

TITLE 8:
GENERAL INDUSTRY SAFETY ORDERS
Chapter 4, Subchapter 7, Articles 14, 90, 91, 92, 93, and 96;
Sections 3472(b), 4884, 4885, 4886, 4907(b)(2), 4924(b), 4965, 4966, and 4968

**Cranes and Other Hoisting Equipment with Regard to Manufacture Dates;
and the Use of Load Indicating and Load Moment Devices**

Heard at the July 19, 2001, Public Hearing
Adopted on November 15, 2001
Filed with Secretary of State on January 3, 2002
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STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Subchapter 7. General Industry Safety Orders
Group 3, Article 14, Marine Terminal Operations

Amend Section 3472 to read:

§3472. Cranes and Other Hoisting Equipment.

(a) All cranes and other hoisting equipment and the operation thereof shall comply with Group 13 and this Article (14).

(b) Every crane not part of a vessel's permanent equipment shall be equipped with a load indicating device, a load moment device, or a device that prevents an overload condition. Only approved devices as defined in the General Safety Industry Orders, Section 3206 ~~approved by the Division shall be used. installed on equipment in California. The requirement for their use on equipment is effective May 15, 1975, which is one year after two devices were approved and available on the market.~~

EXCEPTIONS:

1. Trolley equipped bridge-type cranes while handling containers known to be and identified as empty, or loaded, or while hoisting other lifts by means of a lifting beam supplied by the crane manufacturer for the purpose and in all cases within the crane rating;
2. While handling bulk commodities or cargoes by means of clamshell bucket or magnet;
3. While used to handle or hold hoses in connection with transfer of bulk liquids or other hose handled products; or
4. While the crane is used exclusively to handle cargo or equipment the total actual gross weight of which is known by means of marking of the unit or units hoisted, when such total actual gross weight never exceeds 11,200 pounds, and when 11,200 pounds is less than the rated capacity of the crane at the maximum outreach that is possible under the conditions of use at the time.

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

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Subchapter 7. General Industry Safety Orders
Group 13. Article 90, Cranes and Other Hoisting Equipment

Amend Section 4884 to read:

§4884. 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).
- (b) Hammerhead tower cranes ~~placed in service~~ manufactured after May 16, 1993 shall conform to ASME B30.3-1990, Hammerhead Tower Cranes.
- (c)(1)(A) Cranes and derricks ~~placed in service~~ manufactured after September 28, 1986, through June 23, 1999, shall be designed, constructed and installed in accordance with the following applicable American National Standards Institute (ANSI) and/or American Society of Mechanical Engineers (ASME) standards or those listed in subsection (c)(1)(B):
B30.2-1983, Overhead and Gantry Cranes (Top Running Bridge Multiple Girder)
B30.3-1975, Hammerhead Tower Cranes
B30.4-1981, Portal, Tower and Pillar Cranes
B30.5-1982, Crawler, Locomotive and Truck Cranes
B30.6-1977, Derricks
B30.7-1977, Base Mounted Drum Hoists
B30.8-1982, Floating Cranes and Floating Derricks
B30.11-1980, Monorails and Underhung Cranes
B30.13-1977, Controlled Mechanical Storage Cranes
B30.17-1980, Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)
- (B) Cranes and derricks ~~placed in service~~ manufactured after June 23, 1999 shall be designed, constructed and installed in accordance with the following applicable American National Standards Institute (ANSI)/American Society of Mechanical Engineers (ASME) standards which are hereby incorporated by reference:
B30.2-1996, Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)
B30.3-1996, Construction Tower Cranes
B30.4-1996, Portal, Tower and Pedestal Cranes
B30.5-1994, Mobile and Locomotive Cranes
B30.6-1995, Derricks
B30.7-1994, Base Mounted Drum Hoists
B30.8-1993, Floating Cranes and Floating Derricks

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

(Section 4884 continued)

B30.11-1993, Monorails and Underhung Cranes

B30.13-1996, Storage/Retrieval (S/R) Machines and Associated Equipment

B30.17-1992, Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)

(2) Articulating boom cranes manufactured ~~and placed in service~~ after May 16, 1993 shall conform to these regulations and be provided with a permanently attached metal label stating that the equipment has been designed and constructed in accordance with ASME/ANSI B30.22-1987, and B30.22a-1988 Addenda, Articulating Boom Cranes, herein incorporated by reference, or has been approved as required by the provisions of Section 3206 of these orders.

