Occupational Safety and Health Standards Board

Public Meeting, Public Hearing
and Business Meeting

March 18, 2021

Via teleconference / videoconference

Board Meeting Packet

Occupational Safety and Health Standards Board

Meeting Agenda

STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
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MISSION STATEMENT

The mission of the Occupational Safety and Health Standards Board is to promote, adopt, and maintain reasonable and enforceable standards that will ensure a safe and healthful workplace for California workers.

March 18, 2021 at 10:00 a.m.
TELECONFERENCE AGENDA

PUBLIC MEETING, PUBLIC HEARING AND BUSINESS MEETING
OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PLEASE NOTE: In accordance with Executive Order N-29-20, and Executive Order N-33-20, the February Board Meeting will be conducted via teleconference.

Attend the meeting via Video-conference:

1. Go to www.webex.com
2. Select "Join"
3. Enter the meeting information: **268 984 996**
4. Enter your name and email address then click "Join Meeting"
5. Video-conference will be opened to the public at 9:50 a.m.

Attend the meeting via Teleconference:

1. Dial (844) 992-4726
2. When prompted, enter **268-984-996**
3. When prompted for an Attendee ID, press #
4. Teleconference will be opened to the public at 9:50 a.m.

Live video stream and audio stream (English and Spanish):

1. Go to https://videobookcase.com/california/oshsb/
2. Video stream and audio stream will launch as the meeting starts at 10:00 a.m.

Public Comment Queue:

Stakeholders who wish to comment on agenda items may submit a request to be added to the public comment queue. Please provide the following information*: 1) name; 2) affiliation; 3) comment topic; and 4) phone number (if not attending via Webex).
**Information requested is voluntary and not required to address the Board.*

In advance of the meeting: Email the requested information to OSHSB@dir.ca.gov.

During the meeting: Email the requested information to OSHSB@dir.ca.gov, request to speak via Webex "Chat" function, or dial 916-274-5721 to be placed in the queue.

NOTE: In accordance with Executive Order N-29-20,
Board Members will participate via Video-conference and/or Teleconference.

I. **CALL TO ORDER AND INTRODUCTIONS**

II. **PUBLIC MEETING (Open for Public Comment)**

This portion of the Public Meeting is open to any interested person to propose new or revised standards to the Board or to make any comment concerning occupational safety and health (Labor Code Section 142.2). *The Board is not permitted to take action on items that are not on the noticed agenda, but may refer items to staff for future consideration.*

This portion of the meeting is also open to any person who wishes to address the Board on any item on today's Business Meeting Agenda (Government Code Section 11125.7).

Any individual or group planning to make a presentation during the Public Meeting is requested to contact Sarah Money, Executive Assistant, or Christina Shupe, Executive Officer, at (916) 274-5721 in advance of the meeting so that any logistical concerns can be addressed.

A. PUBLIC COMMENT

B. ADJOURNMENT OF THE PUBLIC MEETING

III. **PUBLIC HEARING**

A. EXPLANATION OF PROCEDURES

B. PROPOSED SAFETY ORDERS (Revisions, Additions, Deletions)

1. TITLE 8: **GENERAL INDUSTRY SAFETY ORDERS**
Article 10.1, Section 3401, Section 3402,
New Sections 3402.1 - 3402.3,
Sections 3403 - 3410, New Section 3410.1, and Section 3411
Fire Fighters' Personal Protective Clothing and Equipment – AB 2146

IV. **BUSINESS MEETING – All matters on this Business Meeting agenda are subject to such discussion and action as the Board determines to be appropriate.**

The purpose of the Business Meeting is for the Board to conduct its monthly business.

A. PROPOSED PETITION DECISION FOR ADOPTION

1. Oyanga A. Snell, Esq.
Western States Petroleum Association
Petition File No. 584

Petitioner requests to amend Title 8, Section 5189.1, Process Safety Management, Definitions of Major Change, Employee Representative and Participation, Highly hazardous Materials and amendment of the High Hazard Control Analysis hierarchy.

2. Marisa "Reese" Fortin, Area HS&E Manager
Sundt Construction, Inc.
Petition File No. 585

Petitioner requests to allow the internal guying/bracing of reinforcing steel (rebar) assemblies when the guying/bracing system is designed by a qualified person and to clarify that external guying and bracing of rebar assemblies shall be prohibited.

B. PROPOSED VARIANCE DECISIONS FOR ADOPTION

1. **Consent Calendar**

C. REPORTS

1. Division Update

2. Legislative Update

3. Executive Officer's Report

D. NEW BUSINESS

1. Future Agenda Items

Although any Board Member may identify a topic of interest, the Board may not substantially discuss or take action on any matter raised during the meeting that is not included on this agenda, except to decide to place the matter on the agenda of a future meeting. (Government Code Sections 11125 & 11125.7(a).).

E. CLOSED SESSION

1. Western States Petroleum Association (WSPA) v. California Occupational Safety and Health Standards Board (OSHSB), et al. United States District Court (Eastern District of California) Case No. 2:19-CV-01270

2. WSPA v. OSHSB, et al., County of Sacramento, CA Superior Court Case No. 34-2019-00260210

3. National Retail Federation, et. al., v OSHSB, et. al., County of San Francisco, CA Superior Court Case No. CGC-20-588367

4. Western Growers Association, California Farm Bureau Federation, et. al. v OSHSB, et al., County of San Francisco, CA Superior Court Case No. CPF-21-517344

5. Personnel

F. RETURN TO OPEN SESSION

1. Report from Closed Session

G. ADJOURNMENT OF THE BUSINESS MEETING

Next Meeting: April 15, 2021
Teleconference and Video-conference
(In accordance with Executive Orders N-29-20 and N-33-20)
10:00 a.m.

CLOSED SESSION

1. If necessary, consideration of personnel matters. (Government Code section 11126(a)(1)).

2. If necessary, consideration of pending litigation pursuant to Government Code section 11126(e)(1).

PUBLIC COMMENT

In addition to public comment during Public Hearings, the Occupational Safety and Health Standards Board (Board) affords an opportunity to members of the public to address the Board on items of interest that are either on the Business Meeting agenda, or within the Board's jurisdiction but are not on the noticed agenda, during the Public Meeting. The Board is not permitted to take action on items that are not on the noticed agenda, but may refer items to staff for future consideration. The Board reserves the right to limit the time for speakers.

DISABILITY ACCOMMODATION NOTICE

Disability accommodation is available upon request. Any person with a disability requiring an accommodation, auxiliary aid or service, or a modification of policies or procedures to ensure effective communication and access to the public hearings/meetings of the Occupational Safety and Health Standards Board should contact the Disability Accommodation Coordinator at (916) 274-5721 or the state-wide Disability Accommodation Coordinator at 1-866-326-1616 (toll free). The state-wide Coordinator can also be reached through the California Relay Service, by dialing 711 or 1-800-735-2929 (TTY) or 1-800-855-3000 (TTY-Spanish).

Accommodations can include modifications of policies or procedures or provision of auxiliary aids or services. Accommodations include, but are not limited to, an Assistive Listening System (ALS), a Computer-Aided Transcription System or Communication Access Realtime Translation (CART), a sign-language interpreter, documents in Braille, large print or on computer disk, and audio cassette recording. Accommodation requests should be made as soon as possible. Requests for an ALS or CART should be made no later than five (5) days before the meeting.

TRANSLATION

Requests for translation services should be made no later than five (5) days before the meeting.

NOTE: Written comments may be emailed directly to oshsb@dir.ca.gov no later than 5:00 p.m. on the Tuesday prior to a scheduled Board Meeting.

Under Government Code section 11123, subdivision (a), all meetings of a state body are open and public, and all persons are permitted to attend any meeting of a state body, except as otherwise provided in that article. The Board Chair may adopt reasonable time limits for public comments in order to ensure that the purpose of public discussion is carried out. (Gov. Code, §11125.7, subd. (b).)

Pursuant to Executive Orders N-29-20 and N-35-20, certain provisions of the Bagley-Keene Open Meeting Act are suspended due to a State of Emergency in response to the COVID-19 pandemic. Consistent with the Executive Orders, this meeting of the Occupational Safety and Health Standards Board will be conducted remotely via video/teleconference only. None of the locations from which the Board Members will participate will be open to the public. Members of the public who wish to participate in the meeting may do so via livestream on our website at https://videobookcase.com/california/oshsb/. The video recording and transcript of this meeting will be posted on our website as soon as practicable.

For questions regarding this meeting, please call (916) 274-5721.

Occupational Safety and Health Standards Board

Public Hearing

TITLE 8
GENERAL INDUSTRY SAFETY ORDERS

ARTICLE 10.1, SECTION 3401, SECTION 3402, NEW SECTIONS 3402.1 - 3402.3, SECTIONS 3403-3410, NEW SECTION 3410.1 AND SECTION 3411

FIRE FIGHTERS' PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT – AB 2146

HYPERLINKS TO RULEMAKING DOCUMENTS:

NOTICE / INFORMATIVE DIGEST

PROPOSED REGULATORY TEXT

INITIAL STATEMENT OF REASONS

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

FEDERAL: §	STATE: General Industry Safety Orders	RATIONALE
Scope and application - §1910.156(a)(1) Scope. This section contains requirements for the organization, training, and personal protective equipment of fire brigades whenever they are established by an employer.	**Article 10.1. Personal Protective Equipment for Fire Fighters** **§3411. Private Fire Brigades.** (a) Scope and Application. (1) Scope. This section contains requirements for the organization, training, and personal protective equipment of fire brigades whenever they are established by an employer.	Equivalent.
§1910.156(a)(2) Application. The requirements of this section apply to fire brigades, industrial fire departments and private or contractual type fire departments. Personal protective equipment requirements apply only to members of fire brigades performing interior structural fire fighting. The requirements of this section do not apply to airport crash rescue or forest fire fighting operations. ******	**§3411. Private Fire Brigades.** (a) Scope and Application. (1) Scope. This section contains requirements for the organization, training, and personal protective equipment of fire brigades whenever they are established by an employer. (2) Application. The requirements of this section apply to private fire brigades, such as industrial fire departments and private or contractual type fire departments. Personal protective equipment requirements apply only to members of fire brigades performing interior structural fire fighting activities. The requirements of this section do not apply to airport crash rescue or forest fire fighting operations.	Equivalent.
§1910.156(d) Fire fighting equipment. The employer shall maintain and inspect, at least annually, fire fighting equipment to assure the safe operational condition of the equipment. Portable fire extinguishers and respirators shall be inspected at least monthly. Fire fighting equipment that is in damaged or unserviceable condition shall be removed from service and replaced.	**§6165. Standpipe and Hose Systems.** (f) Tests and Maintenance. (1) Acceptance Tests. (A) The employer shall assure that the piping of Class II and Class III systems installed after July 1, 1981, including yard piping, is hydrostatically tested for a period for at least 2 hours at not less than 200 psi (1380 kPa), or at least 50 psi (340 kPa) in excess of normal pressure when such pressure is greater than 150 psi (1030 kPa).	Equivalent. In CA firefighting equipment is not limited to just private firefighters. All the equipment listed in 29 CFR 1910.156 are required to be inspected and serviced. In addition, the proposal adds specific requirements to equipment in Section 3411 by standardizing the required maintenance of equipment for both the private fire brigades and government

	(B) The employer shall assure that hose on all standpipe systems installed after July 1, 1981, is hydrostatically tested with couplings in place, at a pressure of not less than 200 psi (1380 kPa), before it is placed in service. This pressure shall be maintained for at least 15 seconds and not more than one minute during which time the hose shall not leak nor shall any jacket thread break during the test. (2) Maintenance. (A) The employer shall assure that water supply tanks are kept filled to the proper level except during repairs. When pressure tanks are used, the employer shall assure that proper pressure is maintained at all times except during repairs. (B) The employer shall assure that valves in the main piping connections to the automatic sources of water supply are kept fully open at all times except during repair. (C) The employer shall assure that hose systems are inspected at least annually and after each use to assure that all of the equipment and hose are in place, available for use, and in serviceable condition. (D) When the system or any portion thereof is found not to be serviceable, the employer shall remove it from service immediately and replace it with equivalent protection such as extinguishers and fire watches. (E) Hemp or linen hose on existing systems shall be inspected for deterioration at least annually. Defective hose shall be replaced in accordance with Section 6165(d)(3)(B). **§6151. Portable Fire Extinguishers.** (e) Inspection, Maintenance and Testing. (1) The employer shall be responsible for the inspection, maintenance and testing of all portable fire extinguishers in the workplace.	employed firefighters i.e. personal alert safety system, SCBA.

