

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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**FINAL STATEMENT OF REASONS**

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Division 1, Chapter 4, Subchapter 4, Article 12,
Sections 1600-1601 of the Construction Safety Orders

Pile Driving and Pile Extraction**MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM
THE 45-DAY PUBLIC COMMENT PERIOD**

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

Subsection 1600(a). Site layout.

This subsection would have required the controlling contractor to ensure that safe access into and through the site be provided and maintained for the delivery and movement of necessary equipment and material. This provision would have been located in Article 12, which is exclusively for pile driving. There are occasions where pile driving is done before the general contractor is on-site to supervise work, and this provision could have caused confusion about the responsibilities of the general contractor and the pile driving subcontractor. Furthermore, other trades often need access to the site at different stages of construction. An oral comment, received at the May 20, 2010, public hearing raised the concern that this subsection could place responsibility for site access on the general contractor before they are even on-site. Since the subject of multi-employer worksites is already covered in Section 336.10 and site conditions are included in Section 1511, the Board proposes to delete this subsection in its entirety and renumber all following subsections accordingly. The purpose and necessity of this deletion is to eliminate an overlap with multi-employer provisions already contained in Section 336.10.

Subsection 1600(f). Access to leads [formerly proposed Subsection 1600(g)].

Formerly proposed subsection (g)(2) would have required that the means of access to the leads prevent the employee from contacting the pile hammer. A written comment stated that the primary reasons an employee would climb the leads are to fuel and oil or grease the hammer, adjust the hammer settings, or rig-in or attach the hammer to the lines from the crane that is lifting the hammer; thus the commenter reasoned that this provision was impractical. The Board, noting that the employee is protected from uncontrolled motion of the equipment by subsection

1600(g)(3) [subsequently renumbered to 1600(f)(2)], accepted the comment and proposes to delete former subsection (g)(2). The purpose and necessity for this deletion is to remove an impractical and unnecessary restriction.

Subsection 1600(o). Pile leads [formerly proposed Subsection 1600(p)].

Formerly proposed subsection 1600(p)(4) provided that pile gates are to be of sufficient size to secure piling at the bottom of the leads during pile driving operations. A written comment noted that pile gates are not always necessary or desirable, for example, when fixed leads are employed and a pre-drilled hole is used to locate the pile. The commenter stated that, in this case, a gate would just be one more piece of iron that the employee would need to be aware of when lofting and driving the pile. He requested that the provision be modified to “Pile gates when used...” The Board agreed with the commenter and proposes to incorporate the suggested modification. The purpose and necessity for this amendment is to conform pile driving standards with industry practice without any reduction in employee safety.

Subsection 1600(q) [formerly proposed Subsection 1600(r)].

This subsection, currently adopted as subsection (v), provides that employees shall be kept beyond the range of falling materials when steel tube piles are being “blown out.” A written comment opined that the term “steel tube piles” is unclear. Board staff determined that the term “steel tube piles” is more commonly used in Europe and that the corresponding American usage is “steel pipe piles.” The Board therefore proposes to clarify the provision to add the word “pipe” parenthetically. The purpose and necessity for this amendment is to eliminate ambiguity and to conform terminology to common industry usage.

Subsection 1600.1(b).

In the course of construction, it is sometimes necessary to place temporary piles or sheet piles to accomplish part of the construction. The temporary piles or sheeting must then be removed for later phases or completion of the work. In order to extract piles it is first necessary to break the surface tension the pile has with the surrounding material, which is often done using drop impact or vibratory forces.

Subsection 1600.1(b) was originally proposed to provide that when piles are extracted by drop impact, the connection between the pile hammer and the piling should be sound. The intent was to assure that the drop impact would not deflect off the pile to be loosened and extracted. A comment received at the public hearing requested more clarity. Research revealed that drop impact is only one method used to break surface tension in order to extract piles and that vibratory forces are often used. The subject of controlling drop impact and vibratory energy is already covered in subsection 1600(i); therefore, Board staff proposes in place of the originally proposed wording, to cross-reference subsection 1600(i). The purpose and necessity for this change is to provide consistency.

Summary and Response to Oral and Written Comments:

I. Written Comments

Mr. Pat Karinen, Senior Field Representative, Pile Drivers Local Union #34, by letter dated April 19, 2010.

