposed modification is to avoid inadvertently narrowing the scope of the proposed GISO to only floating cranes/derricks, as this term could be applied to other types of cranes/derricks and unintentionally exclude them. The modification is necessary to ensure the regulated public understands it is the intent of the requirements to apply to all cranes/derricks.

Section 4924. Load Safety Devices.

This section describes requirements for the various types of crane safety devices such as, but not limited to, boom angle or radius indicators and anti-two-block prevention devices. A modification is proposed for subsection (d)(2) which pertains to the use of anti-two-block prevention and warning features on lattice boom cranes manufactured after February 28, 1992. The modification is a technical clarifying change to ensure employees know that derricks also fall under the requirements of this section and to delete language pertaining to equipping the crane with an anti-two-block device and replace it with essentially the same language contained in proposed subsection (d)(3). Subsection (d)(3) also contains a technical clarifying change to remove “cranes and” since lattice boom cranes are covered by subsection (d)(2). The purpose and necessity of these modifications is to better describe the need for the employer to provide the crane with a device that will prevent damage and load failure caused by contact between the load block, overhaul ball or similar component with the boom tip (i.e. two-blocking).

Section 4960.4. Inspections.

This section states that in addition to the requirements of article 100, specific items shall be included in the crane inspection. The purpose of the proposed modification is to include a reference to article 99 as well as article 100. This modification is necessary for clarity as GISO, article 99, section 5023 contains proof load testing and examination requirements.

Section 5003.1. Power Line Safety (Up to and Including 350kV) – Equipment Operations.

Subsection (d)(2) Exceptions.

Subsection (d)(2) addresses exceptions to the requirement in subsection (d)(1) which prohibits any part of the equipment, load line, or load (including rigging and lifting accessories) to be below a power line unless the line has been confirmed to have been de-energized and visibly grounded except where one of the exceptions listed in subsection (d)(2) applies. The purpose of the proposed modification is to delete subsection (d)(2)(A), which applies to work covered by title 8, HVESO and to re-letter the remaining exceptions consistent with title 8 format. The proposed modification is necessary to prevent confusion and conflict on the part of the employer since the HVESO already requires the lines be verified as being de-energized without exception when work is performed beneath power lines.

Section 5008.1. Operation.

Subsection (c).

This new section clarifies operational practices, procedures and accessibility of procedures which are currently prescribed more generally in the GISO. A nonsubstantive modification is proposed to change "his/her" to "their."

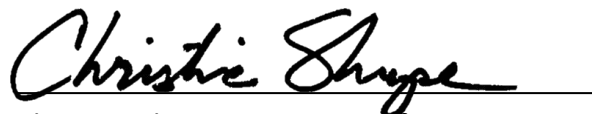
A copy of the revised text of the standards as originally proposed, with the modifications clearly indicated, is attached for your information. Anything that has been added is indicated by a bold underline, and anything that has been removed is indicated by a bold strikeout. In addition, a summary of all comments and Board staff responses regarding the original proposal is included.

Any written comments on these modifications must be received by 5:00 p.m. on *December 8, 2021* 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. Please confine your comments to the modifications of the text. This proposal will be scheduled for adoption at a future business meeting of the Board.

The Board's rulemaking files on the proposed action are open to public inspection BY APPOINTMENT Monday through Friday, from 8:00 a.m. to 4:30 p.m., at the Board's office at 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. Appointments can be scheduled via email at oshsb@dir.ca.gov or by calling (916) 274-5721.

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

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD



Christina Shupe, Executive Officer

Date: *November 19, 2021*

PROPOSED MODIFICATIONS
**(Modifications are indicated in bold,
underline wording for new language,
and bold, strikethrough for deleted language.**
Only pages containing modifications are included.)

TO

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4Subchapter 4. Construction Safety Orders
Article 15. Cranes and Derricks in Construction

Amend Section 1610 as follows:

§1610. General Requirements.

(a) Cranes and derricks used in construction shall comply with the provisions of General Industry Safety Orders, ~~Article Group~~ 13, except as supplemented below.

(b) Overhead & Gantry Cranes. [Ed note: Contents of Section 1610(b) have been relocated from Section 1619.4]

(1) Permanently installed overhead and gantry cranes. The requirements of General Industry Safety Orders, Article 92, apply to the following equipment when used in construction and permanently installed in a facility: overhead and gantry cranes, including semi-gantry, cantilever gantry, wall cranes, storage bridge cranes, and others having the same fundamental characteristics.

(2) Overhead and gantry cranes that are not permanently installed in a facility.

(3) This subsection applies to the following equipment when used in construction and not permanently installed in a facility: ~~Overhead~~ overhead and gantry cranes, overhead/bridge cranes, semi-gantry, cantilever gantry, wall cranes, storage bridge cranes, launching gantry cranes, and similar equipment having the same fundamental characteristics, irrespective of whether it travels on tracks, wheels, or other means.

(4) The following requirements apply to equipment identified in subsection (b)(3) of this section:

(A) All sections of General Industry Safety Orders, Group 13, apply except the following sections: Sections 4928.1(a), 4928.1(b), 5017, 5018, Article 95 and Article 96.

(B) The requirements as applicable of General Industry Safety Orders, Article 92, Cranes (Except Boom-Type Mobile Cranes).

(C) Applicable Standards:

1. For equipment identified in subsection (b)(3) which was manufactured before July 7, 2011, the standards prescribed by General Industry Safety Orders, Section 4884 shall apply.

2. For equipment manufactured on or after July 7, 2011, the following sections of ASME B30.2-2005 shall apply: 2-1.3.1; 2-1.3.2; 2-1.4.1; 2-1.6; 2-1.7.2; 2-1.8.2; 2-1.9.1; 2-1.9.2; 2-1.11; 2-1.12.2; 2-1.13.7; 2-1.14.2; 2-1.14.3; 2-1.14.5; 2-1.15.; 2-2.2.2; 2-3.2.1.1. In addition, 2-3.5 applies, except in 2-3.5.1(b), "29 CFR 1910.147" is substituted for "ANSI Z244.1."

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

TO

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4Subchapter 7. General Industry Safety Orders
Group 1. General Physical Conditions and Structures Orders
Article 1. Definitions

Amend Section 3207 as follows:

§3207. Definitions.

Certified Safety Professional or CSP...

Competent Person. One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Court...

Qualified Person, Attendant or Operator. A person designated by the employer who by reason of ~~his~~ their training and experience has demonstrated ~~his~~ their ability to safely perform ~~his~~ their duties and, where required, is properly licensed in accordance with federal, state, or local laws and regulations.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

TO

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4Subchapter 7. General Industry Safety Orders
Group 13. Cranes and Other Hoisting Equipment

Add new Section 4880 to read as follows:

§4880. Scope.