	(2) Portable extinguishers or hose used in lieu thereof under Subsection (d)(3) of this Section shall be visually inspected monthly. (3) Portable fire extinguishers shall be subjected to an annual maintenance check. Stored pressure extinguishers do not require an internal examination. The employer shall record the annual maintenance date and retain this record for one year after the last entry or the life of the shell, whichever is less. The record shall be available to the Chief upon request. **§5144. Respiratory Protection.** (h) Maintenance and care of respirators. This subsection requires the employer to provide for the cleaning and disinfecting, storage, inspection, and repair of respirators used by employees. (3) Inspection. (A) The employer shall ensure that respirators are inspected as follows: 1. All respirators used in routine situations shall be inspected before each use and during cleaning; 2. All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use; and 3. Emergency escape-only respirators shall be inspected before being carried into the workplace for use. (B) The employer shall ensure that respirator inspections include the following: 1. A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and	

	2. A check of elastomeric parts for pliability and signs of deterioration. (C) In addition to the requirements of subsections (h)(3)(A) and (B), self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The employer shall determine that the regulator and warning devices function properly. **§3411. Private Fire Brigades.** (d) Personal Protective Clothing and Equipment shall be provided by the employer at no cost to the employee in accordance with this article commensurate with the fire fighting activity involved. With respect to structural fire fighting by private fire brigades, those personal protective clothing and equipment requirements shall be in accordance to with Sections 3402.1 and 3402.3 through 3409.	
§1910.156(e) Protective clothing. The following requirements apply to those employees who perform interior structural fire fighting. The requirements do not apply to employees who use fire extinguishers or standpipe systems to control or extinguish fires only in the incipient stage.	**§3401. Application.** (a) These Orders establish minimum requirements for personal protective clothing and equipment for fire fighters when exposed to the hazards of fire fighting activity, and take precedence over any other Safety Order with which they are inconsistent. Sections ~~3403~~ 3402.1 and 3402.3 through 3409, inclusive, apply to structural and proximity fire fighting as defined in Section 3402. Sections 3402.2, 3410, and 3410.1 apply to wildland fire fighting.	Federal language is intended to clarify that the section applies to formalized private fire brigades that perform interior structural firefighting. Federal regulations does not apply to employees incidentally trying to put out a fire. California's Article 10.1 applies to all fire fighters: private and government (structural wildland) fire fighters.
§1910.156(e)(1) General. **§1910.156(e)(1)(i)**	**§3411. Private Fire Brigades.** (d) Personal Protective Clothing and Equipment shall be provided by the employer at no cost to the employee in	Equivalent. California has separate sections various types of PPE. See Sections 3402.1, 3402.3 through 3409.

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

The employer shall provide at no cost to the employee and assure the use of protective clothing which complies with the requirements of this paragraph. The employer shall assure that protective clothing ordered or purchased after July 1, 1981, meets the requirements contained in this paragraph. As the new equipment is provided, the employer shall assure that all fire brigade members wear the equipment when performing interior structural fire fighting. After July 1, 1985, the employer shall assure that all fire brigade members wear protective clothing meeting the requirements of this paragraph when performing interior structural fire fighting.	accordance with this article commensurate with the fire fighting activity involved. With respect to structural fire fighting by private fire brigades, those personal protective clothing and equipment requirements shall be in accordance to with Sections 3402.1 and 3402.3 through 3409. ~~are modified in the following respects:~~	
§1910.156(e)(2) Foot and leg protection. **§1910.156(e)(2)(i)** Foot and leg protection shall meet the requirements of paragraphs (e)(2)(ii) and (e)(2)(iii) of this section, and may be achieved by either of the following methods:	**§3407. ~~Hand and Wrist Protection.~~ Foot Protection.** (a) Foot protection shall be provided to and worn by fire fighters while engaged in structural and proximity fire fighting activity.	California is proposing to reorganize Title 8. Hand and Wrist protection was relocated to §3406 and leg protection is under body protection in §3405.
§1910.156(e)(2)(i)(A) Fully extended boots which provide protection for the legs; or **§1910.156(e)(2)(i)(B)** Protective shoes or boots worn in combination with protective trousers that meet the requirements of paragraph (e)(3) of this section.	**§3407. ~~Hand and Wrist Protection.~~ Foot Protection.** (c) In-service foot protection shall meet the requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference.	California is proposing that employer provide PPE that meet NFPA 1971, 2007 Edition to meet the requirements of Fed §1910.156 for the entire protective ensemble including leg and foot protection.

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

	§3405. ~~Ear and Neck Protection.~~ Body Protection. (b) In-service fire fighting protective garments shall meet the certification, labeling, performance, design, and testing requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference.	
§1910.156(e)(2)(ii) Protective footwear shall meet the requirements of §1910.136 for Class 75 footwear. In addition, protective footwear shall be water-resistant for at least 5 inches (12.7 cm) above the bottom of the heel and shall be equipped with slip-resistant outer soles.	**~~§3408. Foot Protection~~ Personal Alert Safety Systems (PASS).** ~~(c) Turnout Boots. Fire fighter turnout boots shall meet the requirements of MIL-B-2885D (5-23-73) and amendment dated 12-31-75.~~ ~~(d) In addition to the requirements of Section 3408(a), protective footwear other than turnout boots shall also provide:~~ ~~(2) Sole penetration as required in MIL-B2885D (1973) and amendment dated 1975 "Military Specifications for Firemen's Boots."~~ **§3407. ~~Hand and Wrist Protection.~~ Foot Protection.** (c) In-service foot protection shall meet the requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference. ***NFPA 1971, 2007 Edition*** *7.10.4. The footwear upper material composite and footwear seams shall be tested for resistance to liquid*	Foot protection is proposed to be relocated to §3407. California is updating the specification for protective footwear from MIL-B-2885 D (5-23-73) and amendment dated 12-31-75 with NFPA 1971, 2007 edition.

	penetration as specified in Section 8.28, Liquid Penetration Resistance Test, and shall allow no penetration of the test liquid for at least an hour. *7.10.9. Footwear shall be tested for resistance to slipping as specified in Section 8.41, Slip Resistance Test, and the solve shall have a static coefficient of 0.75 or greater in dry conditions.*	
§1910.156(e)(2)(iii) Protective footwear shall be tested in accordance with paragraph (1) of Appendix E, and shall provide protection against penetration of the midsole by a size 8D common nail when at least 300 pounds (1330 N) of static force is applied to the nail.	**§3408. ~~Foot~~ Protection Personal Alert Safety Systems (PASS).** ~~(c) Turnout Boots. Fire fighter turnout boots shall meet the requirements of MIL-B-2885D (5-23-73) and amendment dated 12-31-75.~~ ~~(d) In addition to the requirements of Section 3408(a), protective footwear other than turnout boots shall also provide:~~ ~~(3) Permanently attached, corrosion resistant midsoles.~~ **§3407. ~~Hand and Wrist Protection.~~ Foot Protection.** (c) In-service foot protection shall meet the requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference. ***NFPA 1971, 2007 Edition*** *7.10.7. Footwear shall be tested for resistance to puncture as specified in Section 8.21 Puncture Resistance Test 2, and shall not allow puncture through the sole area and the heel at a force load of less than 1212 N (272 (lbf).*	California is updating the specifications for in-service protective footwear from MIL-B-2885 D (5-23-73) and amendment dated 12-31-75 and replacing the specifications for in-service footwear with NFPA 1971, 2007 edition. NFPA 1971, 2007 edition provides equivalent sole penetration test. Footwear specifications have changed since 1975, balancing the need for protection and wear ability.
§1910.156(e)(3) **Body protection.** 1910.156(e)(3)(i)	**§3406. ~~Body Protection~~ Hand and Wrist Protection.** ~~(b) Turnout Clothing. Performance, construction, testing and certification of fire fighter turnout clothing shall be~~	CA is proposing to reorganize Title 8. Body protection provisions are proposed to be relocated to Section 3405.

Body protection shall be coordinated with foot and leg protection to ensure full body protection for the wearer. This shall be achieved by one of the following methods: **§1910.156(e)(3)(i)(A)** Wearing of a fire-resistive coat meeting the requirements of paragraph (e)(3)(ii) of this section in combination with fully extended boots meeting the requirements of paragraphs (e)(2)(ii) and (e)(2)(iii) of this section; or **§1910.156(e)(3)(i)(B)** Wearing of a fire-resistive coat in combination with protective trousers both of which meet the requirements of paragraph (e)(3)(ii) of this section.	~~at least equivalent to the requirements of National Fire Protection Association (NFPA) publication 1971 (1981), "Protective Clothing for Structural Fire Fighting," with the following permissible variations in those requirements:~~ ~~(1) Liner may be detachable but the shell shall not be used as turnout clothing without the liner.~~ ~~(2) To achieve increased ventilation of trapped body heat, the protective clothing outer shell and impermeable vapor barrier may be penetrated by ventilation openings protected by nonmetallic flame resistant materials equal to this standard. Openings in the coat shall be restricted to the underside of the upper arm, and the upper portion of the front and back. Openings in the trousers shall be restricted to the areas of the groin and the outseam of the leg between the knee and the waist band. Water deflecting flaps shall be required for all openings except underarm and groin area openings. Openings in the liner are not permitted except underarm and groin area unless protected by an insulating flap. Vents shall be made of nonmetallic flame resistant materials equal to this standard.~~ ~~(3) Tearing strength of the outer shell shall be a minimum of eight pounds in any direction.~~ ~~(4) Flame resistance, including that of trim, shall not exceed:~~ ~~(A) 2.0 seconds after-flame (maximum)~~ ~~(B) 8.0 seconds after-glow (maximum).~~ ~~(5) The outer shell and lining may char or discolor but must retain heat resistance as specified in Section 3406(b)(4) and shall not separate or melt when placed in a forced air laboratory oven at a temperature of 500 F (260o C) for a period of 5 minutes.~~ ~~(c) Protective Clothing. Protective clothing, other than turnout clothing, shall meet the following minimum performance requirements:~~	CA is updating the flame resistance requirements for in-service body protection to meet NFPA 1971, 2007 edition. The entire protective garment is required to be flame resistant. NFPA 1971 flame resistance test has been updated since year 1981.

