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PROPOSED PETITION DECISION OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD (PETITION FILE NO. 559)

INTRODUCTION

Petition 559 (Petition) was submitted by Daniel Gallet (Petitioner) on April 25, 2016. The Petition seeks to modify the means and methods of hoisting plywood sheets for use in containing excavation wall material.

Labor Code Section 142.2 permits interested persons to propose new or revised regulations concerning occupational safety and health and requires the Board to consider such proposals, and render a decision no later than six months following receipt. Further, as required by Labor Code Section 147, any proposed occupational safety or health standard received by the Board from a source other than the Division of Occupational Safety and Health (Division) must be referred to the Division for evaluation, and the Division has 60 days after receipt to submit an evaluation regarding the proposal.

REQUESTED ACTION

Petition 559 proposes to amend *California Code of Regulations, Title 8, Subchapter 4, Construction Safety Orders, Article 6, Excavations, Section 1541.1, Requirements for Protective Systems.* It proposes specific regulatory language expanding upon existing Section 1541.1, restrictions and requirements related to use of excavation wall containment (plywood) panels, and more particularly the means of attachment to those panels for purposes of installation and removal hoisting.

PETITIONER'S ASSERTIONS

Because nearly the entirety of Petition 559 (aside accompanying third-party literature, and photo exhibits) is comprised of proposed Title 8 language additions, Board staff sought supplemental understanding of the Petitioner's intent and reasoning through direct discussions with him. As understood by means of those discussions, Board staff has summarized that intent and reasoning as follows:

Proposed expansion of *Section 1541.1(d)(1)*, Petitioner asserts, would ensure that material removed from plywood sheets for attachment holes would not cause the plywood to fail during use as an excavation wall containment means, or when being hoisted incident to that use. It would require that use of plywood sheets modified with attachment holes have been preapproved by a registered professional engineer conditioned upon having

verified that the hole modified panels still possess no less "bending strength" than Petitioner presupposes to be specified within a specified Appendix D of Section 1541.1.

Proposed *Subsection 1541.1(e)(1), Subpart (C)*, Petitioner asserts, would ensure that hardware used to lift and place plywood meets "testing, design, and construction" requirements per specified ASME consensus standard.

Proposed *Subsection 1541.1(e)(1), Subpart (D)*, Petitioner asserts, would more expressly prohibit use of substandard ropes for the hoisting of plywood sheets. Accompanying the Petition are images exhibiting what appear to be frayed or otherwise degraded ropes still in service for such purposes.

Proposed *Subsection 1541.1(e)(1), Subpart (E)*, Petitioner assert, would prohibit the practice of linking a hoisting means attachment hook directly to a chain slung plywood sheet. Petitioner's associate described chain slings being prone to causing sheet weakening edge damage. The associate also described hoisted chain slung sheets being unstable, and prone to abrupt tilting movement (termed "kick-out"). Not only were such kick-outs said to pose a risk of injury to proximate workers, but also risk of cave-in upon destabilizing impact against the excavation sidewall.

Proposed *Subsection 1541.1(e)(1), Subpart (F)*, Petitioner claims, would prevent the use of a certain class of clamping devices not intended for use with plywood, nor intended for hoisting purposes. Pallet Pullers, the Petitioner asserts, are intended for use in industrial settings to drag pallets along the floor. The publication of one pallet puller manufacturer, provided with the Petition as an exhibit, specifically warned users against use of the product for hoisting purposes. The Petitioner also raised concern about the risk of damage to plywood sheets posed by the gripping nubs or spikes typically incorporated into such tong or scissor type Pallet Puller designs. Such damage was described as not only risking failure of the plywood as a means of soil containment, but also of the hoisted sheet breaking apart and falling.

BOARD STAFF EVALUATION

In evaluating Petition 559, Board staff engaged the Petitioner in discussions, conducted related technical research, and surveyed existing related governmental regulations, and advisory national consensus standards. Informed by this process, Board staff came to identify numerous safety implicating concerns with the proposed Title 8 amendments. The Board finds persuasive the following concerns raised by Board staff in its report of September 27, 2016.