(a) The Orders in this Group shall apply to derricks, cranes, and boom-type excavators, but they shall not apply to aerial devices designed and used for positioning personnel (See Article 24).

[Ed note: Subsection (a) relocated from Section 4884(a)]

(1) This standard applies to power operated equipment that can hoist, lower and horizontally move a suspended load with or without attachments. Such equipment includes, but is not limited to: articulating boom cranes (such as knuckle-boom cranes); crawler cranes; floating cranes; cranes on barges; locomotive cranes; mobile cranes (such as wheel-mounted, rough-terrain, all terrain, commercial truck-mounted, and boom truck cranes); multi-purpose machines when configured to raise or lower by means of a hoist and horizontally move a suspended load; industrial cranes (such as carry deck cranes); cranes being used as dedicated pile drivers; service/mechanic trucks with a hoisting device; a crane on a monorail; tower cranes (such as a fixed jib, i.e., "hammerhead boom," luffing boom and self-erecting); pedestal cranes; portal cranes; overhead/bridge and gantry cranes; straddle cranes; side boom cranes; derricks; and variations of such equipment. However, items listed in subsection (c) of this section are excluded from the scope of this standard.

(2) Unless otherwise noted, the Orders in this Group apply to all cranes having a maximum rated capacity greater than one ton.

(b) Attachments. This standard applies to equipment included in subsection (a) of this section when used with attachments. Such attachments, whether crane-attached or suspended include, but are not limited to: hooks, magnets, grapples, clamshell buckets, orange peel buckets, concrete buckets, drag lines, personnel platforms, augers or drills and pile driving equipment.

(c) Exclusions. Group 13 does not cover:

(1) Machinery included in subsection (a) of this section while it has been converted or adapted for a non-hoisting/lifting use. Such conversions/adaptations include, but are not limited to, power shovels, excavators and concrete pumps.

(2) Power shovels and excavators (except as prescribed by Article 94), wheel loaders, backhoes, loader backhoes, track loaders. ~~This machinery is also excluded when used with chains, slings or other rigging to lift suspended loads.~~

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

Add new definitions to Section 4885 as follows:

Dedicated Spotter (power lines). To be considered a dedicated spotter, the requirements of Section 5001.3 (Signal Person Qualifications) shall be met and their sole responsibility is to watch the separation between the power line and the equipment, and load line and load (including rigging and lifting accessories).

Derrick...

Designated Person...

Drag Brake...

Drum Rotation Indicator. A device which indicates the relative speed a particular drum is turning.

Dynamic Brake...

Dynamic Loading...

Electrical Contact. When a person, object, or equipment makes contact or comes in close proximity with an energized conductor or equipment that allows the passage of current.

Emergency Stop Switch...

Employer-Made Equipment. ~~Floating~~ Cranes/derricks designed and built by an employer for the employer's own use.

Encroachment. Where any part of the crane, load line or load (including rigging and lifting accessories) breaches a minimum clearance distance that these Orders require to be maintained from a power line.

Equipment. For the purposes of this Group 13, the term "equipment" refers to equipment within the scope of Section 4880.

Equipment Criteria. Instructions, recommendations, limitations and specifications.

Fall Zone. The area (including but not limited to the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident.

TO

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4Subchapter 7. General Industry Safety Orders
Group 13. Cranes and Other Hoisting Equipment
Article 93. Boom-Type Mobile Cranes

Amend Section 4924 as follows:

§4924. Load Safety Devices.

(c) Mobile cranes shall be provided with a boom angle or radius indicator which clearly shows the boom angle ~~in degrees~~ or radius distance to the operator at all times.

(d) Anti-two-block prevention and warning features.

(1) Telescopic boom cranes manufactured after February 28, 1992, shall be equipped with an anti-two-block device or two-block damage prevention feature for all points of two-blocking.

(2) Lattice boom cranes manufactured after February 28, 1992, shall be equipped with an ~~anti-two-block device or a two-block warning feature, which functions for all points of two-blocking~~ device which automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device(s) shall prevent such damage/failure at all points where two-blocking could occur.

(3) Lattice boom ~~cranes and~~ derricks manufactured after November 8, 2011, shall be equipped with a device which automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device(s) shall prevent such damage/failure at all points where two-blocking could occur.

EXCEPTION: The requirements of subsections (d)(2) and (d)(3), do not apply to lattice boom cranes when used for dragline, clamshell (grapple), magnet, and drop ball work.

(4) ~~(3)~~ Articulating boom cranes manufactured after August 30, 2001, equipped with a load hoisting device (winch) shall be equipped with a two-block damage prevention feature.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARDPROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4(1) The test shall consist of:

(A) Hoisting the test load a few inches and holding to verify that the load is supported by the derrick and held by the hoist brake(s).

(B) Swinging the derrick, if applicable, the full range of its swing, at the maximum allowable working radius for the test load.

(C) Booming the derrick up and down within the allowable working radius for the test load.

(D) Lowering, stopping and holding the load with the brake(s).

(2) The derrick shall not be used unless the certificating agency determines that the test has been passed.

(d) Documentation. Tests conducted under this subsection shall be documented. The document shall contain the date, test results and the name of the tester. The document shall be retained until the derrick is re-tested or dismantled, whichever occurs first. All such documents shall be available, during the applicable document retention period, to all persons who conduct inspections in accordance with Article 100.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

Add new Section 4960.3 as follows:

§4960.3 Securing the Boom. [Ed Note: Portions of Section 4960.3 relocated from Section 4960(c)]

(a) When the boom is being held in a fixed position, dogs, pawls, or other positive holding mechanism on the hoist shall be engaged.

(b) When taken out of service for 30 days or more, the derrick boom shall be secured by one of the following methods:

(1) Be laid down;

(2) Be secured to a stationary member, as nearly under the head as possible, by attachment of a sling to the load block;

(3) For guy derricks, be hoisted to a vertical position and secured to the mast;

(4) For stiffleg derricks, secured against the stiffleg.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

Add new Section 4960.4 as follows:

§4960.4. Inspections. In addition to the requirements in Articles 99 and 100, the following additional items shall be included in the inspections:

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

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

Add new Section 5003.1 as follows:

(if using Option (2) of this section) or at the minimum approach distance under Table A (if using Option (3) of this section). If the operator is unable to see the elevated warning line, a dedicated spotter shall be used as described in subsection (b)(4)(A) in addition to implementing one of the measures described in subsections (b)(4)(B) and (C).

(4) Implement at least one of the following measures:

(A) A dedicated spotter who is in continuous contact with the operator. Where this measure is selected, the dedicated spotter shall:

1. Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A clearly visible line painted on the ground, a clearly visible line of stanchions, a set of clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).
2. Be positioned to effectively gauge the clearance distance.
3. Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.
4. Give timely information to the operator so that the required clearance distance can be maintained.

