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Occupational Safety and Health Standards Board
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Advisory Committee Minutes for
General Industry Safety Orders, Sections 3420 and 3424, Brush Chippers
October 29, 2019
Sacramento, California

Call to Order

The meeting was called to order by the Committee Chair, Michael Nelmda, Senior Safety Engineer, at 9:15 a.m. on Tuesday, October 29, 2019, in Sacramento, California. The Committee Chair was assisted by Bernie Osburn, Associate Governmental Program Analyst.

Opening Remarks

The Committee Chair provided an overview of the Agenda and requested self-introductions of the committee members and participants. The Committee Chair explained the Board's procedures regarding advisory committees.

Discussion of Minutes from the January 29, 2019 meeting

The Committee Chair raised for discussion comments received based on the January 29, 2019, advisory committee meeting. Specifically, three comments were submitted to the Committee Chair from Bill Taylor of PASMA, Derrick Davis of Bandit Industries, and Maggie Robbins of Worksafe. The Committee Chair identified additional corrections specifically to sections 10 (Mandating Passive Sensing Systems) and 14 (Committee Consensus) of the minutes. None of the commenters was present at the October 29, 2019, meeting. The Committee Chair solicited comments from the committee members in attendance regarding the three submissions.

A proposed correction was put forth by Kimberly Hall Barlow, representative from Jeff Buchanan Tree Service. The correction was based on an item within the Worksafe comment, specifically, *"State of Presence Sensing Systems. ...we do not believe that the committee determined a lack of refinement of the presence sensing system of the Petitioner. The issue was a lack of... information to support mandating the Petitioner's technology as the exclusive means of stopping the feeder on chippers."*

Darin Dux of Vermeer clarified, without objection that the committee determined that there was insufficient information regarding the Petitioner's device. Peter Gerstenberger, Tree Care Industry Association, added that the phrase "exclusive means" within Worksafe's comment overly narrowed the committee recommendation that the Petitioner's device lacked information to mandate the device inclusive of other protective means.

The Committee Chair proposed that amendments would be made to the minutes reflecting Worksafe's comment regarding State of Presence Sensing Systems, inclusive of Dux's and Gerstenberger's input. The amendments to January 29, 2019, minutes would be distributed with a 15-day comment period.¹

Determination of Necessity

The Committee Chair sought input from the committee regarding the type of incidents to address with the proposed regulation. The Committee Chair explained that the January 29, 2019 advisory committee meeting included discussions related to accidents involving climbing ropes and winches, but the committee's composition did not include stakeholders that manufacture climbing ropes and winches. The Committee Chair suggested that rulemaking efforts pertaining to climbing ropes and winches could be pursued in a separate rulemaking effort.

Jeff Buchanan of Jeff Buchanan Tree Service shared that the type of incidents intended to be addressed in the regulation were when employees were drawn by their extremities (legs or arms) into the chipper by brush or by kicking material into the chipper while standing atop the feed table. Buchanan also shared an example relayed to him from a tree care company in Massachusetts, where an employee lost a leg while crossing from one side of the chipper to the opposite side.

Subsection 3420(b)

Definition of Presence Sensing Systems

Hall Barlow expressed that the industry is aware that operators of brush chippers do not always follow guidelines set forth by the employers, such as failing to feed brush chippers from the side of the chipper. Hall Barlow explained that the presence sensing systems would serve to provide an additional means of protection when operators deviate from established safety practices.

Next, the committee discussed the necessity for the inclusion of a definition for presence sensing system within subsection 3420(b) Definitions. There was consensus among the committee members that the definition was necessary to define the term presence sensing systems.

Gerstenberger supported the addition of the definition. Gerstenberger expressed that there was no convention or industry-accepted terms that describe presence sensing systems.

¹ No further corrections were identified based on comments received and revised minutes posted with changes noted by colored text.

Hall Barlow also expressed support for defining presence sensing systems with some reservations regarding the stated definition as initially proposed by the Committee Chair.

Dux explained that the American National Standards Institute (ANSI) B11 series includes terminology related to presence sensing and presence sensing systems. The Committee Chair clarified that the ANSI B11 series is the ANSI/ASSP machine guarding series. The proposal includes a criterion which references the ANSI B11 series (specifically, ANSI B11.26 *Functional Safety for Equipment (Electrical/Fluid Power Control Systems) General Principles for the Design of Safety Control Systems Using ISO 13849-1*).