	~~(1) Flame Resistance. When tested in accordance with Federal Test 191, Method 5903.2, "Flame Resistance of Cloth, Vertical" (Standard small scale test), test results shall not exceed the following limits:~~ ~~(A) 2.0 seconds after-flame (maximum)~~ ~~(B) 8.0 seconds after-glow (maximum)~~ ~~(C) 6.0 inches average char-length.~~ ~~(2) Ignition of the material shall not produce any melting and dripping of molten or flaming material. It is specifically required that upon exposure to flaming ignition, or to heat sufficient to char the fabric, the material will not adhere to the skin of the wearer so as to cause or contribute to the severity of burns.~~ ~~EXCEPTION: Outer garments of 100% wool, with a weight of at least 14 ounces per lineal yard of 54-inch width shall be considered as sufficiently flame resistant for such use.~~ ~~(3) Certification. Garments shall be certified to meet the requirements of Section 3406(c)(1), flame resistance; and as defined in Section 3402.~~ ~~(4) A durable label shall be permanently attached and shall include the following information:~~ ~~(A) Lot Number;~~ ~~(B) Name and number of specified test; and~~ ~~(C) Date of specified test.~~ **§3405. ~~Ear and Neck Protection.~~ Body Protection.** (a) Body protection shall be provided to and used by each fire fighter when exposed to the hazards of structural and proximity fire fighting activity. Body protection shall consist of structural or proximity fire protective garments. (b) In-service fire fighting protective garments shall meet the certification, labeling, performance, design, and testing requirements of the National Fire Protection	

	Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference. ***NFPA 1971, 2007 Edition*** *7.1.3. Garment outer shells, moisture barrier, thermal barriers, collar linings, winter liners where provided, drag rescue garment including, but not limited to padding and reinforcement, interfacing, binding, hanger loops, emblems as specified in 8.2, Flame Resistance Test 1, and shall not have a char length of more than 100 mm (4in) average, shall not have an afterflame of more than 2.0 seconds average, and shall not melt or drip.*	
§1910.156(e)(3)(ii) The performance, construction, and testing of fire-resistive coats and protective trousers shall be at least equivalent to the requirements of the National Fire Protection Association (NFPA) standard NFPA No. 1971-1975, "Protective Clothing for Structural Fire Fighting," which is incorporated by reference as specified in Sec. 1910.6, (See Appendix D to Subpart L) with the following permissible variations from those requirements:	**§3406. ~~Body Protection~~ Hand and Wrist Protection.** ~~(b) Turnout Clothing. Performance, construction, testing and certification of fire fighter turnout clothing shall be at least equivalent to the requirements of National Fire Protection Association (NFPA) publication 1971 (1981), "Protective Clothing for Structural Fire Fighting," with the following permissible variations in those requirements:~~ **§3405. ~~Ear and Neck Protection.~~ Body Protection.** (b) In-service fire fighting protective garments shall meet the certification, labeling, performance, design, and testing requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference.	California is updating requirements of in-service body protection to meet NFPA 1971, 2007 edition. Federal requirement that requires PPE to meet NFPA 1971, 1975 edition.

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

§1910.156(e)(3)(ii)(A) Tearing strength of the outer shell shall be a minimum of 8 pounds (35.6 N) in any direction when tested in accordance with paragraph (2) of Appendix E; and	**§3406. ~~Body Protection~~ Hand and Wrist Protection.** ~~(b) Turnout Clothing. Performance, construction, testing and certification of fire fighter turnout clothing shall be at least equivalent to the requirements of National Fire Protection Association (NFPA) publication 1971 (1981), "Protective Clothing for Structural Fire Fighting," with the following permissible variations in those requirements:~~ ~~(3) Tearing strength of the outer shell shall be a minimum of eight pounds in any direction.~~ **§3405. ~~Ear and Neck Protection.~~ Body Protection.** (a) Body protection shall be provided to and used by each fire fighter when exposed to the hazards of structural and proximity fire fighting activity. Body protection shall consist of structural or proximity fire protective garments. (b) In-service fire fighting protective garments shall meet the certification, labeling, performance, design, and testing requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference. ***NFPA 1971, 2007 Edition*** *7.11. Garment outer shells and collar linings shall be individually tested for resistance to tearing as specified in Section 8.12, Tear Resistance Test, and shall have a tear strength of not less than 100 N (22lbf).*	California is updating requirements of in-service body protection to meet NFPA 1971, 2007 edition. Federal requirement that requires PPE to meet NFPA 1971, 1975 edition. NFPA 1971, 2007 edition has an equivalent tear resistance test.

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

§1910.156(e)(3)(ii)(B) The outer shell may discolor but shall not separate or melt when placed in a forced air laboratory oven at a temperature of 500 deg. F (260 deg. C) for a period of five minutes. After cooling to ambient temperature and using the test method specified in paragraph (3) of Appendix E, char length shall not exceed 4.0 inches (10.2 cm) and after-flame shall not exceed 2.0 seconds.	**§3406. ~~Body Protection~~ Hand and Wrist Protection.** ~~(b) Turnout Clothing. Performance, construction, testing and certification of fire fighter turnout clothing shall be at least equivalent to the requirements of National Fire Protection Association (NFPA) publication 1971 (1981), "Protective Clothing for Structural Fire Fighting," with the following permissible variations in those requirements:~~ ~~(4) Flame resistance, including that of trim, shall not exceed:~~ ~~(A) 2.0 seconds after-flame (maximum)~~ ~~(B) 8.0 seconds after-glow (maximum).~~ ~~(5) The outer shell and lining may char or discolor but must retain heat resistance as specified in Section 3406(b)(4) and shall not separate or melt when placed in a forced air laboratory oven at a temperature of 500 F (260° C) for a period of 5 minutes.~~ **§3405. ~~Ear and Neck Protection.~~ Body Protection** (a) Body protection shall be provided to and used by each fire fighter when exposed to the hazards of structural and proximity fire fighting activity. Body protection shall consist of structural or proximity fire protective garments. (b) In-service fire fighting protective garments shall meet the certification, labeling, performance, design, and testing requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference.	California is proposing that in-service body meets NFPA 1971, 2007 edition as oppose to NFPA 1971, 1975 edition. NFPA 1971, 2007 edition has an equivalent thermal resistance, heat and shrinkage resistance tests for outer shell and moisture barrier.

	NFPA 1971, 2007 Edition *7.1.3. Garment outer shells, moisture barrier, thermal barriers, collar linings, winter liners where provided, drag rescue garment including, but not limited to padding and reinforcement, interfacing, binding, hanger loops, emblems as specified in 8.2, Flame Resistance Test 1, and shall not have a char length of more than 100 mm (4in) average, shall not have an afterflame of more than 2.0 seconds average, and shall not met or drip.* *7.1.7 Garment moisture barrier seams shall be individually tested for resistance to heat as specified in Section 8.6, Heat and Thermal Shrinkage Resistance Test, and shall not drip or ignite.* *7.18 Garment outer shells and collar linings shall be individually tested for resistance to heat as specified in Section 8.6, Heat and Thermal Shrinkage Resistance Test, and shall not char.*	
§1910.156(e)(4) Hand protection. **§1910.156(e)(4)(i)** Hand protection shall consist of protective gloves or glove system which will provide protection against cut, puncture, and heat penetration. Gloves or glove system shall be tested in accordance with the test methods contained in the National Institute for Occupational Safety and Health (NIOSH) 1976 publication, "The Development of Criteria for Fire Fighter's Gloves; Vol. II, Part II: Test Methods," which is incorporated by reference as specified in Sec. 1910.6, (See Appendix D to Subpart L)	**§3406. ~~Body Protection.~~ Hand and Wrist Protection.** (a) Protective gloves shall be provided to and used by each fire fighter when exposed to the hazards of structural and proximity fire fighting activity. Such protective gloves shall be properly sized and suitable to the hazards encountered in fires and fire related emergencies. (b) Protective gloves for fire fighters shall be made of durable outer material designed to withstand the effects of flame, heat, vapor, liquids, sharp objects and other hazards that are encountered in fire fighting. (c) In-Service Gloves. A durable label in accordance with National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference, shall be	CA is proposing to reorganize Title 8 and relocate hand and wrist protection to Section 3406. CA is proposing that hand and wrist protection meet NFPA 1971, 2007 edition which specifies cut, puncture, and heat resistance test.

and shall meet the following criteria for cut, puncture, and heat penetration:	permanently attached to each glove. Labeling may be accomplished by stamping, embossing, affixing, or other suitable method.	
§1910.156(e)(4)(i)(A) Materials used for gloves shall resist surface cut by a blade with an edge having a 60 deg. included angle and a .001 inch (.0025 cm.) radius, under an applied force of 16 lbf (72N), and at a slicing velocity of greater or equal to 60 in/min (2.5 cm./sec);	**§3406. ~~Body Protection.~~ Hand and Wrist Protection.** **NFPA 1971, 2007 Edition** (c) In-Service Gloves. A durable label in accordance with National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference, shall be permanently attached to each glove. Labeling may be accomplished by stamping, embossing, affixing, or other suitable method. ***NFPA 1971, 2007 edition*** *7.7.12. The glove body composite shall be tested for resistance to cut as specified in Section 8.22, Cut Resistance Test, and shall have a distance of blade travel of more than 25 mm (1 inch).* *8.22.4. Procedure. Specimens shall be evaluated in accordance with ASTM F 1790 Standard Test Methods for Measure Cut Resistance of Material Used in Protective Clothing with modification that specimens shall be tested to a specific load with the measurement cut distance.*	CA is proposing that in-service hand and wrist protection meet NFPA 1971, 2007 edition which specifies cut, puncture, and heat resistance test. Testing protocols for cut resistance have changed since 1975.
§1910.156(e)(4)(i)(B) Materials used for the palm and palm side of the fingers shall resist puncture by a penetrometer (simulating a 4d lath nail), under an applied force of 13.2 lbf (60N), and at a velocity greater or equal to 20 in/min (.85 cm./sec); and	**§3406. ~~Body Protection.~~ Hand and Wrist Protection.** (c) In-Service Gloves. A durable label in accordance with National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference, shall be permanently attached to each glove. Labeling may be	CA is proposing that in-service hand and wrist protection meet NFPA 1971, 2007 edition which specifies cut, puncture, and heat resistance test.

	accomplished by stamping, embossing, affixing, or other suitable method. ***NFPA 1971, 2007 Edition*** *7.1.12. The glove body composite shall be tested for resistance to puncture as specified in Section 8.20, Puncture Resistance Test 1, and shall not be punctured under and average applied force of 40 N (8.8 lbf).* *7.1.13. Gloves shall be tested for hand function as specified in Section 8.38. Glove Hand Function Test , and shall have an average percent of bare hand control not exceeding 250%.*	Specification on gloves have been updated to meet the operational needs of the fire fighters.
§1910.156(e)(4)(i)(C) The temperature inside the palm and gripping surface of the fingers of gloves shall not exceed 135 deg. F (57 deg. C) when gloves or glove system are exposed to 932 deg. F (500 deg. C) for five seconds at 4 psi (28 kPa) pressure.	**§3407. ~~Hand and Wrist Protection.~~ Foot Protection.** ~~(c) Thermal insulation for protective gloves shall be sufficient to limit the inside surface temperature of the glove material (in contact with the hand) to no more than 111º F (44º C) when subjected to the tests specified in subparagraphs 1, 2 and 3:~~ ~~(1) Gloves shall be preconditioned in accordance with Federal Test 191, Method 5903.2.~~ ~~(2) The palm of the glove shall be exposed to a conductive heat load of 932º F (500º C) for a period of 5 seconds at 4 psi pressure using an object made of iron with 3.14 in^2 surface area and sufficient mass to induce the pressure without assistance.~~ ~~(3) The back of the glove shall be exposed to a stable 1.0 watt/cm2 radiant heat load for a period of 1 minute.~~ **§3406. ~~Body Protection.~~ Hand and Wrist Protection.** (c) In-Service Gloves. A durable label in accordance with National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition,	CA is proposing that in-service hand and wrist protection meet NFPA 1971, 2007 edition which specifies cut, puncture, and heat resistance test. The test specified by Fed OSHA is based on 1975 technical information.

	which is hereby incorporated by reference, shall be permanently attached to each glove. Labeling may be accomplished by stamping, embossing, affixing, or other suitable method. ***NFPA 1971, 2007 Edition*** *7.7.1. The protective glove element body composite shall be tested for thermal insulation as specified in Section 8.10, Thermal Protective Performance (TPP) Test, and shall have an average TPP rating of at least 20.0.*	
§1910.156(e)(4)(ii) Exterior materials of gloves shall be flame resistant and shall be tested in accordance with paragraph (3) of Appendix E. Maximum allowable afterflame shall be 2.0 seconds, and the maximum char length shall be 4.0 inches (10.2 cm).	**§3407. ~~Hand and Wrist Protection.~~ Foot Protection.** ~~(c) Thermal insulation for protective gloves shall be sufficient to limit the inside surface temperature of the glove material (in contact with the hand) to no more than 111° F (44° C) when subjected to the tests specified in subparagraphs 1, 2 and 3:~~ ~~(1) Gloves shall be preconditioned in accordance with Federal Test 191, Method 5903.2.~~ ~~(2) The palm of the glove shall be exposed to a conductive heat load of 932° F (500° C) for a period of 5 seconds at 4 psi pressure using an object made of iron with 3.14 in^2 surface area and sufficient mass to induce the pressure without assistance.~~ ~~(3) The back of the glove shall be exposed to a stable 1.0 watt/cm2 radiant heat load for a period of 1 minute.~~ **§3406. ~~Body Protection.~~ Hand and Wrist Protection.** (c) In-Service Gloves. A durable label in accordance with National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference, shall be permanently attached to each glove. Labeling may be accomplished by stamping, embossing, affixing, or other suitable method.	CA is proposing that in-service hand and wrist protection meet NFPA 1971, 2007 edition which specifies cut, puncture, and heat resistance test. The test specified by Fed OSHA is based on 1975 technical information.