(B) A device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device shall be set to give the operator sufficient warning to prevent encroachment.

(C) A device that automatically limits range of movement, set to prevent encroachment.

(c) Voltage information. Where Option (3) of this section is used, the utility owner/operator of the power lines shall provide the requested voltage information within two working days of the employer's request.

(d) Operations below power lines.

(1) No part of the equipment, load line, or load (including rigging and lifting accessories) is allowed below a power line unless the employer has confirmed that the utility owner/operator has de-energized and (at the worksite) visibly grounded the power line, except where one of the exceptions in subsection (d)(2) of this section applies.

(2) EXCEPTIONS. Subsection (d)(1) of this section is inapplicable where the employer demonstrates that one of the following applies:

~~(A) The work is covered by Title 8 High-Voltage Electrical Safety Orders.~~

~~(B)(A) For equipment with non-extensible booms: The uppermost part of the equipment, with the boom at true vertical, would be more than 20 feet below the plane of the power~~

TO

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

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

line or more than the Table A of this section minimum clearance distance below the plane of the power line.

~~(C)~~(B) For equipment with articulating or extensible booms: The uppermost part of the equipment, with the boom in the fully extended position, at true vertical, would be more than 20 feet below the plane of the power line or more than the Table A of this section minimum clearance distance below the plane of the power line.

~~(D)~~(C) The employer demonstrates that compliance with subsection (d)(1) of this section is infeasible and meets the requirements of Section 5003.3.

(e) Power lines presumed energized.

The employer shall assume that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be de-energized and visibly grounded at the worksite.

(f) When working where a hazardous electrical charge is induced in the equipment or materials being handled, the transmitter or other source shall be de-energized or one of the following precautions shall be taken:

- (1) The equipment shall be electrically grounded and if tag lines are used they shall be non-conductive;
- (2) A non-conductive insulating link shall be used between the hook and the load; or
- (3) A non-conductive hoisting rope shall be used.

(g) Training.

(1) The employer shall train each operator and crew member assigned to work with the equipment on all of the following:

(A) The procedures to be followed in the event of electrical contact with a power line. Such training shall include:

1. Information regarding the danger of electrocution from the operator simultaneously touching the equipment and the ground.
2. The importance to the operator's safety of remaining inside the cab except where there is an imminent danger of fire, explosion, or other emergency that necessitates leaving the cab.
3. The safest means of evacuating from equipment that may be energized.
4. The danger of the potentially energized zone around the equipment (step potential) and the methods for emergency evacuation in an energized condition.
5. The need for crew in the area to avoid approaching or touching the equipment and the load.
6. Safe clearance distance from power lines.

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

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

Add new Section 5008.1 as follows:

§5008.1. Operation.

(a) The employer shall comply with all manufacturer procedures applicable to the operational functions of equipment, including its use with attachments.

(b) Accessibility of procedures.

(1) The procedures applicable to the operation of the equipment, including rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions, and operator's manual, shall be readily available in the cab at all times for use by the operator.

(2) Where rated capacities are available in the cab in electronic or other form: In the event of a failure which makes the rated capacities inaccessible, the operator shall immediately cease operations or follow safe shut-down procedures until the rated capacities (in electronic or other form) are available.

(c) The operator shall not engage in any practice or activity that diverts ~~his/her~~ their attention while actually engaged in operating the equipment, such as the use of cellular phones (other than when used for signal communications).

(d) Unavailable operation procedures.

(1) Where the manufacturer procedures are unavailable, the employer shall develop and ensure compliance with all procedures necessary for the safe operation of the equipment and attachments.

(2) Procedures for the operational controls shall be developed by a certified agent.

(3) Procedures related to the capacity of the equipment shall be developed and signed by a certified agent.

(e) Tagout.

(1) Tagging out of service equipment/functions. Where the employer has taken the equipment out of service, a tag shall be placed in the cab stating that the equipment is out of service and is not to be used. Where the employer has taken a function(s) out of service, a tag shall be placed in a conspicuous position stating that the function is out of service and is not to be used.

(2) Response to "do not operate"/tagout signs.

(A) If there is a warning (tagout or maintenance/do not operate) sign on the equipment or starting control, the operator shall not activate the switch or start the equipment until the sign has been removed by a person authorized to remove it in accordance with the provisions of Section 3314.

(B) If there is a warning (tagout or maintenance/do not operate) sign on any other switch or control, the operator shall not activate that switch or control until the sign has been

SUMMARY AND RESPONSE TO COMMENTS

SUMMARY AND RESPONSE TO WRITTEN AND ORAL COMMENTS

I. Written Comments

Mr. Bradley D. Closson, CRAFT Forensic Services, by email transmission to the Board dated May 7, 2021.

Comment:

Mr. Closson stated the proposal is confusing and diminishes the present level of safety provided by existing crane safety standards and that there is some “behind-the-scenes” reasoning for the Board staff to handle the consolidation in the manner proposed. He did not suggest any changes to the regulatory text, as he felt the number of problematic issues were too time consuming to address and did not feel that his input would be received by someone knowledgeable about crane operation safety. Mr. Closson recommended the Board not approve the proposal. He cautioned that if approved, the proposal could result in an increase in the number of erroneous citations issued by the Division of Occupational Safety and Health (Division) and create an adverse economic impact upon the regulated public as a result of having to appeal/defend against incorrect citations.

Response:

Board staff believes Mr. Closson’s assertions are without factual basis. Board staff also notes that Mr. Closson has neglected to point out any specific portion(s) of regulatory text he is concerned about. The proposal is a consolidation of previously adopted construction crane standards resulting from a federal final rule with existing general industry standards that will allow the employer to determine the proper application of crane regulations. Board staff notes that stakeholders, through the advisory committee (AC) process, have largely supported the consolidation. Mr. Closson should know that he has the option to address specific portions of this proposed consolidation via the Board’s petition process. Therefore, Board staff disagree with Mr. Closson’s comments and thank him for his participation in the Board’s rulemaking process.

Ms. Amber Rose, CIH, Area Director, Federal Occupational Safety and Health Administration (federal OSHA), Oakland Area Office, by email transmission dated May 11, 2021.

Ms. Rose’s comments were derived using the proposal’s January 20, 2021, 255 page side-by-side code comparison so the comments are identified by the page or pages of the side-by-side beginning with page 16/255 (i.e. page 16 of 255). Board staff has broken down and listed each comment below with responses using the same identification convention used by federal OSHA.