(d)(1) Except as provided in subsection (d)(2), all cranes and derricks ~~placed in service~~ manufactured prior to September 28, 1986, shall conform to this subsection and shall be designed, constructed and installed in accordance with the following applicable ANSI standards:

B30.2-1967, Overhead and Gantry Cranes

B30.4-1973, Portal, Tower, and Pillar Cranes

B30.5-1968, Crawler, Locomotive and Truck Cranes

B30.6-1969, Derricks

B30.15-1973, Mobile Hydraulic Cranes

EXCEPTION: Section 15-1.3.2(d) of B30.15-1973, Two-Blocking Damage Prevention Feature.

(2) Cranes ~~placed in service~~ manufactured prior to January 15, 1974, shall be modified to comply with applicable regulations in Group 13, Cranes and Other Hoisting Equipment of the General Industry Safety Orders, unless it can be shown during the process of certification that a crane cannot feasibly or economically be modified to comply with any one or more applicable requirements and the crane substantially complies with applicable Group 13 regulations and the ANSI or other design standard to which the crane was manufactured.

(e) Cranes and derricks which do not meet the applicable ANSI standards shall be designed, constructed and installed in accordance with the recommendations of a currently registered mechanical or civil engineer.

(f) Cranes and derricks shall be operated, tested, inspected and maintained in accordance with these Orders.

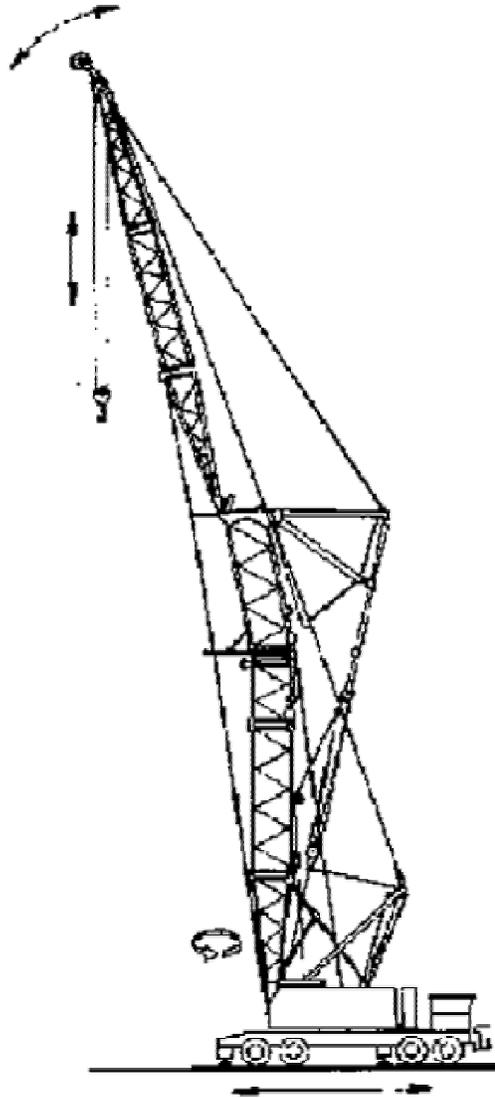
(g) All electrically powered cranes and derricks shall also comply with applicable electrical safety orders.

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

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Amend Section 4885, Figure 15 to read as follows:



MOBILE TOWER CRANE
WITH TOWER ATTACHMENT

Fig. 15

NOTE: Authority and reference cited: Section 142.3, Labor Code.

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Group 13. Cranes and Other Hoisting Equipment
Article 92. Cranes (Except Boom-Type Mobile Cranes)

Amend Sections 4886 and 4907 to read:

§4886. Purpose.

The orders in this Article apply to overhead traveling or bridge cranes, storage cranes, gantry cranes, portal cranes, jib cranes, pillar cranes, ~~hammerhead cranes~~, pintle cranes, wall cranes, polar cranes of rated capacity exceeding one ton, and any modification of these types which retain their characteristic features except when an order is specific as to type of crane.