Proposed Subsection 1541.1(d)(1), would require employers to engage the services of a Registered Professional Engineer, to verify whether plywood sheets, from which material has been removed for attachment holes, still meet "bending strength requirements" Petitioner presupposes to exist within *Section 1541.1, Appendix D*. However, as below quoted, *Appendix D* requirements specify plywood sheet thickness and type, absent specification of actual strength, or bending strength:

> *(g)(7) Plywood shall be 1.125 inches thick of wood or 0.75 inch thick, 14 ply, arctic white birch (Finland form). Please note that plywood is not intended as a structural member, but only for prevention of local raveling (sloughing of the trench face) between shores. Equivalent material may be used if it has been approved in accordance with Section 1505(a).*

Plywood thickness and type requirements within *Section 1541.1, Appendix D(g)(7),* (indirectly) provide for plywood strength adequate to the intended function of the plywood as a nonstructural, non-shoring, soil spalling prevention means. Further, by expressly precluding use of plywood sheeting as a shoring structural member, *Appendix D(g)(7)* provides for a margin of plywood panel strength, even with introduction of lifting attachment holes, adequate to the plywood's function solely as a loose soil containment (not shoring) means.

Proposed Subsection 1541.1(e)(1)(C), would require that devices used for the installation and the removal of shoring comply with *ASME B30.20*. However, application of *ASME B30.20* is inappropriate because of that consensus standard's primary intended application being fixed and mobile cranes—not loaders and excavators. As such, devices the subject of *ASME B30.20* are not necessarily compatible with the types of heavy equipment, such as loaders and excavators, most typically used for lifing of excavation protective system plywood.

Proposed Subsection 1541.1(e)(1)(D), would preclude the use of "damaged or unrated ropes." However, more in-depth applicable lifting rope requirements can be found in existing *Title 8, Section 5047*, *"Natural and Synthetic Fiber Rope Slings."*

Proposed Subsection 1541.1(e)(1)(E), would prohibit the use of chains when lifting plywood, absent concerted use of attachment accessories such as shackles or a master link. However, the proposed preclusion of reliance upon *"chains alone to lift malleable shoring material"* would not preclude kick out or damage incident to unstable use of other (non-chain) slings. In addition, there exists a general preclusion of resort to insecure lifting means attachment, chain sling or otherwise—*Title 8, Subsection 5042(a)(6)*:

> *Section 5042(a)(6) Slings shall be set to avoid slippage.*

Proposed Section 1541.1(e)(1)(F), would prohibit the use of Pallet Pullers. "Pallet Puller" is a term used by at least four different manufacturers to describe at least three different types of devices. The device described by the Petitioner (one of those three) is a tong (scissor) style clamp which accomplishes pulling attachment by gripping the inner "stringers" of a wooden pallet. Its manufacturer warns users: *"DO NOT use as a below-the-hook lifting device."* Beyond that, if the plain meaning of that manufacturer recommendation did not serve as authoritative enough warning against use for hoisting, existing *Title 8, Section 3328* renders that preclusion mandatory:

> *Section 3328. All machinery and equipment…(a)(2) shall not be used or operated under conditions of speeds, stresses, loads, or environmental conditions that are contrary to the manufacturer's recommendations or, where such recommendations are not available, the engineered design.*

POSITION OF THE DIVISION

Consistent with *Labor Code Section 147*, Petition 559 was referred to Division for analysis and opinion. The resulting Division report, dated July 27, 2016, recommended denial of Petition 559. Concerns articulated by Division were shared, or in harmony, with those of Board staff, and included:

- *Section 1541.1 Appendix D Subsection (g)(7)*, already precludes reliance upon such plywood sheets as a structural member in shoring systems protecting workers from excavation cave-in.
- *Section 1541.1(d),* already prohibits alteration of protective system plywood, whether with attachment holes or otherwise, which might impair its proper function.
- Mandating, per proposed *Section 1541.1(e)(1)(C)*, that lifting devices used for the subject purposes comply with *ASME B30.20*, would preclude appropriate and safe use of hooks and slings lacking conformity with inapplicable *ASME B30.20* requirements.
- Applicable existing General Industry Safety Order, *Article 101, Subsection 5042(a)*, already prohibits the use of a kinked, knotted, damaged, or defective sling, or its use in excess of rated capacities prescribed by the sling manufacturer.
- Use of slings in a choked configuration without any other accessory devices is a common rigging practice which can be accomplished safely if the requirements of existing *Section 5042* are followed.
- Reliance upon damaged components of excavation protection systems is precluded by existing *Section 1541.1(d)(3)*.

The report of Division also identified numerous commercially available plywood lifting attachment devices designed and recommended by the manufacturer for that intended use. The report indicated no impediment to their proper use being posed by any existing *Title 8* safety order, *Section 1541.1*, or otherwise.

CONCLUSION AND ORDER

Having carefully considered Petition 559 proposed amendments to Title 8, Section 1541.1, and above cited evaluations submitted by the Division of Occupational Safety and Health, and by Board staff, the Board concludes that none of the proposed amendments would improve the occupational safety or health of workers, and potentially would diminish occupational safety. By Order of the Board, Petition No. 559 is hereby DENIED.