Comment Page 16/255:

Federal OSHA's Part 1926 (Safety and Health Regulations for Construction) subpart CC (Cranes and Derricks in Construction) mimics federal subpart M (Fall Protection) with a fall protection trigger height of six feet. California's fall protection trigger heights of 7.5-15 feet are not as protective as federal OSHA.

Response:

California has begun the process to conform to the federal six foot trigger height through what will be multiple separate rulemaking proposals, beginning with residential fall protection and eventually moving through the entire CSO until all title 8 CSO trigger heights are reduced to six feet. These title 8 fall protection changes will automatically impact the GISO group 13. Cranes and Other Hoisting Equipment safety orders as soon as they are adopted and become effective; it would be problematic from a cost impact standpoint (possibly triggering new cost concerns which could delay this rulemaking) and generally premature to make a separate change in this proposal for which remedial rulemaking to address trigger heights is being developed. The residential fall protection package is expected to move forward to a Public Hearing in 2022, and Board staff fully intend to continue to amend the CSO to render them commensurate with federal OSHA fall protection trigger heights.

Comment Page 33/255:

The definition of boom is not as descriptive as the federal definition. Federal OSHA proposes this definition remain unchanged and to include that portion of their definition of boom that includes a line describing how the boom may be configured.

Response:

Board staff believes, as does the AC and stakeholders, that the state and federal definition of boom are essentially equivalent and that the state's definition of boom is sufficiently clear without the added verbiage relating to boom configuration contained in the federal definition.

Comment Pages 33-34/255:

The definition of boom angle is adequate; however, it is being compared to the federal definition of boom angle indicator. Federal OSHA recommends adding a definition for boom angle indicator.

Response:

Federal OSHA states that it accepts the state's definition of boom angle, and Board staff believes it is sufficiently clear that a boom angle indicator (device that indicates a data point) is a device that measures boom angle per the state's definition. Also, California crane inspectors

and certified crane operators understand the concept of boom angle as described by the definition, and their training already stipulates how that angle is to be measured. The federal Occupational Safety and Health (OSH) Act and the California Labor Code do not require state standards to be verbatim of federal standards to be at least as effective as; only to effectively address the issue. Federal OSHA has not demonstrated that adding the definition of boom angle indicator would enhance safety. Therefore it is not critical that another definition be added.

Comment Page 35/255:

Section 18 of the OSH Act requires state plans to be at least as effective as federal standards. Failure of the state to incorporate a definition for center of gravity is a reduction in clarity, making the proposed revision less effective.

Response:

As stated in the side-by-side code comparison, it was the consensus recommendation of the AC that the federal definition for center of gravity is flawed; the definition is a well understood concept by qualified crane operators. Failing to define center of gravity is no more unclear than failing to define other commonly used terms such as gravity, light, pull, or push. Therefore, Board staff believes the omission of the definition for center of gravity (that point in a body or system around which its mass or weight is evenly distributed or balanced and through which the force of gravity acts) will not render the proposed revisions less effective.

Comment Page 36/255:

Section 18 of the OSH Act requires state plans to be at least as effective as federal standards. Failure of the state to incorporate a definition for crane/derrick is a reduction in clarity, making the proposed revision less effective. Federal OSHA also suggests that the state's definition of crawler crane should include the terms sprocket and driven track.

Response:

Board staff noted in the side-by-side that adding a definition for crane/derrick would be redundant. California does not believe redundancies improve the clarity or the level of safety provided by the proposal; in fact the Administrative Procedures Act (APA) discourages redundancies. The scope of existing section 4884 clearly details all of the hoisting equipment addressed by the federal standard. There is no need to create a redundancy. With regard to the second comment relating to the definition of crawler cranes, Board staff notes that just as automobiles rest upon tires and wheels connected to a drive axle to propel them, crawler type cranes are driven by sprockets that drive the track which are in contact with them to propel the crawler crane; it is an inherent design feature of crawler crane drive systems. Therefore, there is no need to include the terms sprocket and driven track in the definition.

Comment Page 37/255:

California should not delete verbiage from the federal definition that relates to the employer ensuring through communication with the crane operator that the minimum approach distance is not breached. Common sense of the operator/spotter cannot be relied upon.

Response:

Board staff believes this portion of federal OSHA's definition for dedicated spotter (power lines) are unnecessary since California's Injury and Injury Prevention Program (IIPP), section 3203, which applies to all types of crane operations, already goes into detail to ensure effective communication of all potential scenarios to workers. Additionally, cranes in California will be operated by qualified and trained individuals who are certified, which exceeds federal OSHA's requirements. California's signal person standards and vertical high voltage electrical standards already stress the need for training and communication when approach distances are involved. Given all of the other standards that apply, Board staff believes the redaction of the phrase indicated by the federal reviewer has little bearing on effective operator communication when high voltage overhead conductors are concerned.

Comment Page 37/255:

Federal OSHA states the proposed definition of fall zone does not include language describing the employee's presence directly under the load.

Response:

The federal comment does not take into account that the definition of fall zones relates to areas beneath the load. California title 8 standards already address specific precautions to prevent employees from being struck by an overhead load; working in areas where suspended loads are moved overhead. The fall zone is a place where employees are not to be working or present since it is by definition a place where a load could be anticipated to land if it fell. Under section 3203(a)(3), IIPP, employees are required to be trained in the hazards unique to their job tasks, in this case such training would instruct the employee to not be present in the fall zone when loads are suspended.

Comment Page 37-38/255:

Federal OSHA suggests a definition for dismantling be added.

Response:

California does not believe it is necessary to create a definition for dismantling at this time; one could be contemplated later, preferably with the advice and consensus of stakeholders. The criticality of having such a definition is not present since California has strict and comprehensive

requirements for the certification of cranes and for when cranes are dismantled via a permit and inspection process.

Comment Pages 42/255:

Federal OSHA suggests the definition of mobile crane be shown in the proposal, rather than only by separate document that has been incorporated by reference, which is not as effective.

Response:

The state relies on the American Society of Mechanical Engineers (ASME) B30 standard which are incorporated by reference; this automatically brings in all the definitions germane to this proposal. California has used incorporation by reference successfully as an effective means of communicating vital information to the reader regarding his/her duty to comply with title 8 standards. There is no need to deviate from that path at this time.

Comment Pages 42/255:

Federal OSHA suggests that in the absence of a definition (in this case moving point-to-point) that the definition be incorporated or shown in the proposal in a modified form if necessary, rather than deleting the definition altogether.

Response:

As stated in the state's rationale in the side-by-side document, the federal definition is too narrow in scope. Workers do not always traverse or move about on a structure from one work station to another. There are situations that involve point-to-point movement and do not involve work stations as in the case of moving about on a lattice structure, boom or other portion of the crane. Board staff believes the phrase point-to-point travel (i.e. or moving from point A to point B) is self-explanatory and requires no definition. Therefore, with regard to moving point-to-point, Board staff has elected not to incorporate the federal definition or a modified version into the proposal.