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

	NFPA 1971, 2007 Edition *7.7.6. The glove body composite shall be tested for resistance to flame as specified in Section 8.4, Flame Resistance Test 3 and shall not have an average char length of more than 100 mm (4 inch), and shall not have an average afterflame of more than 2.0 seconds, shall not melt or drip, and shall not have the amount consumed material exceed 5 percent.*	
§1910.156(e)(4)(iii) When design of the fire-resistive coat does not otherwise provide protection for the wrists, protective gloves shall have wristlets of at least 4.0 inches (10.2 cm) in length to protect the wrist area when the arms are extended upward and outward from the body.	**§3406. ~~Body Protection.~~ Hand and Wrist Protection.** (c) In-Service Gloves. A durable label in accordance with National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference, shall be permanently attached to each glove. Labeling may be accomplished by stamping, embossing, affixing, or other suitable method. ***NFPA 1971, 2007 Edition*** *6.1.9.2.1. The wristlet or other garment sleeve interface component shall be designed so that it will not permit a gap in thermal protection.*	CA is proposing that in-service hand and wrist protection meet NFPA 1971, 2007 edition which specifies cut, puncture, and heat resistance test.

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

§1910.156(e)(5) Head, eye and face protection. **§1910.156(e)(5)(i)** Head protection shall consist of a protective head device with ear flaps and chin strap which meet the performance, construction, and testing requirements of the National Fire Safety and Research Office of the National Fire Prevention and Control Administration, U.S. Department of Commerce (now known as the U.S. Fire Administration), which are contained in "Model Performance Criteria for Structural Firefighters' Helmets" (August 1977) which is incorporated by reference as specified in Sec. 1910.6, (See Appendix D to Subpart L).	**§3403. Head, Eye and Face Protection.** (a) ~~General~~ Head Protection. Head protection shall be provided to ~~for~~ each fire fighter, and shall be maintained in a location of readiness for immediate response to fires and like emergencies. Head protection shall be worn by fire fighters whenever they are exposed to head injury hazard. Head protection is normally provided for fire fighters through the use of helmets. ~~(b) Minimum Requirements, Structural Fire Fighting. (2) Helmets ordered, purchased and/or placed in service prior to January 1, 1988, for use in structural fire fighting shall meet the performance, construction, and testing requirements of the National Fire Safety and Research Office, National Fire Prevention and Control Administration, U. S. Department of Commerce contained in "Model Performance Criteria for Structural Fire Fighters' Helmets, dated August, 1977," with the following additional requirements:~~ **§3402.1. Purchase Quality Standards for Personal Protective Clothing and Equipment for Structural Fire Fighting and Proximity Fire Fighting.** (a) Helmets ordered or purchased on or after [**OAL to insert – 6 months after effective date**], for use in structural fire fighting or proximity fire fighting shall meet the certification, labeling, design, performance, and testing requirements of the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 Edition, which is hereby incorporated by reference. In addition to any other applicability, the aforementioned purchase quality standards apply to discretionary equipment orders or purchases.	CA is proposing to reorganize Title 8 and relocate eye and face protection to Section 3403 §3403 – requires employers to provide head protection. §3402.1 –requires new purchases of helmets to meet NFPA 1971, 2018 Edition. §3402.3 –requires helmets that do not meet NFPA 1971, 2007 Edition be retired 10 years from the date of manufacture. Helmets made to the US Department of Commerce, Model Performance Criteria for Structural Firefighters' Helmets (August 1977) should no longer be in-service. If they are still in-service, CA is requiring that they be retired.

	EXCEPTION: Protective ensemble or ensemble elements meeting the most current NFPA 1971 edition will be deemed as meeting the standard. **§3402.3. Selection, Inspection, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting.** (b) Helmets that do not meet the requirements of NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is hereby incorporated by reference, shall be retired 10 years from the date of manufacture.	

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

§1910.156(e)(5)(ii) Protective eye and face devices which comply with §1910.133 shall be used by fire brigade members when performing operations where the hazards of flying or falling materials which may cause eye and face injuries are present. Protective eye and face devices provided as accessories to protective head devices (face shields) are permitted when such devices meet the requirements of §1910.133.	**§3403. Head, Eye and Face Protection.** (b) Eye and Face Protection. (1) Eye protection and/or face protection shall be provided to and used by each fire fighter to protect from eye or face injuries such as punctures, abrasions, contusions, or burns as a result of contact with flying particles, hazardous substances, or projections which are inherent in the work or environment. (2) In-service Eye and Face Protection. Eye and face protection shall meet the National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition or American National Standard Institute/International Safety Equipment Association, American National Standard for Occupational and Educational Personal Eye and Face Protection Devices, ANSI/SEA Z87.1-2015, which are hereby incorporated by reference. In addition, it shall bear the mark "Z87+". **§3402.1. Purchase Quality Standards for Personal Protective Clothing and Equipment for Structural Fire Fighting and Proximity Fire Fighting.** (b) Eye or face protection ordered or purchased on or after [**OAL to insert – 6 months after effective date**], for use in structural fire fighting or proximity fire fighting shall meet the certification, labeling, design, performance, and testing requirements of NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 Edition, which is hereby incorporated by reference. In addition to any other applicability, the aforementioned purchase	Equivalent. Existing (b)(1) was relocated from §3404(b)(2) with modifications. CA is proposing to require new purchases of PPE to NFPA 1971, 2018 edition.

SOURCE OF FEDERAL OSHA STANDARD(S): 29 CFR

SCOPE: Applicable throughout state unless otherwise noted.

	quality standards apply to discretionary equipment orders or purchases. EXCEPTION: Protective ensemble or ensemble elements meeting the most current NFPA 1971 edition will be deemed as meeting the standard.	
§1910.156(e)(5)(iii) Full facepieces, helmets, or hoods of breathing apparatus which meet the requirements of §1910.134 and paragraph (f) of this section, shall be acceptable as meeting the eye and face protection requirements of paragraph (e)(5)(ii) of this section.	**§3403. Head, Eye and Face Protection.** (b) Eye and Face Protection. (3) Primary eye protection shall be required unless the self-contained breathing apparatus (SCBA) is being used. The full facepiece of SCBA shall be considered as face and eye protection when worn. (4) If the facepiece has a face-mounted regulator that when disconnected provides a direct path for flying objects to strike the face or eye, the facepiece shall have the regulator attached in order to be considered as eye and face protection.	California is proposing to add (b)(3) and (b)(4) to be as effective as the federal standard.
§1910.156(f) *Respiratory protection.* **§1910.156(f)(1)** *General.* **§1910.156(f)(1)(i)** The employer must ensure that respirators are provided to, and used by, each fire brigade member, and that the respirators meet the requirements of 29 CFR 1910.134 for each employee required by this section to use a respirator.	**§3409. Respiratory Protection.** (a) Approved Equipment. (1) Approvals. Fire fighters exposed to harmful exposure in the course of their assigned activities shall be provided with, and shall use respiratory protective devices that are approved and certified in accordance with Section 5144, and the methods and requirements specified by the National Institute of Occupational Safety and Health (NIOSH) under 42 CFR part 84.	Equivalent.
§1910.156(f)(1)(ii) Approved self-contained breathing apparatus with full-facepiece, or with	**§3409. Respiratory Protection.** (b) Self-Contained Breathing Apparatus (SCBA).	Equivalent.

approved helmet or hood configuration, shall be provided to and worn by fire brigade members while working inside buildings or confined spaces where toxic products of combustion or an oxygen deficiency may be present. Such apparatus shall also be worn during emergency situations involving toxic substances.	~~(A)~~(1) Respiratory protective devices provided for and used by fire fighters in structural fire fighting activity shall be limited to those types classified as self-contained breathing apparatus (SCBA), and combination breathing apparatus of the supplied-air positive-pressure type.	
§1910.156(f)(1)(iii) Approved self-contained breathing apparatus may be equipped with either a "buddy-breathing" device or a quick disconnect valve, even if these devices are not certified by NIOSH. If these accessories are used, they shall not cause damage to the apparatus, or restrict the air flow of the apparatus, or obstruct the normal operation of the apparatus.	**§3409. Respiratory Protection.** (b) Self-Contained Breathing Apparatus (SCBA). ~~(5)~~(4) Buddy-Breathing. Approved ~~self-contained breathing apparatus~~ SCBA may be equipped with either a "buddy-breathing" device or a quick disconnect valve, even if these devices are not certified by NIOSH. If these accessories are used, they shall not cause damage to the apparatus, or obstruct the normal operation of the apparatus.	Equivalent.
§1910.156(f)(1)(iv) Approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet DOT and NIOSH criteria.	**§3409. Respiratory Protection.** ~~(b)~~ (c) General Requirements. ~~(6)~~(5) Air Cylinders. ~~Approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet United States Department of Transportation (DOT) and NIOSH criteria.~~ NIOSH-	CA is proposing to amend (c)(5) to allow non matching breathing apparatus and cylinders only for emergencies.

	approved open-circuit SCBA shall be used with the approved cylinder from the same manufacturer. Cylinders that are not labeled as being NIOSH-certified shall not be used. EXCEPTION: During emergency (mutual or automatic aid) situation, cylinders with the same pressure rating from different manufacturers may be used when cylinders from the same manufacturer are not immediately available on the scene.	
§1910.156(f)(1)(v) Self-contained breathing apparatuses must have a minimum service-life rating of 30 minutes in accordance with the methods and requirements specified by NIOSH under 42 CFR part 84, except for escape self-contained breathing apparatus (ESCBAs) used only for emergency escape purposes.	**§3409. Respiratory Protection.** ~~(b)~~(c) General Requirements. (3) Operating Service Time. Respiratory protective devices provided for use by fire fighters shall have a rated service time of at least 30 minutes in accordance with the methods and requirements specified by NIOSH 42 CFR part 84.	Equivalent.
§1910.156(f)(1)(vi) Self-contained breathing apparatus shall be provided with an indicator which automatically sounds an audible alarm when the remaining service life of the apparatus is reduced to within a range of 20 to 25 percent of its rated service time.	**§3409. Respiratory Protection** (b) Self-Contained Breathing Apparatus (SCBA). (2) SCBA shall be selected, cleaned, inspected, and maintained in accordance with the National Fire Protection Association (NFPA) 1852, Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA), 2019 Edition, which is hereby incorporated by reference. ***NFPA 1852, 2019 Edition*** *7.1.2.6 EOSTI inspection shall include the following:* *(1) EOSTI alarm and mounting hardware checked for damage,secure attachment, dirt, and debris* *(2) EOSTI checked for proper activation in accordance with the manufacturer's instructions*	Federal requirement is out dated. **42 CFR §84.83. Timers; elapsed time indicators; remaining service life indicators; minimum requirements.** (f) Each remaining service-life indicator or warning device must give an alarm when the remaining service life is reduced to a minimum of 25 percent of its rated service time or any higher minimum percent value or values as specified in the approval. Open-circuit demand and pressure-demand respirators must alarm continuously until depletion of the breathing air supply. The percent

	~~(b)~~ (c) General Requirements ~~(4) Automatic Warning Signal. Respiratory protective devices provided for use by fire fighters shall be equipped with an automatic device that produces an audible signal to warn the user that the remaining service time of the unit has been reduced to 20-25%. Means shall be designed and incorporated to indicate to the user that his alarm has been activated.~~ **§3402.1. Purchase Quality Standards for Personal Protective Clothing and Equipment for Structural Fire Fighting and Proximity Fire Fighting.** (h) Open-circuit self-contained breathing apparatus (SCBA) purchased on or after [**OAL to insert – 6 months after effective date**] shall meet the certification, labeling, design, performance and testing requirements of NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, 2019 Edition, which is hereby incorporated by reference. In addition to any other applicability, the aforementioned purchase quality standards apply to discretionary equipment orders or purchases. EXCEPTION: Open-circuit SCBA meeting the most current NFPA 1981 edition will be deemed as meeting the standard. ***NFPA 1981, 2019 edition*** ***6.2.6*** *The EOSTI alarm shall activate at 33 percent, +2 percent of full cylinder pressure.*	value set for indicator activation must be identified by labels and/or markings on each respirator unit. New purchases of SCBA are required to meet NFPA 1981 which requires that the End of Service Time Indicator alarm to activate at 33% of full cylinder pressure.
§1910.156(f)(2) Positive-pressure breathing apparatus. **§1910.156(f)(2)(i)**	**§3409. Respiratory Protection.** ~~(c)~~(d) Positive Pressure. Except as permitted in Section 3409~~(a)(2)(B)~~ (b)(3), all compressed air ~~self-contained~~	Equivalent.