Buchanan sought to counter the inclusion of ANSI B11[.26] Chapter 9 was intended for stationary equipment and not for mobile equipment. The Committee Chair limited the discussion to the necessity for defining presence sensing systems and explained that further discussion would be invited after the committee had explored the necessity for each proposed change.

The Committee Chair concluded the committee discussion satisfied that a definition for presence sensing system was necessary for inclusion in the proposal.

Subsection 3424(c)

The Committee Chair raised for discussion the necessity for appending the subsection 3424(c) title of *Brush Chippers*, to include the term wood chippers. The Committee Chair expressed that the term wood chippers was used in publications by the federal and state government.

Gerstenberger opined that, while the terms brush chippers and wood chippers are synonymous in some contexts, the inclusion of wood chipper, where the term brush chipper is already defined and used within the standard, could be confused by stakeholders. Gerstenberger also explained that including the term wood chipper could unintentionally be confused with tree chippers, which would deviate from the intent to regulate handfed chippers.

Buchanan shared the terms wood chipper, brush chipper and chipper were all interchangeable, including some small handfed whole tree chippers. Buchanan suggested Brush Chipper/Wood Chipper as an alternative.

Tim Walsh of the Davey Tree Expert Company agreed with Gerstenberger, explaining that the term brush chipper is used in the ANSI Z133 *Safety Requirements for Arboricultural Operations*.

Eric Berg with the Division of Occupational Safety and Health (Division) stated that the titles of subsections have no regulatory effect. The Committee Chair suggested brush chippers (wood chippers).

Gerstenberger requested the committee examine the definition of brush chipper. The Committee Chair displayed and read the definition of brush chipper to the committee.

Walsh opined that the definition of brush chipper was sufficient to avoid confusion. A committee member shared that the term wood chipper may have originated in Europe. The usage of the term wood chipper instead of brush chipper was to facilitate the translation into other languages used in the European Union.

The Committee Chair asked the committee if there were any objections to striking wood chipper from the proposal. Without objection, it was concluded that the existing title for subsection 3424(c) would remain unchanged.

Subsection 3424(c)(6)

The Committee Chair raised for discussion the necessity for amending subsection 3424(c)(6) to include a specific date to delineate existing devices from those covered by the new subsection 3424(c)(7) proposal:

(6) Each disk-type tree or brush chipper equipped with a mechanical infeed system manufactured before January 1, [2025], shall have a quick stop and reversing device on the infeed. The activating lever for the quick stop and reversing device shall be located across the top, along each side of, and as close to the feed end of the infeed hopper as practicable and within easy reach of the operator.

The intent was to preclude the retroactive application of new subsection 3424(c)(7) to existing devices. It was suggested that including an effective date in subsection 3424(c)(6) would not be necessary. The provision "...shall have a quick stop and reversing device on the infeed" would apply to all existing chippers and future chippers. The provision under proposed new subsection 3424(c)(7) would further augment future chippers to include additional safeguards. There was no objection to the removal of the proposed effective date contained within subsection 3424(c)(6), which left subsection 3424(c)(6) unmodified by the proposal.

The committee discussed whether existing brush chippers should be augmented with a presence sensing system or contact-activated device to stop the infeed rolls. The committee's consensus was to require all handfed brush chippers to be retroactively fitted with a presence sensing system or contact activated device to stop the infeed rolls.

The Committee Chair raised for discussion the necessity for adding new subsection 3424(c)(7), which attempts to delineate requirements for devices manufactured after the prescribed date. The deletion of the amendment to subsection 3424(c)(6) rendered the delineation moot. New subsection 3424(c)(7)(A) of the proposal sought to maintain the provisions of the amendments to subsection 3424(c)(6) for new devices, which was also deemed moot based on the deletion of the delineation date. The committee consensus was to delete the delineation date included in the draft proposal.

(6) *Each disk-type tree or brush chipper equipped with a mechanical infeed system ~~manufactured before January 1, [2025]~~, shall have a quick stop and reversing device on the infeed. The activating lever for the quick stop and reversing device shall be located across the top, along each side of, and as close to the feed end of the infeed hopper as practicable and within easy reach of the operator.*

(7) *Brush chippers equipped with a mechanical infeed system manufactured after January 1, [2025] shall:*

(A) Have a quick stop and reversing device on the infeed. The activating lever for the quick stop and reversing device shall be located across the top, along each side of, and as close to the feed end of the infeed hopper as practicable and within easy reach of the operator; and

(B) ²Be guarded in a manner that will inhibit the machine operation [stop and reverse the mechanical infeed system] if the operator's body is inadvertently within or placed within the point of operation [with one or more of the following:]

1. A device which activates [stops and reverses the mechanical infeed] upon contact; or

2. A presence sensing system [designed in accordance with ANSI-ASSP B11.26 Chapter 9] [which stops and reverses the mechanical infeed system].