Comment Page 43-44/255:

Federal OSHA suggests including the term "...launching gantry cranes, and similar equipment, irrespective of whether it travels on tracks, wheels, or other means" in the definition of overhead and gantry cranes.

Response:

It was the consensus recommendation of the CDAC AC that the definition of overhead and gantry cranes did not need to include the phrase suggested by federal OSHA. Simply put, the definition is clearly inclusive of all gantry and overhead cranes without exception, meaning that

such cranes that are launching gantry cranes and similar equipment are not excluded and are included in the definition without the need for the additional verbiage.

Comment Pages 45-46/255:

Federal OSHA suggests removing the gender reference of the word “his” for replacement by “their” in the qualified person definition.

Response:

Board staff concur with Federal OSHA’s suggestion and have replaced references to gender in the proposal with non-gender specific alternatives. This non-substantive change is without regulatory effect.

Comment Page 49/255:

The state's definition is missing the purpose clarification of what two-blocking is supposed to accomplish.

Response:

Two-blocking is an old, basic, well-known concept to prevent damage to the crane boom that does not require a purpose be included in its definition; qualified persons operating cranes must be certified and are specially trained and instructed in the use of safety devices such as anti-two-blocking devices and their purpose.

Comment Page 132/255:

Federal OSHA takes exception to the title 8 trigger height of 7.5 feet when the federal OSHA trigger height is 6 feet.

Response:

See the Board staff’s prior response to this issue in the response to the comment from page 16/255.

Comment Pages 133-134/255:

Federal OSHA takes exception to the title 8 trigger height of 7.5 feet when the federal OSHA trigger height is 6 feet.

Response:

See the Board staff's prior response to this issue in the response to the comment from page 16/255.

Comment Pages 166-167/255:

Federal OSHA stated it would be helpful for the state to incorporate language similar to 29 CFR section 1926.1430 that will ensure the employer has trained and competent (qualified) individuals operating the crane. To that end, federal OSHA suggests that California amend its proposal to require trained and qualified employees to review the applicable crane safety standards.

Response:

This is not necessary and is arguably duplicative since California requires employers to have an active, continuing and effective IIPP program which addresses training in even greater detail in terms of what employees need to know to safely perform their jobs including documentation/recordkeeping. Training and instruction as required by California's IIPP regulation are intended to include instruction on the applicable standards that apply to their jobs, in this case the operation of a crane, and why these CDAC standards are important. In addition, qualified crane operators in California must have undergone a specific, accredited training program to be able to operate a crane which includes a discussion of applicable crane operator certification standards which, as proposed, will be consolidated in the GISO.

Comment Page 179/255:

Federal OSHA believes comparable language to the federal tag out reference should be utilized to ensure defective equipment which was taken out of service is not accidentally placed back into service.

Response:

This is not necessary. Lock-out tag-out (LOTO) and control of hazardous energy are contained in the GISO in which all crane standards will eventually reside and therefore those standards automatically apply. Section 3328 addresses all machinery equipment in terms of safe use and inspection to ensure the use is in accordance with the manufacturer's recommendations. Again, these standards automatically apply to crane operations.

Comment Pages 181-182/255:

Federal OSHA states the proposal should not be changed from qualified to competent person because qualified person is a better "fit" (undefined) to determine the effect of wind on load calculations. The qualified person may have better experience to resolve problems. Federal

OSHA suggests, “a competent person qualified to assess” as replacement language. Federal OSHA states that employers will designate the NCCCO certified crane operator as both the qualified and competent person but their ability to determine wind forces on a load may not be adequate.

Response:

Federal OSHA’s comment does not comport with the use and true meaning of the definitions of qualified versus competent persons to render expertise that could save the lives of employees. In California a competent person is taken to have a high level of training, often accompanied by certifications and licenses such as a registered professional engineer (PE). A PE can perform a wind-load calculation for the employer and transmit findings in an intelligible manner to the employer and employees. Mathematics is the basis for PE certification, whereas a qualified person may not have even completed high school. Also, California prefers the competent person designation in title 8 standards because in addition to the superior knowledge base and experience, the competent person is typically someone from outside the organization which brings professional impartiality but has the authority to make critical decisions and take action to prevent mishaps. No change from what is proposed is needed nor desirable. The comment regarding NCCCO and what the employer will do with the qualified crane operator is conjecture. A certified operator is deemed qualified to operate a crane based on knowledge and experience and addresses all critical aspects of safe crane operation.

Comment Pages 199-200/255:

Federal OSHA suggests placing the national consensus standard requirement into the regulatory text rather than have the reader refer back to another section which references the national consensus standard. Federal OSHA notes that it places the consensus standard requirements directly in the federal standard.

Response:

Board staff prefers to refer the reader to section 4884 which contains references to the applicable national consensus standards to avoid unnecessary duplication. This is a format that is used extensively throughout title 8 and there is no evidence of a lack of clarity or effectiveness in providing the regulated public with the information it needs to comply with the standard.

Comment Page 219/255:

See comment from pages 199-200.

Response:

See the response from pages 199-200.

Comment Pages 223-224/255:

See the comment from pages 199-200.

Response:

See the response from pages 199-200.

The Board would like to thank federal OSHA for its comments and participation in the Board's rulemaking process.

Mr. Michael J. Vlaming, Executive Director, Crane Owners Association, Inc., and Mobile Crane Operators Group, by letters dated May 19, 2021.

Comment:

Mr. Vlaming submitted identical letters from two organizations which stated overall support for the crane consolidation proposal; however, he suggested Board staff amend section 5022(c), which pertains to proof load testing and examination of cranes and their accessory gear. Mr. Vlaming notes that proposed subsection (c) provides that proof load tests be based on manufacturer's load ratings for the conditions of use, specifically 110 percent of the maximum rated load and tests for trolley equipped monorail cranes and overhead cranes not exceed 125 percent of the manufacturer's load rating. Mr. Vlaming's association believes proof load testing at capacity levels in excess of the manufacturer's stated maximum load ratings is unsafe. He states that it places unnecessary stress on the boom and may encourage hoisting at capacities in excess of the crane's maximum rated capacity. Such hoisting is also considered an unsafe act by the crane owners. Mr. Vlaming suggests changing the load capacity testing limit from 110 percent and 125 percent to 100 percent of the maximum load rating for all types of cranes.