The employer shall assure that self-contained breathing apparatus ordered or purchased after July 1, 1981, for use by fire brigade members performing interior structural fire fighting operations, are of the pressure-demand or other positive-pressure type. Effective July 1, 1983, only pressure-demand or other positive-pressure self-contained breathing apparatus shall be worn by fire brigade members performing interior structural fire fighting.	~~breathing apparatus~~ SCBA used in fire fighting activity shall be of positive pressure type.	
§1910.156(f)(2)(ii) This paragraph does not prohibit the use of a self-contained breathing apparatus where the apparatus can be switched from a demand to a positive-pressure mode. However, such apparatus shall be in the positive-pressure mode when fire brigade members are performing interior structural fire fighting operations.		No language needed. If Title 8 does not expressly prohibit an equipment, then it is permitted.

OCTOBER 22-23, 2015
ADVISORY COMMITTEE MEETING

FIRE FIGHTERS' PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT – AB 2146

HYPERLINKS TO MEETING DOCUMENTS:

ADVISORY COMMITTEE ROSTER

ADVISORY COMMITTEE MINUTES

JANUARY 20, 2016
ADVISORY COMMITTEE MEETING

FIRE FIGHTERS' PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT – AB 2146

HYPERLINKS TO MEETING DOCUMENTS:

ADVISORY COMMITTEE ROSTER

ADVISORY COMMITTEE MINUTES

MAY 2-3, 2016
ADVISORY COMMITTEE MEETING

FIRE FIGHTERS' PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT – AB 2146

HYPERLINKS TO MEETING DOCUMENTS:

ADVISORY COMMITTEE ROSTER

ADVISORY COMMITTEE MINUTES

AB-2146 Occupational safety: firefighters: personal protective equipment. (2013-2014)

Assembly Bill No. 2146

CHAPTER 811

An act to add Section 147.4 to the Labor Code, relating to occupational safety.

[Approved by Governor September 29, 2014. Filed with Secretary of State September 29, 2014.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2146, Skinner. Occupational safety: firefighters: personal protective equipment.

The California Occupational Safety and Health Act of 1973 provides the Division of Occupational Safety and Health within the Department of Industrial Relations with the power, jurisdiction, and supervision over all employment and places of employment necessary to enforce and administer all occupational health and safety laws and to protect employees. The Occupational Safety and Health Standards Board, an independent entity within the department, has the exclusive authority to adopt occupational safety and health standards within the state.

This bill would require the Department of Industrial Relations by January 1, 2016, to convene an advisory committee, composed as specified, to evaluate whether changes are needed to align certain safety orders relating to personal protective clothing and equipment for firefighters with standards promulgated by the National Fire Protection Association (NFPA). The bill would require the committee to present its findings and recommendations to the Occupational Safety and Health Standards Board by July 1, 2016, and require the board no later than July 1, 2017, to render a decision regarding the adoption of changes to the safety orders, or other applicable standards and regulations, in order to maintain alignment with the NFPA standards. The bill would require the board, by July 1, 2018, and every 5 years thereafter, to complete a comprehensive review of all revisions to NFPA standards pertaining to personal protective equipment, as specified, and if the review finds that the revisions to applicable standards provide a greater degree of personal protection than the safety orders, the bill would require the board to consider modifying existing safety orders and to render a decision in that regard, as specified.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 147.4 is added to the Labor Code, to read:

147.4. (a) By January 1, 2016, the department shall convene an advisory committee to evaluate whether changes are needed to align the general industry safety orders in Sections 3403 to 3411, inclusive, of Article 10.1 (commencing with Section 3401) of Group 2 of Subchapter 7 of Chapter 4 of Article 8 of Division 1 of Title 8 of the California Code of Regulations with the applicable and most recently promulgated standards of the National

Fire Protection Association. The committee shall be composed of parties in both management and labor, represent a cross section of the fire protection industry and community, and be competent and knowledgeable regarding personal protective clothing and equipment for firefighters and firefighting practices generally.

(b) By July 1, 2016, the advisory committee shall present its findings and recommendations for consideration by the board. No later than July 1, 2017, the board shall render a decision regarding the adoption of changes to the general industry safety orders in Sections 3403 to 3411, inclusive, of Article 10.1 (commencing with Section 3401) of Group 2 of Subchapter 7 of Chapter 4 of Article 8 of Division 1 of Title 8 of the California Code of Regulations, or other applicable standards and regulations, in order to maintain alignment with the applicable National Fire Protection Association standards.

(c) Beginning July 1, 2018, and every five years thereafter, the board, in consultation with the department, shall complete a comprehensive review of all revisions to National Fire Protection Association standards pertaining to personal protective equipment covered by the general industry safety orders in Sections 3403 to 3411, inclusive, of Article 10.1 (commencing with Section 3401) of Group 2 of Subchapter 7 of Chapter 4 of Article 8 of Division 1 of Title 8 of the California Code of Regulations. If the review finds that the revisions to applicable National Fire Protection Association standards provide a greater degree of personal protection than the safety orders, the board shall consider modifying existing safety orders and shall render a decision regarding the adoption of necessary changes to safety orders, or other applicable standards and regulations, no later than July 1 of the subsequent year, in order to maintain alignment of the safety orders with the applicable National Fire Protection Association standards.

Occupational Safety and Health Standards Board

Business Meeting

Occupational Safety and Health Standards Board

Business Meeting
Petition 584

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of a Petition by:	
	PETITION FILE NO. 584
Oyanga A. Snell, Esq.	
Western States Petroleum Assoc.	
1415 L Street, Suite 900	
Sacramento, CA 95814	
Applicant.	

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVE HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

By: _____
Christina Shupe, Executive Officer

DATE: March 18, 2021
Attachments

STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
Tel: (916) 274-5721 Fax: (916) 274-5743
www.dir.ca.gov/oshsb

PROPOSED PETITION DECISION OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD (PETITION FILE NO. 584)

INTRODUCTION

The Occupational Safety and Health Standards Board (Board) received a petition on May 22, 2020 from Oyango A. Snell, Esq., Senior Vice President and General Counsel of the Western States Petroleum Association (Petitioner), a trade association representing companies that explore for, produce, refine, transport, and market petroleum and related products. Petitioner seeks changes to title 8, section 5189.1[1] of the General Industry Safety Orders, Process Safety Management for Petroleum Refineries (CalPSM).

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. This period has been extended 120 days by Governor Gavin Newsom's Executive Orders N-63-20 and N-71-20, in recognition of the State of Emergency caused by COVID-19.

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; this timeline, running concurrently with the Board's timeline as described above, has also been extended 120 days pursuant to Executive Orders N-63-20 and N-71-20.

SUMMARY

Petitioner identifies Requests 1-4, seeking amendments to several provisions in the CalPSM regulations:

- **Request 1** - section 5189.1(c), definition of "major change";
- **Request 2** - section 5189.1 subdivision (c), definition of "employee representative" and section 5189.1, subdivisions (q)(1) and (2), "employee participation";
- **Request 3** - section 5189.1(*l*)(4)(D) and (E) hierarchy of controls analysis; and

[1] All references are to California Code of Regulations, title 8, unless otherwise stated.

- **Request 4** - section 5189.1 subdivision (c), definition of "highly hazardous material".

Petitioner takes issue with a number of definitions found in section 5189.1, subdivision (c). Petitioner argues that the definition of "major change" is vague and overbroad, and could be applied to minor equipment changes. The definition is also different from that of the same term in the California Office of Emergency Services Accidental Release Prevention (CalARP) regulations, which Petitioner believes creates uncertainty regarding compliance with both regulatory schemes. Petitioner also finds the phrase "worsens an existing process safety hazard", as used in section 5189.1, subdivision (c), to be vague.

The Petition requests revision of the term "employee representative", also found in section 5189.1, subdivision (c). That definition states in part, "A union representative, where a union exists, or an employee-designated representative in the absence of a union that is on-site and qualified for the task." Petitioner reads the definition as creating a different standard for employee representatives at union and non-union refineries.

The final definition raised by Petitioner is the section 5189.1, subdivision (c) definition of "highly hazardous material." Petitioner traces the definitions of "highly hazardous material", "flammable gas", "flammable liquid", "toxic substance", and "reactive substance" to Federal OSHA requirements within the hazard communication regulation, and asserts that the tests within the federal hazard communication regulation are not intended for process safety management purposes, and are highly complex.

As to Petitioner's other requests, Petitioner states that the requirement found in section 5189.1, subdivisions (q)(1) and (2), that employees and their representatives be given the opportunity to "effectively participate" is impermissibly vague, and also constitutes interference in the collective bargaining process.

Lastly, Petitioner requests changes to section 5189.1, subdivision (*l*), the hierarchies of control analysis. According to Petitioner, the section fails to provide guidance as to how to resolve scenarios in which there is a conflict between inherent safety measures for different hazards. Petitioner also finds that the section includes prescriptive requirements for adopting safety measures and safeguards that run contrary to the performance-based goals of the enabling statutes and regulations themselves.

DIVISION EVALUATION

As of the drafting of the proposed decision, the Division had not submitted an evaluation for consideration in this matter.

BOARD STAFF'S EVALUATION

Board staff prepared a detailed evaluation discussing the Petitioner's requested changes to the CalPSM regulations. As to the Petitioner's arguments regarding definitions found in section

5189.1, subdivision (c), the staff evaluation finds little merit. Rather, the staff evaluation concludes that the definition of "major change" is not, in itself, vague and overbroad, and that the exclusion of "minor equipment changes" from "major change" would not necessarily improve workplace safety. Indeed, Petitioner's proposed amendments to the regulation, that would exclude new processes, new process equipment, and new highly hazardous materials as "minor" changes, could have a detrimental impact on workplace safety.

The staff evaluation also disagrees with Petitioner's assertion that the definition of "major change" in the CalPSM safety orders must be identical to the definition found in the CalARP regulations. Regarding the Petitioner's assertion that the phrase "worsens an existing process safety hazard" is impermissibly vague; the Board staff evaluation disagrees, and finds the intent of the phrase to be clear in the context of the regulation. The staff evaluation also concludes that the definition of "employee representative" does not require any modification. An employee representative may be a labor union representative, an outside expert, or some other individual appointed by employees; there is no requirement that an employee representative have specific knowledge of the facility. As the staff evaluation notes, the necessary refinery-specific information may come from the represented employees themselves, who can provide such information to their appointed representative.