Subsection 3424(c)(7)(B)

The Committee Chair raised for discussion the necessity for proposed new subsection 3424(c)(7)(B):

(B) Be guarded in a manner that will inhibit the machine operation [stop and reverse the mechanical infeed system] if the operator's body is inadvertently within or placed within the point of operation [with one or more of the following:]

² This would be renumbered as (A), See *Discussion of Proposal* subheading Section 3424(c)(7) Retroactive Application vs. After Effective Date

The committee's consensus was that additional guarding requirements would be necessary to protect employees from being drawn into the chipper.

Subsection 3424(c)(7)(B)(1)

The Committee Chair raised for discussion the necessity for new subsection 3424(c)(7)(B)(1).

- 1. A device which activates [stops and reverses the mechanical infeed] upon contact; or*

The committee debated the merits of the inclusion of an additional device. There was confusion regarding whether the proposed subsection referred to the quick stop and reverse control bar, which is positioned to the sides and along the top of the infeed hopper, and a bump-bar which is located at the leading edge of the feed table.

Steven Talsma of Vermeer clarified that the bump-bar was a different device from the quick stop and reverse lever described in the existing subsection 3424(c)(6). Talsma continued to explain that the bump-bar did not require the employee to reach for and grasp the device to halt the mechanical infeed.

Gwyny Pett of Bottoms Up Gardens asserted that the bump-bar and stop and reversing lever were antiquated and would constantly shut the machine off. Pett reasoned the safety devices would be defeated to avoid unnecessary activation. Pett viewed the bump-bar as an unnecessary piece of equipment.

Buchanan witnessed a number of ways in which people have defeated the bump-bar, however Buchanan still supports the use of the bump-bar – but not as a stand-alone device. Additionally, Buchanan stated that over 50 percent of the people that were pulled into a chipper went in feet first. Buchanan surmised that those accidents stemmed from people standing on the feed table.

Walsh disagreed that the bump-bars were being bypassed. Walsh explained that their inspection process include verifying that people are not bypassing the devices.

The committee reached the consensus opinion that devices activated upon contact, such as the bump-bar, were desirable to include in the proposal.

Dux advised the committee move away from prescriptive requirement in favor of an outcome/performance based approach to the rule.

Subsection 3424(c)(7)(B)(2)

The Committee Chair raised for discussion the necessity for new subsection 3424(c)(7)(B)(2):

2. *A presence sensing system [designed in accordance with ANSI-ASSP B11.26 Chapter 9] [which stops and reverses the mechanical infeed system].*

The committee debated the inclusion of passive safety systems.

Berg asked about the design requirements of ANSI B11.26. The Committee Chair explained that the Chapter 9 requirements of ANSI B11.26 were the design requirements for emergency stops and how the circuitry is designed and what level performance. The standard requires that manufactures determine an appropriate level of risk reduction and analyses whether their design meets that level of risk reduction.

The committee discussed the applicability of ANSI B11.26 and as an alternative, International Organization of Standardization (ISO) 13849-2 *Safety of Machinery-Safety Related Parts of Control Systems*.

The committee reached the consensus opinion that devices that operated upon contact, such as the presence sensing device were desirable to include in the proposal.

Discussion of Proposal

Subsection 3420(b) Definitions. Presence Sensing System

Presence Sensing System. A system designed, constructed, and arranged to create a sensing field or area that stops or reverses the infeed system when part of an employee's body is within the [sensing] field or area.

The Committee Chair raised for discussion the definition of a presence sensing system. The Committee Chair recalled earlier input by Dux regarding a definition of presence sensing systems within the ANSI/ASSP B11 standards. The Committee Chair sought further discussion regarding the referenced ANSI/ASSP B11 definition. Dux highlighted concerns initially raised about including the outcome of the event as part of the definition. Specifically, the reversal of the infeed system should not be part of the definition.

Hall Barlow argued that the outcome should be an integral part of the definition of a presence sensing system. Primarily the outcome of stopping should be include as part of the definition.

Gerstenberger suggested:

The system designed, constructed and arranged to create a sensing field or area within which part of the body of an employee utilizing the system would be detected.

Or alternatively:

Presence Sensing System. A system designed, constructed, and arranged to create a sensing field or area ~~that stops or reverses the infeed system~~ when part of an employee's body is within the [sensing] field or area.

