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## **OLR Bill Analysis**

**sSB 323 (File 190, as amended by Senate "A")\***

### ***AN ACT CONCERNING CRANE OPERATIONS.***

#### **SUMMARY:**

This bill makes changes in the laws governing cranes and hoisting equipment to comply with new federal Occupational Safety and Health Administration's (OSHA) requirements. Many of the bill's provisions codify current state regulations. Beginning October 1, 2014, the bill adopts OSHA's definition of crane. In doing so, it expands the types of equipment and operators subject to state regulation, including operator licensing and training, and the state safety code for operating and maintaining cranes and hoisting equipment.

Current law (1) defines a "crane" as a (a) tower or hydraulic crane, or power-operated derrick, irrespective of lifting or hoisting capacity, or (b) mobile crane that has a manufacturers' maximum-rated capacity over 10,000 pounds (five tons) and (2) with limited exceptions, requires operators of such equipment to be licensed by the state Crane Examiners Board. Beginning October 1, 2014, the bill instead, with some exceptions, defines a "crane" as power-operated equipment that has a hoisting or lifting capacity of over 2,000 pounds. But operators of cranes, except tower cranes, with a lifting or hoisting capacity between 2,000 pounds and 10,000 pounds do not have to be licensed if such operators are certified by an accredited crane operator testing organization or qualified by an audited employer program or the U.S. military. (The bill also exempts operators of such equipment from licensure if the operators are licensed under state law. But the legal effect of exempting people from licensure if they are licensed is unclear.)

The bill narrows an exemption from the crane and hoisting equipment operators' license requirement for those engaged in boating and fishing.

The bill, beginning October 1, 2012, adopts OSHA's standards governing training for, and operation of cranes and hoisting equipment by, apprentices, including prohibited practices and the level and nature of supervision of apprentices. And, beginning October 1, 2014, it (1) outlines standards applicants for a crane or hoisting equipment operator license must meet and (2) requires such operators to be retested every four years before the license is renewed.

Effective October 1, 2012, the bill increases, from \$1,000 to \$3,000, the maximum civil fine the Crane Examiners Board may impose on a crane or hoisting equipment owner or operator who violates the laws or regulations governing them. It prohibits the board from renewing the operator's license or owner's registration until a fine is paid in full.

The bill deletes obsolete provisions and makes other technical and conforming changes.

\*Senate Amendment "A":

1. sets October 1, 2014, instead of October 1, 2012, as the effective date for some provisions;
2. adds the license application requirement to the definition of apprentice;
3. expands the types of equipment exempt from the definition of cranes to include (a) machines defined in the underlying bill as cranes when converted or adapted for specified purposes; (b) power shovels, excavators, wheel loaders, backhoes, loader backhoes, and track loaders; and (c) overhead and gantry cranes when used for nonconstruction-related work; and dedicated drill riggers;
4. adds a provision allowing the board to adopt regulations for examinations before October 1, 2014; and
5. narrows the boating and fishing exemption.

EFFECTIVE DATE: October 1, 2012, except the provisions

redefining cranes, including exemptions and pertaining to licensing examinations, which take effect October 1, 2014.

## **DEFINITIONS**

Under current law, a “crane” means a:

1. tower crane used in construction, demolition, or excavation;
2. hydraulic crane;
3. power-operated derrick; or
4. mobile crane, which is a mobile, carrier-mounted, power-operated hoisting machine using a power-operated boom that (a) moves laterally by rotation of the machine on the carrier and (b) has a manufacturer's maximum rated capacity exceeding five tons (§ 1).

Beginning October 1, 2014, the bill (§ 2) broadens the definition of cranes, by adopting OSHA's definition. It defines a “crane” as power-operated equipment that (1) can hoist, lower, and horizontally move a suspended load and (2) has a manufacturer's maximum rated hoisting or lifting capacity of more than 2,000 pounds, including:

1. most articulating cranes wheel-mounted, rough terrain, all-terrain, commercial truck-mounted, and boom truck cranes; tower cranes such as fixed jib hammerhead boom, luffing boom and self-erecting cranes; and industrial cranes such as carry-deck cranes;
2. crawler, floating, locomotive, pedestal, portal, straddle, side boom, and overhead and gantry cranes;
3. cranes on barges or monorails;
4. multi-purpose machines configured to hoist and lower, by means of a winch or hook, and horizontally move, a suspended load;

5. dedicated pile drivers when used in construction, demolition, or excavation;
6. service or mechanic trucks with a hoisting device; and
7. variations of the above equipment.