As to the definition of "highly hazardous material", the Board staff evaluation does agree that amendment to the subdivision, to reflect a more contemporary scope of process safety management augmented with threshold quantity limits, may be worthy of an advisory committee, and recommends section 5189 (including Appendix A), title 19, section 2770.5, and the Seveso III, Directive 2012/18/EU as discussion starting points, to establish threshold quantities.

Regarding section 5189.1, subdivisions (q)(1) and (2), the staff evaluation-- which is a technical evaluation drafted by a Board safety engineer with expertise in occupational safety and health-- finds that the question raised regarding interference with collective bargaining rights is beyond the scope of the evaluation. The staff evaluation does find, however, that there is no impermissible vagueness in the requirement that participation be "effective", and that the word "effective" as used in the regulation can be understood using the plain language meaning of the term.

The Board staff evaluation agrees with Petitioner that section 5189.1, subdivision (*l*)(4)(D) may benefit from review, to further clarify the terms "achieved in practice" and "related industrial sectors". However, the staff evaluation concludes that geographic or other limitations on what practices and processes should be reviewed does not promote workplace safety, and would be an unnecessary and arbitrary limitation on the scope of such a review.

In sum, the Board staff evaluation recommends:

- **Denying** Petitioner's request to amend section 5189.1, subdivision (c) as regards the definition of major change, and employee representative.

- A limited **grant** to allow an advisory committee to consider amending the definition of "highly hazardous material" found in section 5189.1 to reflect a more contemporary scope of process safety management augmented with threshold quantity limits.

- **Denying** requests to amend section 5189.1, subdivision (q)(1) and (2), as relates to employee participation.

- **Granting** the request to amend section 5189.1, subdivision (*l*), the hierarchy of hazard controls analysis, to the extent that an advisory committee consider amending or clarifying the phrases "achieved in practice" and "related industrial sector."

DISCUSSION

The Board currently lacks a Division evaluation of Petition 584. The Board is aware that the Division has submitted a Request for New, or Change in Existing, Safety Order (Form 9) to Board staff, also seeking amendments to section 5189.1, although of a different scope to the Petitioner's request. As such, this informs the Board's order, but stands apart from its consideration of the Petition.

The Board staff evaluation argues convincingly that Petitioner's proposal to exclude new processes, new process equipment, and new highly hazardous materials as "minor" changes is overbroad and would serve to lessen workplace protections currently provided by the CalPSM standards. The Board accepts the staff evaluation of Petitioner's request for changes in definitions and/or clarity for "major change", "employee representative", and "worsens an existing process safety hazard" as thorough, and finds the existing language to be permissibly clear.

The Board finds that the staff evaluation does show that an advisory committee, which includes experts in the field of Process Safety Management for Petroleum Refineries, should be convened to further explore Petitioner's "Request 3" and "Request 4".

Finally, the Board staff finds that Petitioner's assertion regarding interference with collective bargaining rights is improperly included, as it raises issues argued by Western States Petroleum Association in pending legal challenges to the CalPSM regulations. As such, the Board will refrain from responding, and instead limits its decision to the merits of the Petitioner's remaining requests.

CONCLUSION AND ORDER

Having read and considered the Petition and the evaluation by Board staff, the Board hereby GRANTS, IN PART, Petition 584, to the extent that it directs Board staff to work with the Division to convene a representative advisory committee meeting. The advisory committee is tasked with consideration of Petitioner's "Request 3", regarding section 5189.1, subdivision (*l*), to the extent of amending or clarifying the phrases "achieved in practice" and "related industrial sector", and "Request 4", to the extent of reviewing the definition of "highly hazardous material" as found in section 5189.1, subdivision (c), considering amendments to reflect a more contemporary scope of process safety management and the addition of threshold quantity triggers.

The Petitioner should be invited to participate. Representatives for the following stakeholders should also be invited to participate:

1. California Governor's Office of Emergency Services (CalOES);

2. The Division's Process Safety Management Unit; and

3. A representative cross-section of Labor and Management representatives.

Additionally, in the interest of efficient rulemaking, Board staff is to proceed in considering the Division's pending Form 9, which also requests amendments to section 5189.1, and including elements of the Division's proposal in the advisory committee discussion, as Board staff deems appropriate.

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PETITION FILE NO. 584

BOARD STAFF EVALUATION

Submitted by: Michael Nelmida, Senior Safety Engineer

February 1, 2021

OSHSB Petition File No. 584
Board Staff Evaluation,
February 1, 2021

INTRODUCTION

Petition 584 (Petition) was submitted on behalf of Western States Petroleum Association by Oyango A. Snell on May 22, 2020. The Petition seeks to change Section 5189.1 *Process Safety Management for Petroleum Refineries.*

REQUESTED ACTION

The applicant makes four requests:

1. Revise the definition of "major change" in Section 5189.1(c).

    1.1. Provide further clarity that "minor equipment changes" are not covered.

    1.2. Eliminate the reference to "worsens an existing process safety hazard."

    1.3. Provide consistency with the definition of "major change" to Title 19 Division 2, Chapter 4.5, Section 2735.3(hh).

2. Revise the definition of "employee representative" in Section 5189.1(c) and define "effective participation" where used in the context of Section 5189.1(q) *Employee Participation*.

    2.1. Revise the definition of employee representative to require that all employee representatives be employees of the refinery at issue.

    2.2. Revise the definition of employee representative to require that all employee representatives of the refinery at issue be qualified to participate in the relevant activities for which they will serve as employee representatives.

    2.3. Delete Section 5189.1(q)(2) and its language conferring rights on authorized collective bargaining agents.

    2.4. Define "effective participation" to mean "the timely invitation of designated employee representative to participate in the relevant process safety activity."

3. Revise Subsection 5189.1(*l*)(4)(D) and (E).

    3.1. Provide clear, specific criteria for performing the review referenced in Section 5189.1(*l*)(4)(D) including the meaning of the terms "achieved in practice" and "related industrial sectors."

3.2. Provide a reasonable and useful boundary on the geographic and technical scope of what publicly-available information on inherent safety measures and safeguards is required to be identified, analyzed and documented.

3.3. Provide guidance on resolving Hazard Control Analysis scenarios where an inherent safety measure or safeguard for one hazard adversely impacts the refinery's control of other hazards.

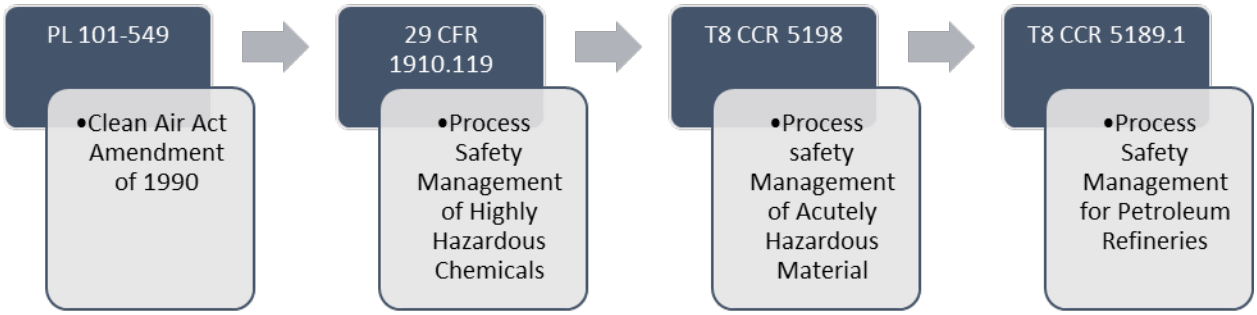
3.4. Eliminate the prescriptive order of priorities in 5189.1(*l*)(4)(E) for selecting recommended safety measures and safeguards.

4. Revise the definition of "highly hazardous material" in Section 5189.1(c).

4.1. The definition of "highly hazardous material" be revised to provide a clear and straightforward way for employers to understand what chemicals are subject to the regulation.

4.2. The definition of "highly hazardous material" be revised to include the associated threshold quantities within Section 5189.

BACKGROUND/HISTORY



On November 15, 1990, Public Law 101-549, Clean Air Act Amendment (CAAA) of 1990 was signed into law and required Federal OSHA to promulgate *a chemical process safety standard designed to protect employees from hazards associated with accidental releases of highly hazardous chemicals in the workplace.* These requirements were integrated into 42 United States Code (U.S.C.) Chapter 85, *Air Pollution Prevention and Control*. Further, the United States Environmental Protection Agency (EPA) adopted requirements under 40 Code of Federal Regulations (CFR) 300 et seq.

On June 1, 1992, pursuant to 29 U.S.C Section 655, Federal OSHA adopted 29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals.

On May 28, 1992 the Occupational Safety and Health Standards Board (Board) adopted Title 8, Section 5189, Process Safety Management of Acutely Hazardous Materials.

On July 15, 2016, the Board proposed Title 8, Section 5189.1. The proposal was in parallel with the Governor's Office of Emergency Services (CalOES) proposal for Title 19, Article 6.5 of the California Accidental Release Prevention Program (CalARP). (Sections 2735.3 and 2762 through 2762.17, among others.)

On September 15, 2016 the Board adopted Title 8, Section 5189.1, Process Safety Management for Petroleum Refineries.

During the 2016 rulemaking process, Western States Petroleum Association and others filed comments to the Board and CalOES. CalOES and the Board amended their proposals independently as the Title 8 requirements protect employees and the Title 19 requirements protect the public at large. The Board proposal and the CalOES proposal were adopted with independent amendments. No subsequent effort was identified to reconcile the adopted regulations.

PETITIONER'S ASSERTIONS

Request 1.

Request 1.1

The Petitioner requests that "minor equipment changes" be specifically excluded from the definition of "major change."

The Petitioner describes the definition of "major change" as vague and overly broad when coupled with the definitions of "process equipment" and "highly hazardous materials." The Petitioner claims that the definition of "major changes" could apply to "minor changes/minor equipment changes" in addition to "critical changes." The Petitioner describes "critical changes" as those "appropriately considered major changes." Minor equipment changes, the Petitioner argues, in the absence of a stated exclusion from the definition of "major changes," could divert focus and resources away from "critical changes."

Request 1.2

The Petitioner also requests that the phrase "worsens an existing process safety hazard" be deleted from the third bulleted item within the definition of "major change".

> *Major Change. Any of the following:*
>
> *[…]*

> • *Any alteration that introduces a new process safety hazard ~~or worsens an existing process safety hazard~~.*

The Petitioner claims that the phrase does not put regulated community on notice of what constitutes a "major change."

Request 1.3

The Petitioner requests the Board provide consistency with the definition of "major change" with the CalARP regulations.

The Petitioner argues that the Title 8 definition of "major change" is different from the CalARP regulations enacted by the CalOES. The Petitioner asserts that there is uncertainty as to how the regulated community would comply with both regulations.

Request 2.

Request 2.1 and 2.2

The Petitioner requests that the definition of employee representative be revised to require all employee representatives be employees of the refinery. Second, the Petitioner requests that the employees be qualified to participate in the relevant activities for which they will serve as employee representatives.

The Petitioner argues that regulation has different requirements for unionized employees than non-unionized employees. The Petitioner postulates that those chosen to represent employees at unionized facilities might be "unqualified" or "unfamiliar" with the facility equipment, processes or lack the requisite experience for the task.

Request 2.3

The Petitioner requests the deletion of Section 5189.1(q)(2):

> *(q) Employee Participation.*
>
> *(1) In consultation with employees and employee representatives, the employer shall develop, implement and maintain a written plan to effectively provide for employee participation in all PSM elements, pursuant to this section. The plan shall include provisions that provide for the following:*
>
> *[…]*

> ~~*(2) Authorized collective bargaining agents may select (A) employee(s) to participate in overall PSM program development and implementation planning and (B) employee(s) to participate in PSM teams and other activities, pursuant to this section.*~~

The Petitioner claims that the requirement of Section 5189.1(q)(2) impermissibly interferes in the collective bargaining process. The Petitioner argues the interference stems from "specifying the rights of unions to appoint employee representatives and the terms for employee participation in safety programs in refineries with union-represented employees."