Hall Barlow expressed that regardless of whether stopping the infeed system is incorporated into the definition or in the regulatory language. The requirement to stop the infeed system must be required.

Dux recited the definition from the B11 series:

Presence sensing device is a device that creates a sensing field, area or plain to detect the presence of and individual or an object and provides an output signal.

Scott Prophett of Bartlett Tree Experts suggested the definition include plain to the phrase sensing field or area.

Further discussion refined the definition to:

Presence Sensing System. A system designed, constructed, and arranged to create a sensing field, plain, or area that detects part of an employee's body within the field, plain, or area.

Subsection 3424(c)(7)

Retroactive Application vs. After Operative Date

(7) Brush chippers equipped with a mechanical infeed system manufactured after January 1, [2025] shall:

(A) Be guarded in a manner that will inhibit the machine operation [stop and reverse the mechanical infeed system] if the operator's body is inadvertently within or placed within the point of operation [with one or more of the following:]

- 1. A device which activates [stops and reverses the mechanical infeed] upon contact; or*
- 2. A presence sensing system [designed in accordance with ANSI-ASSP B11.26 Chapter 9] [which stops and reverses the mechanical infeed system].*

The Committee Chair raised for discussion whether the proposal should apply to all chippers or to chippers manufactured after a particular date.

Gerstenberger supported the requirement to apply the proposal to all chippers.

The Committee Chair clarified that the discussion centered upon requiring presence sensing systems or a contact bar to every chipper currently in existence.

Gerstenberger suggested that the proposal applies to handfed chippers. The application to handfed chippers would exclude whole tree chippers, which are mechanically fed.

Jason Denning with the Division stated that the stop bar (bump-bar) is located away from the point of operation. Denning opined that the stop bar could not comply with the regulation as written. The Committee Chair tabled discussion related to the stop bar for later in the committee meeting.

Buchanan raised that the proposal did not require both the bump-bar and the presence sensing system. The Committee Chair tabled discussions related to requiring both the bump-bar and presence sensing system for further discussion later in the committee meeting.

Without objection, the proposal for new subsection 3424(c)(7) was modified as follows (including designating subdivision (B) to (A)).

(7) Brush chippers equipped with a mechanical infeed system ~~manufactured after January 1, [2025]~~ shall:

(A) Be guarded in a manner that will inhibit the machine operation [stop and reverse the mechanical infeed system] if the operator's body is inadvertently within or placed within the point of operation [with one or more of the following:]

- 1. A device which activates [stops and reverses the mechanical infeed] upon contact; or*
- 2. A presence sensing system [designed in accordance with ANSI-ASSP B11.26 Chapter 9] [which stops and reverses the mechanical infeed system].*

**3424(c)(7)(A)1. and 2.
“stops and reverses”**

The Committee Chair raised the question of whether to retain “and reverses” as part of the proposal for subsections 3424(c)(7)(A)1. and 2. Buchanan was concerned that reversing could result in rolling an entrapped individual back into the machine. Dux added that the consensus was that stopping was the appropriate action.

The Committee Chair removed “and reverses” as part of proposed subsections (c)(7)(A)1. and 2.

Hall Barlow suggested proposed subsection 3424(c)(7)(A) to read “...be guarded in a manner that will stop the mechanical infeed system if the operator body...” Also suggested was the deletion of “inhibit,” arguing that “inhibiting the machine” and “stopping and reversing” the machine was not the same.

Berg suggested the deletion of “inadvertently,” with the concurrence of Hall Barlow.

Hall Barlow reiterated that the ANSI standard should be excluded from the proposal.

Dux suggested that subsection 3424(c)(7)(A) could be consolidated with subsection 3424(c)(7).

Mike Manieri, Principal Safety Engineer, Occupational Safety and Health Standard Board, questioned whether “stop” implied “instantaneously” or “coast to a stop.”

Hall Barlow suggested “immediately” to clarify the meaning of “stop.”

The Committee Chair questioned whether “immediately stop” could be misconstrued to exclude the duration of the machine coasting to a stop.

Dux suggested that the definition of “stop” be sought in the ISO standards. Dux explained that it would be problematic to adopt any language not already accepted within the ISO.

**3424(c)(7)(A)2.
Design Criteria - ANSI-ASSP B11.26**

The Committee Chair asked the committee whether the ANSI-ASSP B11.26 design criteria should be retained as part of the proposal. The Committee Chair references Dux’s suggestion to include the ISO 13849-2 validation criteria in the proposal. The Committee Chair differentiated ISO 13849-2 from ISO 13849-1, as ISO 13849-1 is design criteria.