Response:

Board staff notes that the title 8 proof load testing requirements have been in effect for many years, specifically the requirements for testing at 110 percent and 125 percent of the manufacturer's maximum rated load capacity for the boom on the crane. These are percentages that are commensurate with comparable federal language. To date, the Board staff and Division Crane Unit have not documented, nor have they found any documentation of boom stress-related failures or evidence that the current standard encourages hoisting operations at excessive load capacities by trained and qualified crane operators. However, Board staff believes this issue may merit consideration and study by Board and Division staff along with the guidance and assistance of stakeholders to render a competent decision about proof load tests. This matter is of critical importance to the safety of crane operations statewide and should not be "piggybacked" on to this rulemaking proposal. Board staff believes this issue is somewhat outside the scope of a rulemaking proposal primarily intended

to consolidate title 8 crane standards into the GISO. Therefore, Board staff suggests that Mr. Vlaming utilize the petition process as set forth in section 142.2 of the California Labor Code to bring this matter to the attention of Board and Division staff. Mr. Vlaming may wish to collaborate with other parties and consider a petition to address the concern expressed by Mr. Vlaming in his May 19, 2021, letter to the Board. Therefore, no modification to the proposal for this issue will be made.

The Board thanks Mr. Vlaming for his comments and acknowledges the Crane Owners Association and the Mobil Crane Operators Group's participation in the Board's rulemaking process.

Ms. Beth O'Quinn, Senior Vice President, Crane & Rigging, Specialized Carriers & Rigging Association (SC&RA), by letter dated May 19, 2021.

Comment:

Ms. O'Quinn supports the proposal to move the cranes and derricks standards into the GISO but has concerns regarding proof load testing in excess of manufacturer's stated maximum load ratings contained in section 5022(c). Ms. O'Quinn suggested that California amend its proof load testing requirement to not exceed 100 percent of the maximum load ratings of the crane. Ms. O'Quinn referenced a letter provided by the Association of Equipment Manufacturers (AEM) Crane Technical Committee, in which they do not recommend proof testing on mobile cranes beyond what is required by federal OSHA, 29 CFR 1926.1433. The AEM cited concerns of deterioration, damage, fatigue of structural members and a false sense of security to owners and users as structural failures may result from cracks from overloading and such issues will not be identified by a proof test. Therefore, Ms. O'Quinn recommends the proof load testing capacity limit in section 5022(c) to not exceed 100 percent of the maximum load rating of the crane.

Response:

See the response to Mr. Michael Vlaming's comment letter(s) dated May 19, 2021, to the Board. No modifications to the proposal for this issue will be made. The Board thanks Ms. O'Quinn for her comment on behalf of the SC&RA and acknowledges their participation in the Board's rulemaking process.

Mr. Eric Berg, Deputy Chief of Health, Jason Denning, Principal Safety Engineer, Research and Standards Unit, Division of Occupational Safety and Health, Phillip Yow, Senior Safety Engineer, Cal/OSHA Crane Unit, by Memorandum to the Board dated May 20, 2020.

Comment:

The Division stated they support an end to the bifurcation of general and construction industry crane standards and that they should be combined into the GISO to avoid conflict and

confusion. This action will ensure the correct application of title 8 crane regulations by Division and the regulated public. The Division believes a number of changes may be required to improve safety, clarify the scope of the regulations and to remove redundancy and conflicts within the proposal.

Section 1610(a) erroneously refers to GISO article 13, which pertains to agricultural operations; group 13 is cranes and other hoisting equipment. Therefore, article 13 should be changed to group 13.

Response:

Board staff agrees and will editorially modify section 1610(a).

Comment:

The Division believes section 1610(b)(4)(C) should be deleted because it decreases safety and reduces the current scope of title 8 overhead and gantry crane standards while excluding other standards.

Response:

The Division's point is well taken, however, Board staff notes that proposed section 1610(b)(4)(C) was copied directly from existing section 1619.4(b)(2)(C). If the Division believes modification to this section is necessary, it should be handled as part of a follow-up rulemaking with the assistance of an AC. This section was not discussed at any of the previous CDAC AC's.

Comment:

The Division states that section 4884(e) currently requires cranes and derricks which do not meet applicable ANSI standards to be designed and built in accordance with a mechanical or civil engineer recommendations. As written, the proposal would only permit ASME B30.2 cranes in construction and would not allow ASME B30.16 or ASME B30.17 overhead cranes and there is no mention of an engineer to be involved. The Division also points out that cranes have always been required to be designed, constructed and installed in accordance with ASME B30 standards but must be operated, tested, inspected and maintained in accordance with the GISO.

Response:

Existing section 4884(e) has been re-lettered to section 4884(g). No changes were proposed to existing text and this subsection was not reviewed at an AC, therefore, any Division suggested changes/clarifications to this subsection at this time are out of the scope of this rulemaking. It is recommended they be taken up in a future clean-up rulemaking.

Comment:

There is no requirement for third party inspection and certification as required by section 5021. The Division references section 2-3.2.1.1 Operators of Cab-Operated and Pulpit-Operated Cranes, which specifies the qualified personnel who can operate such cranes. The Division mentioned that section 5006 requires the employer to authorize and train employees in safe crane operation, and that there is no training requirement in the ASME B30.2 standard.

Response:

Board staff notes the Division has commented on section 5021. No changes to this section were proposed by the AC. AC members only recommended adding references. Thus any changes to section 5021 at this date are outside the scope of this proposed rulemaking.

Comment:

The Division suggests amending section 4884(c) to incorporate new ANSI standard references.

Response:

Board staff notes that national consensus standards are dynamic and continually evolving. In order to perform an update to section 4884(c) referenced B30 national consensus standards for cranes properly, a review of the standards by Board staff with the assistance of stakeholders is necessary to carefully consider the inclusion of the B30.16-2017, and which B30 standards, if any, referenced by current title 8 regulations require updating to newer editions. Therefore, given the timing of this rulemaking proposal and the amount of time required to perform a thorough review, Board staff plans to amend section 4884(c) to include appropriate updates in a future rulemaking.

Comment:

The Division believes section 4880(a)(1) excludes manually powered equipment which is not excluded in the current regulation and notes that the current section 4885 definition of crane includes manually operated equipment.

Response:

Board staff does not agree. The first CDAC AC was not able to reach consensus on the scope and went to a subcommittee. The proposed scope was the foundation of the AC's that followed. Board staff believes that if the Division comment was accepted it would undermine the consensus reached by the AC, in which the Division participated. The Division proposal would include a come-along (a small hand operated winch) which was not the AC's intent. Therefore, Board staff believes no modification is necessary.

Comment:

The Division believes the exclusion indicated by section 4880(c)(2) conflicts with CSO section 1537(n), which requires that use, care and maintenance of slings used in lifting suspended loads with construction equipment comply with the requirements of article 101 of the GISO. Article 101 is included within GISO group 13, therefore, the Division suggests deletion of subsection (c)(2).

