

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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Attachment No. 2

INITIAL STATEMENT OF REASONS

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Chapter 4, Subchapter 7, Article 98, Section 5001
of the General Industry Safety Orders

Cranes and Other Hoisting Equipment-Signals**SUMMARY**

Existing Section 5001 prescribes requirements for qualified signal persons, signaling systems and methods, and posting of signaling system methods at the jobsite, but does not specifically address the potential jobsite hazards resulting from the simultaneous operation of multiple cranes with conflicting operational radii. Also not addressed in Section 5001 is communication specific between the crane operator and signal persons when other cranes are present on the jobsite within the swing radii of the crane where accidental, catastrophic contact could occur. Inadvertent contact between equipment can result in serious employee injury or fatality, substantial damage to jobsite equipment and endangering the general public. In addition, operators and other jobsite employees working under the swing radii of the equipment could be exposed to falling objects such as the hoisted loads, load lines, and various structural and operating components of the equipment causing potentially serious injury or fatality.

This proposed rulemaking was initiated in response to a Division of Occupational Safety and Health (Division) Request for New or Change in Existing Safety Order (Form 9), dated February 9, 2006, to amend existing signaling standards for cranes and hoisting equipment. According to the Division, there is a potential hazard from conflicting operational radii of cranes and other boom-type equipment on construction worksites. The proposal calls for the amendment of California Code of Regulations, Title 8, Section 5001, by adding a new subsection (f). The amendment is needed to ensure that employers provide effective jobsite communication when multiple cranes are operated within one another's swing radii, thereby reducing the risk that injury or death could result from inadvertent contact between cranes.

Board staff notes that the American Society of Mechanical Engineers (ASME) B30.5-2000 standard for Mobile and Locomotive Cranes specifies in Section 5-3.3 Signals, that standard signals to the operator of the crane shall be used (i.e., hand signals) unless voice communication equipment such as telephone, radio or equivalent is used. The ASME B30.5 standard also requires that all signals be discernable or audible at all times and most importantly, no response

by the operator shall be made unless all signals are clearly understood. The ASME B30.5 standard further underscores the importance of equipment operators receiving clear instruction before moving loads. Identical signaling provisions are contained in ASME tower crane standards.

Board staff convened an advisory committee (committee) which included stakeholders from labor and management to deliberate the merits of the proposal. The consensus was to focus this proposal on addressing accidental contact between jobsite cranes rather than including other boom-type equipment which the committee deemed to be infeasible and the use of two-way radio communications on a dedicated frequency.

The following amendments to Section 5001 are proposed:

Section 5001. Signals.

This section requires the use of a qualified signal person when the point of operation is not in full and direct view of the operator unless a signaling or control device is provided for the safe direction of the operator. It also addresses: 1) giving stop signals, 2) use of a uniform signal system, 3) use of hand signals, 4) care of systems other than manual (hand) signal systems, and 5) posting of legible charts which explain and depict the type of signaling system in use.

It is proposed to add a new subsection (f)(1) which would require the employer to ensure effective communication and notification to jobsite crane operators and signal persons of the presence of other cranes which are operating within the swing radii of each other.

The proposed subsection (f)(1) is consistent with pre-job planning which is already required by Construction Safety Orders, Section 1511(b) to the extent that all predictable safety hazards must be identified and safeguarded against prior to the start of work.

A new subsection (f)(2) is proposed that would apply whenever two-way radio communication is utilized as a means of communication and would require the employer to utilize a dedicated frequency. Subsection (f)(2) is necessary to clarify to the employer who chooses to use wireless radio frequency communication devices to satisfy the requirements of subsection (f)(1), that crane operators and signal persons are to remain tuned to a specific frequency for the duration of the operation to avoid the possibility that communication could be rendered unintelligible due to interference or crosstalk from encroaching radio signals.

DOCUMENTS RELIED UPON

1. Memorandum from the Division of Occupational Safety and Health, dated February 9, 2006, with attached Form 9-049.
2. American Society of Mechanical Engineers (ASME), B30.5-2000, an American National Standard, Mobile and Locomotive Cranes.
3. Crane Accidents 1997-1999, A Report of the Crane Unit of the Division of Occupational Safety and Health, prepared by Philip Yow, Associate Safety Engineer, Ray Rooth,

Principal Safety Engineer, and Ken Fry, Senior Cal/OSHA Engineer, Crane Certifier Accreditation Unit.

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

REASONABLE ALTERNATIVES THAT WOULD LESSEN ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES

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

SPECIFIC TECHNOLOGY OR EQUIPMENT

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

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

No costs or savings to state agencies will result as a consequence of the proposed action. The proposal permits the employer to select and implement a method of communication that will effectively notify crane operators and signal persons operating in each others swing radii of their presence to avoid catastrophic contact. Consistent with testimony from stakeholders at the June 20, 2006, advisory committee, this is consistent with existing industry practice. The use of two-way radio communication devices either wireless or hard wire systems is not mandatory, but if used they must be operated on a dedicated frequency to avoid radio-frequency interference that could render the communication ineffective. Employers who opt to use two-way radio communication that may require them to acquire a FCC license granting them an exclusive frequency, would incur a cost \$105 for a ten year license. Others may opt to use two-way communication devices which include many radio systems which do not require them to incur any additional costs as they are already utilizing these systems which include hard-wired systems. The Board is not aware of employers who have exercised the option to use two radio communication devices who have had to acquire an FCC license.

Impact on Housing Costs

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

Impact on Businesses

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

Cost Impact on Private Persons or Businesses

The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. (See Cost or Savings to State Agencies).

Costs or Savings in Federal Funding to the State

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

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

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

Other Nondiscretionary Costs or Savings Imposed on Local Agencies

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

DETERMINATION OF MANDATE

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

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

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

The proposed standard does not impose unique requirements on local governments. All state, local and private employers will be required to comply with the prescribed standard.

EFFECT ON SMALL BUSINESSES

The Board has determined that the proposed amendment may affect small businesses. However, no significant economic impact is anticipated for two reasons: 1) the cost of purchasing radios is proportionally insignificant compared to overall project costs (See Cost or Savings to State Agencies), and 2) in accordance with existing construction protocols, stakeholders who may be affected by the proposal currently rely on radio communication on jobsites where boom type mobile equipment is operated and the hazard of inadvertent contact exists.

ASSESSMENT

The adoption of the proposed amendment to this standard will neither create nor eliminate jobs in the State of California nor result in the elimination of existing businesses or create or expand businesses in the State of California.

ALTERNATIVES THAT WOULD AFFECT PRIVATE PERSONS

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