Buchanan raised that the committee had not had an opportunity to review the validation criteria and suggested that further discussion was necessary before including the ISO consensus standard.

Hall Barlow posed that the Administrative Procedure Act (APA) favored a performance-based approach.

The Committee Chair responded that the ISO 13849 was a performance-based standard. Dux concurred. The Committee Chair asked if including "validation" based on ISO 13849-2 provisions were supported by the committee. Gerstenberger cautioned that the members were not experts in the ISO 13849-2 standard but supported a performance-based approach focused on the desired outcome.

The Committee Chair suggested the replacement of "designed in accordance with ANSI/ASSP B11.26 Chapter 9" with "validated in accordance with ISO 13849-2." The Committee Chair tabled further discussions related to ISO 13849-2 until the committee had an opportunity to review the consensus standard.

Hall Barlow put forth the definition of emergency stop function from ISO 13850:2015 and argued that the definition did not apply to hand-operated machines. Hall Barlow also explained that the definition did not address the question regarding how quickly the function should occur.

Denning suggested that proposed subsection 3424(c)(7)(A) be modified to "be guarded in a manner that will stop the mechanical infeed system before any part of the operator's body reaches the infeed system." The proposal was amended.

Buchanan suggested requiring both (a "device that activates on contact" and a "presence sensing system"). Buchanan argued that a "device that activates on contact" was not a "presence sensing system."

The Committee Chair clarified that an example of "a device which activates upon contact" was a contact bar. The Committee Chair explained that the committee would consider whether proposed subsections a "device that activates on contact" and a "presence sensing system" would both be required. The Committee Chair tabled the discussion for later in the meeting.

Pett suggested "operator's" be replaced by "employee's." Pett took the position that the term "employee" did not encompass the owner and bystanders. Moreover, a research article claimed that some incidents could not be accounted for because the employer-employee relationship could not be established.

Denning and the Committee Chair explained that title 8 applied to only employees and that Labor Code and case law established who is included in the definition of employees.

Subsection 3424(c)(7)(A)

“...one or more of the following”

The Committee Chair raised for discussion whether the regulation should require both a “presence sensing system” and a “device that activates on contact” or maintain the phrase “one or more of the following.”

Walsh express that the regulation should remain as “one or more of the following.”

Denning supported requiring both subsections, as did Hall Barlow. Gerstenberger raised that the consensus of his group did not support requiring both subsections. The labor stakeholders (Ray Banfield, International Brotherhood of Electrical Workers, Local 1245 and Thomas Carasco, Operating Engineers, Local 3) also did not support requiring both subsections.

The Committee Chair retained “one or more of the following” rather than requiring “both” devices.

Subsection 3424(c)(7)(A)

Phase-in period

Berg suggested a phase-in period to allow the regulation to require both a “presence sensing system” and a “device that activates on contact.”

Buchanan reiterated opposition to a proposal that would not require both subsections. Buchanan argued that without a change to require both, manufacturers would not advance their chippers to include presence sensing systems.

Berg suggested that product availability might drive the timeframe for implementation. Berg suggested such examples as sharps injury protection within the Bloodborne Pathogen Standard and Firefighter Respirator regulations, both of which enacted the regulation when the products became available to the market.

Hall Barlow supported a phase-in period if both subsections would be required. Hall Barlow argued that without a mandatory phase-in period, inventors and manufacturers would be disincentivized to act.

Walsh argued that to the regulated public, presence sensing systems would be a new concept. Walsh proposed that the regulated public needed time to understand and apply the concept. The rulemaking approach of the committee overseeing the ANSI Z133 was to first codify a recommendation within the consensus standard then later establish the recommendation as a requirement within the code.

Pett argued that the bump-bar was already being overridden by employees. Pett suggested that a sunset clause be applied to older devices and include a phase-in period for new devices.

Buchanan argued that the 2025 implementation was more than enough time. Buchanan explained that the time to install such a device was minimal. Presence sensing systems exist and are in use, the installation should not be a barrier to comply by 2025.

Walsh raised concerns about owners installing modifications not accepted by the manufactures. Also, that such modifications could not be performed without the owner incurring liability for the modifications. The question Walsh posed was, "if you manufacture a chipper, would you put a device like this on?" Walsh argued that the company would not put anything on the company's machines without the written consent of the manufacturer.

The Committee Chair added that title 8 included regulations that govern modification of machinery. Berg cited title 8 subsection 3328(f).