Response:

Board staff notes this standard was copied from federal OSHA section 1926.1400(c)(2) except that the AC added the parenthetical which states except as prescribed by article 94; therefore, Board staff will not delete subsection (c)(2), with the exception of the last sentence which states, *"This machinery is also excluded when used with chains, slings or other rigging to lift suspended loads"*. The AC record indicates that none of the AC participants questioned the applicability of article 101 to any of this rulemaking, but this phrase does raise questions about applicability. For the sake of clarity, Board staff will modify proposed section 4880(c)(2) to delete the last sentence of the text, shown above in italics.

Comment:

The Division recommends deletion of section 4880(c)(4) because it excludes from GISO group 13 digger derricks used in work subject to the High-Voltage Electrical Safety Orders and Telecommunication Safety Orders, which both point to the GISO.

Response:

Board staff finds that subsection (c)(4) does not exclude digger derricks as they are addressed by section 2940.7(b) and (c) of the High-Voltage Electrical Safety Orders and section 8611 of the Telecommunication Safety Orders. Also, the use of digger derrick trucks is regulated by vertical standards when such trucks are used to perform work covered by the High-Voltage Electrical Safety Orders. In such cases, digger derrick trucks must comply with the power line safety requirements specifically contained in sections 5003.1 through 5003.4 and 5010.4, as stated in the proposed section 4880(e).

Comment:

The Division recommends the deletion of section 4880(c)(7) because it excludes stacker cranes from coverage by the GISO, and they argue that there are several pieces of equipment that may be considered a stacker crane.

Response:

Board staff disagrees with this comment because it represents an expansion of the present scope of application that was not discussed during the AC deliberations. There was a great deal of AC discussion regarding the use of a crane-like forklift attachment and the proposed language was a consensus solution. Board staff is willing to consider these types of cranes for a thorough follow-up rulemaking at a later date.

Comment:

The Division notes that industrial trucks are excluded in section 4880(c)(8) and (10); however, section 3650(u) of the Industrial Trucks standard refers to article 101 within group 13.

Response:

Board staff notes that section 3650(u) pertains to the safe use of slings to lift suspended loads, which can come into play with the use of industrial trucks in situations which involve the powered industrial truck being used to hoist loads. Board staff does not find this to be problematic.

Comment:

The Division suggests deletion of section 4880(c)(9), which excludes mechanic's trucks from group 13. The Division states equipment maintenance and repair is a general industry activity, therefore, mechanic's trucks cannot be excluded from the GISO.

Response:

Mechanic's trucks are used most frequently by California Department of Transportation (state government), utility companies and local jurisdictions. The extension of crane operator certification standards to these types of small cranes are controversial as was learned via testimony by stakeholders during the AC meetings. Based on discussions with stakeholders, Board staff was not able to ascertain whether there are any genuine service trucks with lifting capacities over 1,500 pounds and the exclusions to section 5006.1 and .2 were intended to help in responding to this.

Comment:

The Division states that new GISO section 4883, applicable to only construction, creates confusion. The Division recommends applying this section to all cranes regardless if they are in construction or general industry.

Response:

Board staff believes this is consistent with the consensus of stakeholders throughout the AC process to create a “one-stop-shopping” experience. Mentioning the construction requirement in the GISO has the effect of reducing confusion and contributes to a more effective crane consolidation through enhanced readability. It should be noted that while the Division might like to see the proposal apply to all cranes over 2,000 pounds lifting capacity, advisory committee members who operate cranes in general industry applications objected as their trigger is 1,500 pounds.

Comment:

The Division requests the word “floating” be deleted from section 4885, Definitions, Employer-Made Equipment. The Division states that cranes other than floating cranes, such as overhead cranes, are routinely employer-made in machine shops. Employers frequently employ engineers and will have the engineer design a system.

Response:

Board staff agrees with the Division comment since in the GISO this term could be applied to other types of cranes and unintentionally exclude them. Therefore, Board staff will modify the proposal to delete the term “floating” as suggested by the Division.

Comment:

The Division believes the same language should be used in section 4924(d)(2) and (d)(3) to avoid confusion since both subsections are applicable to lattice boom cranes. The Division suggests deletion of the language of subsection (d)(2) for replacement by the language of subsection (d)(3) to address both lattice boom cranes and derricks using essentially the same language.

Response:

Board staff concurs and will modify this portion of the proposal.

Comment:

The Division suggests including a reference to article 99 as well as article 100 in section 4960.4(b) since article 99 contains proof load testing and examination requirements contained in section 5023 of article 99 of the GISO.

Response:

Board staff clarified with a Division representative on June 10, 2021, that it is the sentence which states; *“Inspections. In addition to the requirements in Article 100, the following additional items shall be included in the inspections:...”* following section 4960.4, not subsection (b), which the Division believes the reference to article 99 should be added. Board staff agrees and will modify the proposal as suggested.

Comment:

The Division inaccurately stated that the exception is unnecessary, leading one to believe the entire exception (A-D) should be removed, when in fact the Division has clarified to Board staff it believes only exception (A) should be removed as it will create confusion, decrease safety, and reduce the applicability of section 5003.1. The High-Voltage Electrical Safety Orders apply to all work that involves high voltage electricity. If the intent of the exception is to allow live line work or the special exemption under section 2949, a more specific reference for these instances should be included.

Response:

Board staff accept the Division comment and will modify the proposal as suggested. As part of the modification, relettering was needed to reduce the number of exceptions from four to three (i.e. the regulatory text contained in subsection (A) was deleted and the proposed subsection (B) was relettered as subsection (A), subsection (C) became subsection (B) and subsection (D) became subsection (C) to be consistent with title 8 format).

Comment:

The Division is of the opinion that section 5017 as proposed contains too many references to section 4924 which causes most of section 5017 to be redundant. Therefore, the Division suggests combining the requirements of sections 5017 and 4924 into a single section.

Response:

Board staff do not agree with the Division. The language of section 5017 was carefully crafted with the assistance of multiple AC's and the general consensus of stakeholders was that what might appear as a redundancy is a worthwhile reinforcement of the relationship of section 4924 Load Safety Devices to new section 5017 Safety Devices and the requirements that are critical to the safe operation of the crane. Combining the sections as suggested by the Division could have unintended consequences. Therefore, Board staff will not modify this section.

Comment:

The Division notes that operational aids as discussed in section 5018 is not defined in the proposal. The Division recommends Board staff add a definition for operational aids or list of those operational aids included in the term.

Response:

Board staff disagrees with the comment on the grounds that operational aids are already defined in section 4885 and need not be defined here. Furthermore, Board staff notes that section 5018 lists the specific devices that are operational aids. During AC deliberations it was learned that in industry, the terms safety device and operational aid overlap to some extent. In response to this overlap, the AC reached consensus to move many devices considered operational aids into section 5017 Safety Devices, for what the AC members considered to be consistent with industry usage.