Request 2.4

The Petitioner requests that "effective[-]participation[1]" be established as defined terminology for the purposes of Section 5189.1. Moreover, the Petitioner requests that "effective-participation" be defined to mean "the timely invitation of designated employee representatives to participate in relevant process safety activity."

The Petitioner argues that the regulation does not define or provide criteria for what constitutes "effective-participation."

Request 3.

Request 3.1

The Petitioner requests the Board provide clear, specific criteria for performing the review referenced in Section (*l*)(4)(D), including the meaning of the terms "achieved in practice" and "related industrial sectors".

The Petitioner asserts that in the absence of guidance of the terms "inherently safe", "achieved in practice" and "related industries" seemingly establishes a burden of requiring petroleum refineries to conduct a worldwide review of publicly available information regarding safety measures and safeguards and assess those safe guards.

[1] The Petitioner requests "Effective participation" to be defined. Staff substitutes "Effective-participation" to delineate the Petitioner's requested term from the regulatory requirement that employee participation be "effective."

Request 3.2

The Petitioner requests the Board provide a reasonable and useful boundary on the geographic and technical scope of what publicly-available information on inherent safety measures and safeguards is required to be identified, analyzed, and documented.

The Petitioner claims Section 5189.1(*l*)(4)(D) requires refineries to conduct a worldwide review of publicly available information regarding safety measures and safeguards.

Request 3.3

The Petitioner requests the Board provide guidance on resolving Hazard Control Analysis scenarios where an inherent safety measure or safeguard for one hazard adversely impacts the refinery's control of other hazards.

The Petitioner claims Section 5189.1(*l*)(4)(E) fails to provide any guidance for how to resolve scenarios in which there is a conflict between inherent safety measures for different hazards. The Petitioner puts forth the possibility of mitigating one hazard that may exacerbate the hazard of another or create a new hazard.

Request 3.4

The Petitioner requests the Board eliminate the prescriptive order of priorities in 5189.1(*l*)(4)(E) for selecting recommended safety measures and safeguards.

The Petitioner claims that "Section 5189.1 (*l*)(4)(E) includes prescriptive requirements for adopting safety measures and safe guards that are contrary to the performance based goals of the enabling statutes and regulations themselves."

Request 4.

Request 4.1

The Petitioner traces the definition of "highly hazardous material", "flammable gas", "flammable liquid", "toxic substance" and "reactive substance" to Federal OSHA requirements within the hazard communication regulation. The Petitioner asserts that the tests within the federal hazard communication regulation are not intended for process safety management purposes and are highly complex.

Request 4.2

The Petitioner argues that excluding threshold quantities minimums referenced in Section 5189 could result in very small quantities triggering the requirements of Section 5189.1.

STAFF EVALUATION

Relevant Standards

Federal Standards

Federal regulations 29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals applies to petroleum refineries.

In 2017, Federal OSHA issued OSHA 3918-08 2017 *Process Safety Management for Petroleum Refineries, Lessons Learned from the Petroleum Refinery Process Safety Management National Emphasis*. Within the publication, OSHA states:

> *Since the PSM standard was promulgated by OSHA in 1992, no other industry sector has had as many fatal or catastrophic incidents related to the release of highly hazardous chemicals (HHC) as the petroleum refining industry...*

Federal OSHA did not pursue promulgating a regulatory framework uniquely tailored to petroleum refineries.

Board staff is aware of the EPA's regulation under 40 CFR 300 et seq.:

> *40 CFR 300.3 Scope*
>
> *(a) The NCP [National Contingency Plan] applies to and is in effect for:*
>
> *[…]*
>
> *(2) Releases into the environment of hazardous substances, and pollutants or contaminants which may present an imminent and substantial danger to public health or welfare of the United States.*

The EPA regulations however, pertain to the response to release 'events' rather than release prevention efforts.

Also Staff is aware of 42 U.S.C. Chapter 85, *Air Pollution Prevention and Control*, which addresses similar issues to 40 CFR 300 regulations.

California Standards

Currently, there are at least two coincident regulations pertaining petroleum refineries.

Prior to the Board's adoption of Title 8, Section 5189.1, petroleum refineries were required to comply with Section 5189, *Process Safety Management of Acutely Hazardous Materials.* Since the adoption of *Process Safety Management for Petroleum Refineries* in 2017*,* only minor amendments have been adopted by the Board.

As stated previously, the CalOES Title 19, Division 2, Chapter 4.5 applies to petroleum refineries with particular requirements within Article 6.5, *Program 4 Prevention Program*.

Consensus Standards

The American Petroleum Institute (API) publishes international standards that pertain to refinery safety. Additionally, the American Society of Mechanical Engineers (ASME) and American Institute of Chemical Engineers (AIChE) publish international standards related to equipment used in refineries. AIChE's Center for Chemical Process Safety (CCPS) also provides guidelines and safety requirements relevant to process safety in petroleum refineries.

Other Standards, Guidelines, Codes

The European Union (EU), the United Kingdom (UK), China, and India all have adopted some version of the process safety management regulations. China's is based on the 29 CFR 1910.119, the EU adopted the Seveso III Directive which also serves as the basis in the UK. India's regulatory framework addresses process safety management through a series of adopted rules.

Staff Analysis

Division's Form 9 to the Board.

Board staff is aware of the Division request for change in regulations filed with the Board on April 9, 2020. Board staff is preparing an Advisory Committee to examine that proposal. This Petition analysis does not include any position, stated or implied, of the Division's April 9, 2020 request.

Title 8, Section 5189 and 29 CFR 1910.119.

Regarding references to Title 8, Section 5189 and 29 CFR 1910.119, Board staff includes rationale from the respective rulemakings as they may inform the rationale related to Title 8, Section 5189.1.

Request 1

Regarding Petitioner's Request 1, Board staff concludes the following:

- Request 1.1 – The definition of "major change" is not, in itself, vague and overbroad. The exclusion of "minor equipment changes" from "major change" without scrutiny does not improve safety.

- Request 1.2 – "Worsens" in the context of an "existing process safety hazard" is not an impediment to the determination of a "major change."

- Request 1.3 – The definition of "major change" does not require an identical definition to that included in Title 19.

Request 1.1

The definition of "major change" relies on three parts, the Petitioner's Request 1.1 focuses on the first bulleted part.

Title 8, Section 5189.1(c) defines "major change" as:

> *Major Change. Any of the following:*
>
> *• Introduction of a new process, new process equipment, or new highly hazardous material; [Emphasis added]*
>
> *[…]*

The Petitioner references from Section 5189.1(c):

> *Process Equipment. Equipment, including pressure vessels, rotating equipment, piping, instrumentation, process control, or appurtenance, related to a process.*
>
> *Highly Hazardous Material. A flammable liquid or flammable gas, or a toxic or reactive substance.*

Note: the Petitioner's request regarding the definition of "highly hazardous material" is the subject of "Request 4" and examined in Request 4.1.

Board staff references also from Section 5189.1(c):

> *Change. Any alteration in process chemicals, technology, procedures, process equipment, facilities or organization that could affect a process. A change does not include replacement-in-kind.*

> *Replacement-in-kind. A replacement that satisfies the design specifications.*

Absent any further context within the Petition, Board staff presumes that what the Petitioner calls a "minor equipment change" is a "new process equipment." Board staff must also assume a "minor equipment change" is not a "replacement-in-kind" otherwise, the "minor equipment change" would not be categorized as a "major change."

The distinction Board staff sees is that "major change" and "change" are materially different in one respect relevant to the Petitioner's request. Major change specifies for inclusion "new" (e.g. new process, new process equipment, and new highly hazardous materials).

One must presume a new process, new process equipment and new highly hazardous substance, have not been examined through a Process Hazard Analysis (PHA), Hierarchy of Hazard Controls Analysis (HCA), Damage Mechanism Review (DMR) and Human Factors analysis for the facility. Regardless of how 'minor' a "minor equipment change" may be, the necessity for scrutiny stems from a lack of prior examination.

The Petitioner essentially argues that not every new process equipment or new highly hazardous material necessitates a PHA, HCA, DMR and Human Factors analysis. To elaborate upon the analysis the Petitioner seeks to forego, major changes are considered, under the following:

5189.1(k)(4)

> *(4) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change may introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change. [Emphasis added]*

5189.1(*l*)(1)

> *(1) The employer shall conduct a Hierarchy of Hazard Controls Analysis (HCA) as a standalone analysis for all existing processes. For the HCA on existing processes, the team shall review the PHA while conducting the HCA. The HCA for existing processes shall be performed in accordance with the following schedule, and may be performed in conjunction with the PHA schedule:*
>
> *[…]*

5189.1(*l*)(2)(C)

> *(2) The employer shall also conduct an HCA in a timely manner as follows:*
>
> *[…]*

> *(C) As part of a MOC review, whenever a major change is proposed, pursuant to subsection (n); and, [Emphasis added]*

5189.1(n)(3)

> *(3) Prior to implementing a major change, the employer shall review or conduct a DMR pursuant to subsection (k) and perform an HCA pursuant to subsection (l). The findings of the DMR and recommendations of the HCA shall be included in the MOC documentation. [Emphasis added]*

5189.1(s)(2)

> *(2) The employer shall include a written analysis of Human Factors, where relevant, in major changes, incident investigations, PHAs, MOOCs and HCAs. The analysis shall include a description of the selected methodologies and criteria for their use. [Emphasis added]*

The Petitioner sets forth no criteria segregating "critical change" from "minor equipment change." Board staff does not agree with the Petitioner's assertion that new processes, new process equipment, and new highly hazardous materials which the Petitioner may claim as "minor" should, by definition (in this case, its amendment), be excluded as a "major change."

"Minor equipment change" and "critical change," as staff understands the Petitioner's request, is discerned through contextual scrutiny (as that required of a major change), not definition.

Request 1.2

The Petitioner also requests that the phrase "worsens an existing process safety hazard" be eliminated. The Petitioner claims that the phrase does not put the regulated community on notice of what constitutes a "major change."

Staff acknowledges that the word "worsens" could be revised but disagrees with the Petitioner that the regulated community does not have notice of what constitutes a "major change." In full context, the intent is clear. Grammatically, "worsen" modifies "an existing process safety hazard."

worsen verb

Save Word

wors·en | \ ˈwər-sᵊn \

worsened; **worsening** \ ˈwərs-niŋ, ˈwər-sᵊn-iŋ \

Definition of *worsen*

transitive verb

: to make worse

The language intends to include as a "major change," any alteration that 'makes worse,' 'the hazard.' How that manifests is through either increasing the severity of 'the hazard' or the increasing probability that the threat posed by 'the hazard' would be realized. Further, Board staff anticipates that the magnitude to which an alteration could exacerbate a hazard may also be raised as a concern for the definition. Whether incremental or substantial, the definition does not need to distinguish the extent at which an alteration exacerbates an existing hazard. Such appraisal is the function of the assessments required of a "major change" (e.g. PHA, DMR, etc.) rather than definitional exclusion.

Board staff sees no basis for the deletion of the phrase "worsens an existing process safety hazard." The deletion of the phrase (per the strikethrough below) limits the item to:

> • *Any alteration that introduces a new process safety hazard ~~or worsens an existing process safety hazard~~.*

The deletion eliminates from scrutiny changes that increase severity of 'the hazard' or increase the probability of the threat posed by 'the hazard.' Staff disagrees with the elimination of scrutiny characterized under this request.

Request 1.3

The Petitioner requests that the Title 8 definition match the Title 19 definition.