Hall Barlow opined that putting a safety device on a machine that does not alter the way the machine works should not expose the employer to any liability. Buchanan explained that the installation of aftermarket parts for vehicles did not interfere with the warranty.

The Committee Chair asked if such devices require modification of the control circuitry.

Buchanan explained that the chipsafe system (described in Petition 545) interrupted the hydraulic system and asserted that other devices operate similarly. Buchanan made statements attributed to Dux regarding the modification of machinery and its impact on the manufacturer's warranty.

Dux clarified that there is nothing that prevents a customer from modifying their machine. Dux stated further, "there's nothing a manufacturer can do to keep a person from modifying, however, statements within their manuals, that state that one should not modify it." Dux reiterated that they, the manufacturer, cannot enforce that with customers. Additionally, Dux added that Vermeer's dealers are not allowed to modify their machines. Moreover, it was a mischaracterization that if one modifies their machine, they will not affect the manufacturer's liability or warranty. Dux explained that the warranty from the manufacturer would be affected.

The Committee Chair asked if there was a reasonable timeframe to require both proposed subsections 3424(c)(7)(A)1. and 2. The Committee Chair reiterated that Hall Barlow argued the technology is available now.

Berg suggested "five years (60 months) from the effective date of the proposal" in lieu of specifying a date for compliance. Buchanan disagreed with the delay. Berg argued that the chipsafe system had been available for nine years without issue in operation or installation.

Walsh questioned the availability of presence sensing systems to meet the quantities of chippers requiring augmentation. Buchanan questioned the phrase "a device that activates on contact." Buchanan sought further clarity from the Committee Chair. The Committee Chair

expressed that the language was plain. Buchanan argued that the proposal did not specify a bar across the bottom of the infeed table. Buchanan further argued that a stop button could comply with the proposal. The Committee Chair explained that the “device that activates on contact” would still have to comply with proposed subsection 3424(c)(7)(A).

The Committee Chair proposed, with no objections raised, further consolidation of proposed subsection 3424(c)(7)(A) into proposed subsection 3424(c)(7) to read as follows:

(7) After [60 months after the effective date of this regulation], brush chippers equipped with a mechanical infeed shall be guarded in a manner that will stop the mechanical infeed system before any part of the employee’s body can make contact with the infeed system with one or more of the following:

(A) A device which activates upon contact; or

(B) A presence sensing system validated in accordance with ISO 13849-2.

The Committee Chair raised for further clarification whether a phase-in period would be appropriate. Specifically, a phase-in period for the presence sensing system, the contact device or both.

Prophett suggest a phase-in period for both. The phase-in period would allow for designs for safeguards to evolve beyond current existing systems. Prophett speculated that chipper manufacturers may come up with a design that is different from existing designs. Future designs may not rely upon a bump-bar (a device which activates on contact) or magnets (presence sensing systems). Prophett supported a date beyond the adoption date of the rule rather than a predetermined date as part of the rule.

Buchanan suggested a different phase in period for newer equipment and a later date for older equipment to be retrofitted. Buchanan reasoned that the dual staggered phase in would give time for innovation.

Labor representatives supported the phase-in period and the “or,” allowing the choice of a device that operates upon contact or a presence sensing system. Banfield opined that the cost of accessories associated with detection systems would be a concern for IBEW members. Banfield supported a five-year phase-in period as reasonable.

Pett argued that enforcing the wearing of magnetic detection accessories (bracelets and shoe inserts) was not shown to be a problem for company employees. Pett argued that the delay in implementation would forestall others from implementing similar safeguards—in anticipation of future unrealized safeguards. Hall Barlow joined Pett in support of Hall Barlow’s position. Further, Hall Barlow disagreed that a phase-in period would be appropriate.

Prophett supported presence sensing technology, however as reflected in the previous advisory committee meeting, the existing systems were not sufficiently ready for mass implementation.

Final Comments and Adjournment

The Committee Chair sought final comments from the committee. The Committee Chair suggested a third advisory committee meeting to discuss ISO 13849-2 and whether it would be appropriate to reference the consensus standard within the proposal. Additional discussions would cover the cost of the proposal's implementation, including the number of chippers; the number and size of employers impacted by the proposal; and the cost of training. The Committee Chair cautioned the committee that any proposal put forward would require cost assessments to satisfy California Department of Finance scrutiny. The Committee Chair tentatively proposed that the third advisory committee meeting be held in March 2020. The Committee Chair adjourned the meeting.