The Board thanks the Division for its comments and participation in the Board's rulemaking process.

II. Oral Comments

Oral comments received at the May 20, 2021, Public Hearing in Sacramento, California.

John Zarian, General Counsel, representing the National Commission for the Certification of Crane Operators (NCCCO)

Comment:

Following a brief explanation of what services NCCCO performs, Mr. Zarian stated that the NCCCO has issued over 112,000 crane operator certificates to crane operators across the United States. He also stated that NCCCO strongly supports the direction being taken by the Board to consolidate the general industry and construction industry crane standards. Mr. Zarian commended the Board and staff on its fine work to bring these two sets of crane standards together and all the hard work to develop the proposal.

With regards to sections 5006.1 and .2 requirements for physical examinations and substance abuse testing, the NCCCO believes these should not be part of the certification and recertification process or the responsibility of the accredited certifying entity, but rather an element the employer is responsible for.

Mr. Zarian noted that physical examinations can differ by the type of equipment to be operated, the task and the job to be done. Therefore, the employer is in the best position to determine physical suitability of the operator to safely operate the crane.

Mr. Zarian went on to say that since substance abuse testing is part of the employer-employee relationship which includes privacy considerations, it is best handled by the employer since the accredited certifying body might have issues dealing with the storage of sensitive employee information. It would also be difficult for accredited certifying entities to be knowledgeable about local jurisdiction requirements.

Therefore, the NCCCO suggests the proposal be amended to create a construction-general industry employer evaluation element for both physical examinations and substance abuse testing.

Response:

The requirements stipulated by sections 5006.1 and .2 are taken from the original section 5006.1 requirement for physical examinations and substance abuse testing that was developed with the assistance of an AC when California established its own set of Crane Operator Qualification standards nearly 20 years ago. Both physical examinations and substance abuse testing was at that time (and still is) a highly contentious issue that was reconciled via artful negotiation and compromise between labor and management. The requirements for both have remained effective and unchanged since section 5006.1 and the physical examination and CSO drug testing requirements were adopted by the Board. Neither are the subject of any revision in this rulemaking other than that required for the consolidation. The responsibility for such testing is the same now as it was then; the employer must ascertain that the operator is free of substances which could impair their ability to operate the crane safely as a prerequisite to the issuance of the certificate of competency which can be issued by the employer in cases where they elect to serve as the accredited certifying entity or to an outside contractor. California does not require an accredited testing entity such as NCCCO to conduct drug testing but to test the operator candidate and issue test results indicating pass/fail. There are cases where the employer may elect to become an accrediting entity and administer their own written and practical crane operator certification tests and send out the crane operator candidate(s) for substance abuse testing and a physical examination. In most cases, however, employers will elect to have an accredited entity, such as NCCCO, handle the testing and separately send their employees for drug testing and a physical. The certificates can only be issued to operators who have passed the written and hands-on competency test, passed a physical and substance abuse test. These requirements are essentially the same for both sections 5006.1 and .2.

There may be better ways to handle the substance abuse testing process however, Board staff believes Mr. Zarian's comment requires the resumption of deliberations by general industry and construction industry stakeholders as part of a separate and distinct rulemaking from this one.

Comment:

With regard to the 1,000 hours of documented experience exception that might serve to allow the operator to waive the practical examination for recertification, Mr. Zarian notes that some

accredited certification bodies have accepted this exception for certain certifications, but there is no assurance that this will always be the case.

Mr. Zarian stated that NCCCO offers 32 different crane certification exams and the types of experience that may be accepted for recertification may vary. An operator may have been in the seat of a crane for 1,000 hours without having made very many picks. There are other types of rubrics that may be used to better verify the operator seeking recertification has the requisite experience to waive the practical exam. The NCCCO believes the 1,000 hour exception determination (i.e. the determination of whether the operator's previous 1,000 hours of experience qualifies the operator to waive the practical exam) should not be the responsibility of the certification body but be the responsibility of the accrediting body.

Response:

The 1,000 hours recertification exemption stated in current section 5006.1(d) and new section 5006.2(d)(3) was derived from the federal OSHA cranes in construction rule and has been part of the original crane operator qualifications language for many years. The exemption has not presented any issues or concerns from stakeholders Board staff is aware of and is not being proposed for revision in this rulemaking proposal other than necessary editorial relocation to accomplish the consolidation of these orders. Again, as expressed in Board staff's response to drug and substance abuse testing, there may be a better way to handle the recertification issue, but Board staff believe it is outside the scope of this rulemaking and would require the assistance of stakeholders via the AC process.

Consequently, Board staff believe no modification of the proposal is necessary in response to this comment. The Board thanks Mr. Zarian for his comments and participation in the Board's rulemaking process.

Mr. Bruce Wick, Housing Contractors of California

Comment:

Mr. Wick commended Conrad Tolson, who masterfully and conscientiously handled the crane consolidation with great skill, diligence and perseverance. It was a very tedious process that required painstaking attention to detail and great guidance from AC Chairman Tolson. Mr. Wick stated this is an excellent, clearly written proposal that eliminates long standing confusion between the general and construction industry crane standards and indicated that he looks forward to its adoption by the Board.

Response:

The Board acknowledges Mr. Wick's support for the proposal and thanks him for his participation in the Board's rulemaking process.

Mr. Kevin Bland, Attorney, Ogletree, Deakins, Nash, Smoak and Stewart, PC

Comment:

Mr. Bland also commended former Board staff engineer Conrad Tolson for his assistance and complimented Mr. Tolson for his outstanding work on developing the proposal and getting it to the Board for Public Hearing. Mr. Bland indicated that Mr. Tolson “took the bull by the horns” and persisted until a consensus of broad and diverse general and construction industry crane interests was reached. This has been a model rulemaking process from AC to Public Hearing showing how an AC should work. Mr. Bland concluded by stating that Conrad’s work is thoroughly appreciated and that he is missed in the Board arena.

Response:

The Board acknowledges Mr. Bland’s support for the proposal and thanks him for his participation in the Board’s rulemaking process.

Mr. Dave Harrison, Standards Board Member

Mr. Harrison expressed his sincere thanks to Board staff, specifically Conrad Tolson for his continued dedication to the crane rulemaking. Mr. Harrison noted that the 700 pages in the Board packet for this matter is a testimony to the work that has gone into the proposal. Mr. Harrison added that a crane is a crane and it does not know what industry it’s working in. Hazards exist that operators must face regardless of whether the crane is used in construction or general industry. He concluded by stating he is very happy with the progress that has been made on this rulemaking effort to date.

Response:

The Board and staff acknowledge Mr. Harrison’s support for the development of the CDAC rulemaking proposal.