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

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

§4907. Capacity Marking and Load Indication.

(a) The maximum rated load of all bridge or fixed radius cranes shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have marked on it or its load block its rated capacity, and this shall be clearly legible from the ground or floor.

(b) Each variable radius boom-type crane shall be equipped with a boom angle or a boom radius indicator and a clearly legible load rating chart in clear view from the operator's position.

(1) Cranes having a boom exceeding 60 feet in length or a maximum rated capacity exceeding 15 tons shall be provided with an approved boom angle indicator which clearly shows the boom angle in degrees to the operator at all times. The indicator shall give a clear visual warning signal before high or low unsafe boom angles are reached. The indicator shall be mounted in the cab, adjustable and under control of the operator at all times, and a visual inspection of the indicator shall be made each day by the operator to see that it is properly functioning.

(2) Cranes having either a maximum rated boom exceeding 200 feet or a maximum rated capacity exceeding 50 tons shall be equipped with a load indicating device, a load moment device, or a device that prevents an overload condition. Only ~~devices~~ approved devices as defined in the General Industry Safety Orders, Section 3206 ~~by the Division~~ shall be ~~installed~~ used.

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

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

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

**Subchapter 7. General Industry Safety Orders
Group 13. Cranes and Other Hoisting Equipment
Article 93. Boom-Type Mobile Cranes**

Amend Section 4924 to read:

§4924. Load Safety Devices.

(a) All cranes having a maximum rated capacity exceeding one ton shall be equipped with safety devices as provided herein.

EXCEPTIONS: 1. Boom-type excavators used in excavation work and all equipment used exclusively for pile driving or log handling.

2. Articulating boom cranes are exempt from the provisions of subsections (c) and (d).

(b) All mobile cranes including truck-mounted tower cranes, except as provided above, having either a maximum rated boom length exceeding 200 feet or a maximum rated capacity exceeding 50 tons shall be equipped with a load indicating device or a load moment device, or a device that prevents an overload condition. Only ~~devices~~ approved devices as defined in the General Industry Safety Orders, Section 3206 ~~by the Division~~ shall be used.

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

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Subchapter 7. General Industry Safety Orders
Group 13. Cranes and Other Hoisting Equipment
Article 96. Tower Cranes

Amend Section 4965 to read:

§4965. General.

(a) The requirements of this Article shall apply to cranes of the general type such as those having a revolving ~~horizontal~~ boom with counterweight on a single vertical mast, and mobile tower cranes.

(g) Parts of the crane requiring adjustment or maintenance shall be provided with access walkways, handholds, footholds, safety lines, or other safeguards as necessary to eliminate the hazard of falling from the crane.

EXCEPTION: Mobile tower crane adjustment or maintenance that can be achieved from the ground.

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

Amend Section 4966 to read:

§4966. Erection, Dismantling and Operation.

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

(a) Erection and Dismantling.

(1) The erection, climbing (up and down) and dismantling of a fixed tower crane shall comply with the requirements of Title 8, Section 341.1(b)(2).

(A) Employees engaged in the erection and/or dismantling of tower cranes and the inspection, maintenance or repair related to such erection and/or dismantling, when working at elevations 15 feet or greater over ground or other surfaces shall be required to use fall protection as specified in Article 24 of the Construction Safety Orders.

(2) Guys, braces and other supports shall be employed as necessary to prevent damage or collapse of the equipment during the erection and dismantling procedures.

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

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Amend Section 4968 to read:

§4968. Safety Devices.

All tower cranes, excluding mobile tower cranes (~~see Figure 15 in Article 91~~), shall have the following safety devices:

(a) Visual warning devices:

- (1) A warning light which shall be activated at 100 percent of the rated load, or
- (2) Electronic instrumentation provided by the certified agent that gives a continuous direct reading of the load weight and the trolley radius.

(b) An audible signal that operates at 105 percent of the rated load.

(c) An automatic stop that operates at 110 percent of the rated load.

(d) Limit devices to:

- (1) Provide predeceleration before top and bottom positions of the hook are reached.
- (2) Limit the trolley traveling both in and out.

(e) Constant pressure control devices which automatically return to neutral or the "off" position when released by the operator.

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