Comment No. 1:

Subsection 1600(g),¹ Access to Piles, subsection (g)(2), reads: “The means of access shall prevent the employee from contacting the pile hammer.” The commenter reasons that this proposed change is impractical. The primary reasons an employee needs to climb the leads are to fuel and oil or grease the hammer, adjust the hammer settings, or rig-in or attach the hammer to the lines from the crane that is lifting the hammer. Thus he recommends that this subsection be removed.

Response:

The Board notes that subsection (g)(3) provides that the operator of the equipment must apply all brakes and necessary safety switches to prevent uncontrolled motion of the equipment before an employee may access the leads, thus protecting the employee who must access the leads to perform the tasks listed by Mr. Karinen. The Board therefore accepts this comment and proposes to delete subsection (g)(2) from the proposal [Note: Due to another comment, Subsection 1600(g) is being renumbered as subsection 1600(f), and subsection (g)(3) will be renumbered as subsection (f)(2).]

Comment No. 2:

Section 1600(p)(4) reads: “Pile gates shall be of a size sufficient to secure piling at the bottom of the leads during driving operations.” The commenter requests that the provision be modified to “Pile gates when used...” He opined that, in some pile driving operations, a pile gate is more of a hindrance than a help, specifically, when fixed leads are used and a pre-drilled hole is used to locate the pile. He observed that in this case a gate is just one more piece of iron that an employee has to be aware of when lofting and driving the pile.

Response:

The Board accepts this comment and proposes to modify the proposal accordingly. [Note: Due to another comment, Subsection 1600(p) is being renumbered as Subsection 1600(o).]

¹ For all comments: Subsection numbers refer to text as originally noticed; ie, during the 45-day period for public comments, unless otherwise noted.

Comment No. 3:

Subsection 1600(r) reads: “When steel tube piles are being ‘blown out,’ employees shall be kept well beyond the range of falling materials.” The commenter states that this provision should be clarified. He speculates that “steel tube pile” may refer to a large diameter pipe pile. He states that he has used an air lift to clean out a large diameter pipe pile, and in that case it is a “no brainer” to keep employees clear of debris.

Response:

This subsection is verbatim from the existing standard (no changes were originally proposed). It is also verbatim of the federal standards [29 CFR 1926.603(c)(4)]. A search of the Internet indicates that the term “tube pile” is more commonly used in Europe and appears to be synonymous with “pipe pile” in the United States. Thus the commenter’s observation of using an air lift to clean-out large diameter pipe is an example of the operation referred to by this provision. The Board therefore accepts this comment to the extent that it proposes an amendment to clarify that “tube pile” is the same as “pipe pile.” [Note: Due to another comment, Subsection 1600(r) has been renumbered as Subsection 1600(q).]

Comment No. 4:

Subsection 1600(u) reads: “Taglines shall be used for controlling unguided piles and free hanging (flying) hammers.” The commenter opines that a tag line attached to a pile in the process of lofting it into the leads would create more problems than it would solve, because an employee would have to access the leads to untie the tag line after the pile was lofted. The commenter therefore says that this portion of the proposal should be deleted.

Response:

This provision is an existing provision (no changes were proposed), and it is also found in ANSI/ASSE A10.19, Section 11.23. Furthermore, it refers only to “unguided piles and free hanging (flying) hammers.” Thus it would not apply to any operations where the pile or hammer is lofted in a controlled manner. This section was available for discussion at the advisory committee;² however, participants had no comments on it. Since this provision has been in the current standard for a number of years without any apparent problem, the Board declines to make changes to this section at this time. [Note: Due to another comment, Subsection 1600(u) has been renumbered as Subsection 1600(t).]

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

² Two members of Pile Drivers Local Union #34 were in attendance at the advisory committee.

II. Oral Comments

Oral comments received at the May 20, 2010, Public Hearing in San Diego, California.

Mr. Pat Karinen, Senior Field Representative, representing Pile Drivers Local Union #34.

Comment:

Mr. Karinen summarized the comments he had presented in his letter to the Board dated April 19, 2010.

Response:

See responses to Mr. Karinen's written comments above.

Mr. Gary Perlichek, Vice President, representing Foundation Pile Driving Contractors.

Comment No. 1:

Mr. Perlichek expressed his agreement with Mr. Karinen's concerns.

Response:

Mr. Perlichek's concerns are noted and have been addressed as indicated in the responses to Mr. Karinen's written comments.

Comment No. 2:

The commenter requested clarification of Subsection 1600(p)(3), which provides that when the leads must be inclined in the driving of batter piles, provisions shall be made to stabilize the leads. He requested clarification as to how the bottom of the leads are to be planted on the ground to stabilize them for driving batter piles. He stated that most batter piles are driven with swinging leads, so they are just hanging off a line.