By law (§ 1), “hoisting equipment” is any motorized equipment:

1. used in construction, demolition, or excavation;
2. used at construction sites for projects, other than ones involving residential structures under four stories, with an estimated cost of over \$1.25 million; and
3. with a manufacturer's rated (a) hoisting capacity over five tons and (b) maximum reach over 32 feet.

The bill specifies that such equipment does not include cranes (§ 2).

### ***Exemptions***

The bill (§ 3) exempts from the laws governing cranes and hoisting equipment operators and operations:

1. cranes and hoisting equipment, as defined in the bill, when converted or adapted for nonhoisting or nonlifting use, including power shovels, excavators, and concrete pumps;
2. power shovels, excavators, wheel loaders, backhoes, loader backhoes, and track loaders, including such machinery being used with chains, slings, or other rigging to lift suspended loads;
3. wreckers and tow trucks, including rotators registered as wreckers operated by a licensed motor vehicle dealer or repairer and used to clear wrecks and tow vehicles as specified in the bill;
4. digger derricks augering (digging) holes for poles carrying electric and telecommunication lines, placing and removing the

- poles, and handling material to be installed on or removed from the poles;
5. machinery originally designed as vehicle-mounted aerial devices for lifting personnel and self-propelled elevating work platforms;
  6. telescopic or hydraulic gantry systems;
  7. stacker and helicopter cranes;
  8. powered industrial forklifts, except when configured to hoist and lower, by means of a winch or hook, and horizontally move a suspended load;
  9. mechanic trucks with a hoisting device when used in activities related to equipment maintenance and repair;
  10. machinery that hoists by using a come-a-long or chain fall;
  11. gin poles when used for erecting communication towers;
  12. anchor handling or dredge-related operations with a vessel or barge using an affixed A-frame;
  13. roustabouts;
  14. propane service vehicles equipped with a crane to load or offload Department of Transportation-approved propane tanks or American Society of Mechanical Engineers-approved propane tanks having a capacity of 2,000 gallons or less;
  15. overhead and gantry cranes when used for non-construction-related work;
  16. dedicated drill rigs; and
  17. certain articulating or knuckle-boom truck cranes that deliver material to construction sites when used to transfer (a) material from the truck crane to the ground without arranging the

material in a particular sequence for hoisting or (b) building supply sheet goods or packaged material, provided the truck crane is equipped with a properly functioning automatic overload prevention device.

The exclusion for articulating or knuckle-boom truck cranes does not apply when the crane is:

1. used to hold, support, or stabilize material to facilitate a construction activity, such as holding material in place while it is attached to the structure;
2. handling a prefabricated component such as precast concrete members or panels, roof trusses, prefabricated building sections such as floor, wall, or roof panels, roof structures, or similar items;
3. performing activities not otherwise excluded under the bill (§ 3).

## **LICENSURE**

By law, crane and hoisting equipment operators must be licensed, unless exempt, and apprentices and crane owners must be registered by the Crane Examiners Board, which is in the Department of Construction Services. (Hoisting equipment owners do not have to be registered.)

Current law exempts from licensure and registration (1) engineers under federal jurisdiction; (2) engineers or operators employed by public utilities or industrial manufacturing plants; (3) people engaged in boating, fishing, agriculture, or arboriculture; and (4) anyone operating a bucket truck or a digger derrick designed and used for an electrical generation, transmission, distribution, catenary (overhead lines above railroad tracks), or signalization project if the person:

1. holds a valid state-issued Connecticut limited electrical line contractor or journeyman's license;
2. has more than 1,000 hours of experience installing electrical

lines; or

3. has enrolled in, or graduated from, a federally recognized electrical apprenticeship program.

Effective October 1, 2014, the bill limits the boating and fishing exemption to people in the recreational boating or fishing industry, except when they are engaged in construction-related work. It additionally exempts from licensing and registration (1) people engaged in activities or using equipment excluded under the bill's definition of cranes and hoisting equipment (§§ 8 & 10). It also exempts from crane licensing and registration requirements people operating equipment, except tower cranes, that can hoist, lower, and horizontally move a suspended load and has a manufacturer's maximum-rated hoisting or lifting capacity of over 2,000 and up to 10,000 pounds and who, under federal OSHA, are (1) certified by an accredited crane operator testing organization, (2) qualified by an audited employer program, (3) qualified by the U.S. military, or (4) who are licensed under the laws governing cranes and hoisting equipment. (The legal effect of the last exemption is unclear.)

### ***Qualifications for Licensure***

By law, the DCS commissioner, with the Crane Examiners Board's advice and assistance, must adopt regulations specifying license qualifications, examination requirements, and licensing procedures for crane and hoisting equipment operators. Under current law, the licensure examination may be written, practical, or both.