Response:

This subsection is verbatim of federal OSHA Standard 29 CFR 1926.603(a)(7), and it is existing verbiage that is not proposed to be amended. It is a performance standard and therefore does not give specific means of stabilizing the batter pile. A search of the Internet indicates there are a number of ways of stabilizing the pile, often dictated by site conditions. A proposal to amend this subsection was discussed by the advisory committee;³ however, the consensus of the committee was to leave the existing verbiage unchanged. Therefore, the Board declines to make changes to this subsection at this time. [Note: Due to another comment, Subsection 1600(p) has been renumbered as Subsection 1600(o).]

³ Advisory committee attendance included two representatives from Foundation Pile.

Comment No. 3:

The commenter noted that subsection 1600(q)(3) provides that all employees shall be kept clear when piling is being hoisted into the leads. However, he stated that it is necessary to have at least one person or sometimes two people to handle the pile and lock it. He requested that the subsection be amended to permit this.

Response:

This subsection is verbatim of federal OSHA Standard 29 CFR 1926.603(c)(2), and it is existing verbiage that is not proposed to be amended. Subsection 1600(q) was discussed at the advisory committee, and a minor modification was made to subsection 1600(q)(2) for clarity; however, the committee did not indicate any need to modify subsection (q)(3). Board staff has discussed this comment with Mr. Perlichek and determined that his concern was that employees need to approach the leads to make final adjustments to lock the pile in place once it has been lofted into the leads. The proposed provision does not prevent this activity. Instead it precludes approaching the leads only while the pile is being lifted. Therefore, the Board declines to make changes to this subsection at this time. [Note: Due to another comment, Subsection 1600(q) has been renumbered as Subsection 1600(p).]

Comment No. 4:

With reference to subsection 1600.1(b) regarding extraction of piles by drop impact, the commenter asked for clarification/definition of the term “drop impact.”

Response:

Board staff has discussed this comment with the commenter. As noted previously, in order to extract piles it is first necessary to break the surface tension the pile has with the surrounding material. This is often done using drop impact or vibratory forces.

Subsection 1600.1(b) was originally proposed to provide that when piles are extracted by drop impact, the connection between the pile hammer and the piling should be sound. The intent was to assure that the drop impact would not deflect off the pile to be loosened and extracted. Board staff has determined that both drop impact and vibratory energy can be used to break surface tension in order to extract piles. The subject of controlling drop impact and vibratory energy is already covered in subsection 1600(i); therefore, Board staff proposes to delete the originally proposed wording and instead cross reference to this subsection for the pile extraction process.

The Board thanks Mr. Perlichek for his participation in the rulemaking process.

Comment by Board Member Bill Jackson:

Subsection 1600(a), Site Layout, provides that the controlling contractor is to ensure that safe access into and through the site is provided and maintained for the delivery and movement of necessary equipment and material. Mr. Jackson was of the opinion that the term “controlling

contractor” should be defined in order to be clear to the regulated public. He noted that there is no federal counterpart for this requirement, and that there are occasions where pile driving is done before the general contractor is on-site to supervise the work. He felt that the proposed verbiage could be interpreted to place responsibility for site access on a party who may not be involved in pile driving at all.

Response:

This proposed subsection was developed by the advisory committee after considerable discussion. A plurality (although not a consensus) of advisory committee members favored this proposal, and Board staff decided to leave this section in the 45-Day Notice to obtain public comment. Mr. Jackson’s comment serves to reinforce concerns expressed at the advisory committee, and raises questions about how this provision might be applied in the field. It is noted that, multi-employer worksites are covered by Section 336.10, and site conditions are included in Section 1511. The Board accepts Mr. Jackson’s comment and proposes to delete subsection (a). This will result in all subsequent subsections of Section 1600 being renumbered.

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

No further modifications to the information contained in the Initial Statement of Reasons are proposed as a result of the 15-day Notice of Proposed Modifications mailed on July 8, 2010.

ADDITIONAL DOCUMENTS RELIED UPON

None.

ADDITIONAL DOCUMENTS INCORPORATED BY REFERENCE

None.

DETERMINATION OF MANDATE

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

ALTERNATIVES CONSIDERED

The Board invited interested persons to present statements or arguments with respect to alternatives to the proposed regulation. No alternative considered by the Board 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 adopted action.