Effective October 1, 2014, the bill (§ 6(a)) requires both a practical and written examination, thereby conforming the law to regulations (Conn. Agencies Reg. §§ 29-223-2a & 29-223-15a). Before October 1, 2014, it allows the board, to develop and administer written and practical examinations for crane operators and issue licenses (§ 5). This includes cranes as defined in the bill, including those with a lifting capacity between 2,000 pounds and 10,000 pounds. (The board already issues licenses to people required to be licensed under current law.) The bill specifies that this provision should not be construed to

eliminate licensure requirements in effect before October 1, 2014, for operators of cranes or hoisting equipment as defined in current law.

***Examinations***

Effective October 1, 2014, the bill (§ 6(b)) requires the written examination to determine whether an applicant knows the information necessary to safely operate the specific type of crane or hoisting equipment that he or she will operate, including:

1. the controls and operational or performance characteristics of the equipment;
2. how to use and calculate, manually or with a calculator, load or capacity information on a variety of configurations of the equipment;
3. how to prevent and respond to power line contact;
4. technical knowledge of (a) site information, (b) operations, and (c) load information pertaining to the specific type of equipment he or she will operate; and
5. technical knowledge of site suitability, hazards, and access.

***Practical Examination***

Effective October 1, 2014 (§ 6(c)), the bill requires the practical examination to determine if an applicant has the skills necessary to safely operate the crane or hoisting equipment, including how to (1) recognize by sight and sound all items required in a shift inspection; (2) apply load chart information; and (3) operate, maneuver, and safely shut down and secure the equipment.

***License Validity***

Under current regulations, which the bill codifies, a crane operator or hoisting equipment operator's license is valid for two years (Conn. Agencies Regs. §§ 29-223-4a & 22-223-16a). The bill requires licensees to take and pass a board examination every four years to ensure that they have the technical knowledge and skill to operate cranes or

hoisting equipment, as applicable (§ 6).

### **CRANE AND HOISTING OPERATOR APPRENTICESHIPS**

Current law defines “apprentice” as anyone registered with the board to learn crane or hoisting equipment operation (§ 1). The bill instead defines “apprentice” as someone who has filed a license application and whose employer has registered him or her with the board to learn crane or hoisting equipment operations under the direct supervision of a licensed operator.

Under current law, apprentices must be supervised by a licensed operator. The bill specifies that the supervision must be direct (§ 1).

Effective October 1, 2012, the bill requires that, in addition to complying with existing standards, crane and hoisting equipment operators must comply with the standards governing apprenticeship outlined in the bill and described below (§§ 7 & 9).

#### ***Supervision***

The bill adopts OSHA's standards for (1) supervising apprentices and (2) operating cranes and hoisting equipment (29 CFR § 1926. 1427). Many of these standards already apply under state regulations (Conn. Agencies Reg. § 29-223-17a).

Specifically, the bill requires employers to train apprentices sufficiently before they start operating a crane or hoisting equipment to enable them to operate it safely. It requires apprentices operating such equipment to be capable of doing the tasks they are performing.

While operating any such equipment, the apprentice must be continuously monitored by an individual who:

1. is employed by or an agent of the apprentice's employer;
2. holds a valid Connecticut crane or hoisting equipment operator's license;
3. is not performing any task that detracts from his or her ability to monitor the apprentice;

4. for tower cranes, is in direct communication with the apprentice;  
and
5. for other equipment, is in direct line of sight of the apprentice  
and communicates with him or her orally or by hand signals.

The bill allows the supervisor to take one 15-minute break per hour, provided before doing so (1) he or she informs the apprentice of the specific tasks the apprentice must perform and limitations that apply and (2) the apprentice can perform them.

### ***Equipment Operation***

The bill prohibits apprentices from operating equipment in any of the following circumstances:

1. any part of the equipment, load line, or load, including rigging and lifting accessories, if operated at the equipment's maximum working radius, would get within 20 feet of a power line 350 kilovolts (i.e., 350,000 volts) or less or within 50 feet of a power line over 350 kilovolts;
2. the equipment is used to hoist personnel;
3. in multiple equipment lifts;
4. the equipment is used over a shaft or cofferdam or in a tank farm; or
5. in multiple-lift rigging operations, unless the supervisor determines that the apprentice is sufficiently skilled.

Effective October 1, 2012, the bill increases, from \$1,000 to \$3,000, the maximum civil fine the Crane Examiners Board may impose on a crane or hoisting equipment owner or operator who violates the laws or regulation governing them. It prohibits the board from renewing the operator's license or owner's registration until the fine is paid in full.

### **COMMITTEE ACTION**

Public Safety and Security Committee

Joint Favorable Substitute  
Yea 22 Nay 0 (03/15/2012)