The Governor's report, *Improving Public and Worker Safety at Oil Refineries, Report of the Interagency Working Group on Refinery Safety*, posed the following:

> *The requirements of the Cal/OSHA PSM program and the CalARP program are very similar[…] The difference is in focus; Cal/OSHA's PSM program focuses on potential on-site chemical releases and processes that affect the health and safety of workers, while the CalARP RMP focuses on chemical releases with the potential for off-site impacts needing emergency response. [Emphasis added]*

WSPA posed similar concerns to CalOES and the Board, which have already received responses:

Final Statement of Reasons to CalARP regulation:

> *Cal OES agrees that the CalARP regulation and the PSM standard should be harmonized and consistent wherever appropriate. However, the mandates of the two programs differ: PSM is focused on protecting worker health and safety, whereas CalARP is focused on protecting communities. For this reason, there are some critical differences between the two regulations that are justified and necessary. In addition, consistent does not necessarily mean identical. If there are minor differences between the two regulations, but those differences do not lead to contradictory or significantly divergent requirements, then those differences would not render owners or operators "unable to…effectively comply with both regulatory schemes." Cal OES and DIR carefully evaluated the regulations and made a number of changes to enhance consistency where appropriate… [Emphasis added]*

The aim of Section 5189.1 is to protect those employees from catastrophic events. Such catastrophic events pose hazards that are greater in the immediate vicinity of the event than would be experienced outside the facility. To be clear, protection afforded to the public does not inherently establish protection of the employees, especially in releases contained within the confines of the facility. Conversely, it can be reasoned that preventative actions that protect employees, and in effect, prevent the migration of highly hazardous materials outside of the facilities perimeter, would protect the public. Presumably, where the regulations differ, and the CalARP requirements offers greater protection than the established Section 5189.1 requirements, Section 5189.1 should be bolstered through rulemaking.

Request 2

Regarding the Petitioner's Request 2, Board staff concludes the following:

- Request 2.1 – There is no occupational safety and health related basis to restrict the definition of "employee representative" to the employees of the refinery.

- Request 2.2 – The definition of "employee representative" does not need modification. "Employee representatives" are not to be conflated with "operating and maintenance employees." "Operating and maintenance employees," when part of teams, are required to have experience and expertise specific to the process analysis for which they participate. Employee representatives are required to be consulted as part of the PHA. Only when "employee representatives" function in the role of "operating and maintenance employees" as part of teams is their experience and expertise necessary.

- Request 2.3 – Section 5189.1(q)(2) to the extent that the language confers rights on authorized collective bargaining agents, cannot be reasonably assessed by Board staff.

- Request 2.4 – The Board did not create new terminology (i.e. "effective participation"), rather the Board called for employee participation to be "effective." Establishing a compound term "effective-participation" and inserting it into the context of Section 5189.1 undermines the aims of employee participation. Further, creating and defining "effective-participation" as merely the extension of an 'invitation' is inconsistent with the "consultation" aims of Section 5189.1 and its predecessors.

Employee representatives

The role of employee representatives and their participation in process safety management is codified in U.S.C., Title 29, and directs Federal OSHA to promulgate a safety standard which requires employers to "consult with employees and their representatives…"

Title 29, U.S.C. Section 655:

CHEMICAL PROCESS SAFETY MANAGEMENT

Pub. L. 101–549, title III, §304, Nov. 15, 1990, 104 Stat. 2576, provided that:

(a) CHEMICAL PROCESS SAFETY STANDARD.—The Secretary of Labor shall act under the Occupational Safety and Health Act of 1970 (29 U.S.C. 653) [29 U.S.C. 651 et seq.] to prevent accidental releases of chemicals which could pose a threat to employees.

[…]

"(c) ELEMENTS OF SAFETY STANDARD.—Such standard shall, at minimum, require employers to—

[…]

"(3) consult with employees and their representatives on the development and conduct of hazard assessments and the development of chemical accident prevention plans and provide access to these and other records required under the standard; [Emphasis added]

Employee participation was considered essential to 29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals. Moreover, Federal OSHA expressed the following when adopting 29 CFR 1910.119(c):

> *…OSHA believes that employers must consult with employees and their representatives on the development and conduct of hazard assessments (OSHA's process hazard analyses) and consult with employees on the development of chemical accident prevention plans (the balance of the OSHA required elements in the process safety management standard)…*
>
> *…Therefore, as suggested by several rulemaking participants, OSHA has added language contained in the [Clean Air Act Amendments of 1990 (CAAA)] to the final rule in a new provision, paragraph (c). OSHA believes that this new provision, which requires broad and active employee participation in all elements of the process safety management program through consultation will enhance the overall program. OSHA also believes that the CAAA requirements demand that an employer carefully consider and structure the plant's approach to employee involvement in the process safety management program. [Emphasis added]*

Employee participation is a requirement under Section 5189(d) and 5189(p), which, prior to the adoption of Section 5189.1, applied to petroleum refineries.

Section 5189(d) states:

> *(d) Process Safety Information. The employer shall develop and maintain a compilation of written safety information to enable the employer and the employees operating the process to identify and understand the hazards posed by processes involving acutely hazardous, flammable and explosive material before conducting any process hazard analysis required by this regulation. The employer shall provide for employee participation in this process. Copies of this safety information shall be made accessible and communicated to employees involved in the processes, and include:[…] [Emphasis added]*

Section 5189(p) states:

> *(p) Employee Participation. The employer shall develop a written plan of action to ensure employee participation in process safety management which includes:*
>
> *(1) Employer consultation with employees and their representatives on the conduct and development of the elements of process safety management required by this section;[…] [Emphasis added]*

Under Title 8, Section 5189.1 Employee Representative is defined as:

> *Employee Representative. A union representative, where a union exists, or an employee-designated representative in the absence of a union that is on-site and qualified for the task. The term is to be construed broadly, and may include the*

> *local union, the international union, or a refinery or contract employee designated by these parties, such as the safety and health committee representative at the site.*

From the Final Statement of Reasons for Title 8, Section 5189.1 (pp.1):

> *[The proposed modification regarding non-union employee representatives] is necessary to clarify the definition. Employees are entitled to select representatives of their choosing where a union exists. In the absence of a union, employee-designated representatives must be onsite and qualified for the task. Employees and employee representatives must meet the qualifications provided for under the various subsections of the proposal. The proposed modification does not limit an employer's right and remedies to protect trade secrets. [Emphasis added]*

Request 2.1 & 2.2

The Petitioner requests that the Board limit "employee representatives" to solely personnel employed at the facility. Currently, the existing regulations defines in part:

> *Employee Representative. A union representative, where a union exists, or an employee-designated representative in the absence of a union that is on-site and qualified for the task[…] [Emphasis added]*

The phrase "that is on-site and qualified for the task" was added in response to comments. Regarding the Petitioner's request that employee representative be defined strictly as on-site employees of the refinery, the Board had already explained the rationale within the Final Statement of Reasons.

The Final Statement of Reasons for Title 8, Section 5189.1 (pp.1-2):

> *Collective bargaining agreements are between the union and the employer. For purposes of this subsection (q), employees are entitled to select representatives of their choosing, including experts who may be outside the refinery or with other unions who are not employed directly by the refinery. The proposed requirements ensure adequate employee participation for all refineries.*

The Petitioner also requests that the Board modify the definition to require the "employee representative" to be qualified to participate in the relevant activity(ies) for which they will serve as employee representatives.

The Petitioner states:

> *…employee representatives selected at unionized refineries may be unqualified for the task because they lack the requisite experience required for the task, and/or are unfamiliar with the refinery's equipment and processes if they are not employees at that facility. This provision would allow unqualified employee representatives to participate in safety programs, thereby jeopardizing refinery safety.*

It is important to note that Federal OSHA raised in their response to comments in the federal final rule regarding team approaches under 1910.119(e)(3):

> *[…]As discussed previously, a great number of participants objected to the inclusion of an employee representative (union representative) on these teams;[…], OSHA has decided not to specifically require an employee representative on the team. Instead, the Agency has chosen to include a {final paragraph (c)} addressing employee participation in the process safety management program, which would require employee participation in the process hazard analysis by requiring that employers consult with employees and their representatives on the conduct and development of process hazard analyses[…] However, OSHA continues to require that an employee who has experience and knowledge specific to the process being evaluated be included on the team. [Emphasis added]*

Though Federal OSHA did not choose to require employee representatives on the team in 29 CFR 1910.119, consultation with employee representatives remains important to the analysis and is consistent with the CAAA. Federal OSHA clearly delineates between "operating and maintenance employee" team members (selected to participate on teams) and "employee representatives." Section 5189.1 repeatedly draws a similar distinction by requiring provisions for employee participation pursuant to subsection (q):

> *(q) Employee Participation.*
>
> *(1) In consultation with employees and employee representatives, the employer shall develop, implement and maintain a written plan to effectively provide for employee participation in all PSM elements, pursuant to this section. The plan shall include provisions that provide for the following:*
>
> *(A) Effective participation by affected operating and maintenance employees and employee representatives, throughout all phases, in performing PHAs, DMRs, HCAs, MOCs, Management of Organizational Change assessments (MOOCs), Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs and PSSRs; [Emphasis added]*

> *(B) Effective participation by affected operating and maintenance employees and employee representatives, throughout all phases, in the development, training, implementation and maintenance of the PSM elements required by this section; and, […] [Emphasis added]*

Where refinery and process specific information is required, the regulations set forth requirements for the inclusion of "operating employees" in addition to providing for employee participation pursuant to subsection (q).

Section 5189.1(e)(4) requires:

> *(4) The PHA shall be performed by a team with expertise in engineering and process operations, and shall include at least one refinery operating employee who currently works in or provides training in the unit, and who has experience and knowledge specific to the process being evaluated. The team shall also include one member with expertise in the specific PHA methodology being used. The employer shall provide for employee participation pursuant to subsection (q). As necessary, the team shall consult with individuals with expertise in damage mechanisms, process chemistry, SPA and control systems. [Emphasis added]*

Section 5189.1(*l*)(3) requires:

> *(3) HCAs shall be documented, performed, updated and revalidated by a team with expertise in engineering and process operations. The team shall include one member knowledgeable in the HCA methodology being used and at least one operating employee who currently works on the process and has expertise and experience specific to the process being evaluated. The employer shall provide for employee participation pursuant to subsection (q). As necessary, the team shall consult with individuals with expertise in damage mechanisms, process chemistry and control systems. [Emphasis added]*

Section 5189.1(k)(7) requires:

> *(7) The DMR shall be performed by a team with expertise in engineering, equipment and pipe inspection, damage and failure mechanisms, and the operation of the process or processes under review. The team shall include one member knowledgeable in the specific DMR methodology being used. The employer shall provide for employee participation pursuant to subsection (q). [Emphasis added]*

Federal OSHA also notes in the Federal Final Rule for 29 CFR 1910.119:

> *Additionally, when more than one person is performing the analysis, different disciplines, opinions, and perspectives will be represented and additional knowledge and expertise will be contributed to the analysis. In fact, some companies even include an individual on the team who does not have any prior experience with the particular process being analyzed to help insure that a fresh view of the process is integrated into the analysis. [Emphasis added]*

Consultation with employee representatives does not require specific knowledge of the facility. Such refinery specific information may come from the represented employees themselves. For example, team members may provide the subject matter expertise from which employee representatives may rely. Operating and maintenance employees whose experience and expertise form the basis for their inclusion on the team may serve as subject matter experts to the employee representatives where specific gaps in knowledge may arise. Given the above requirements for experience and expertise, and Federal OSHA's guidance position related to the composition of teams in critical analyses, staff is unconvinced that employee representatives may 'jeopardize refinery safety' under the conditions the Petitioner theorizes.

Request 2.3

To the extent that the Petitioner charges that the requirement of Section 5189.1(q)(2) impermissibly interferes in the collective bargaining process, it is neither within the Board's staff capability nor expertise to evaluate. Board staff cannot provide an opinion related to matters outside of those pertaining to occupational safety and health.

Request 2.4

The Petitioner requests that "effective[-]participation" be defined. Moreover, the Petitioner requests that "effective-participation" be defined to mean "the timely invitation of designated employee representatives to participate in relevant process safety activity."

While the Board uses the phrase effective participation, it is not the intent of the Board to establish "effective-participation" as regulatory terminology as the Petitioner asserts. To Board staff's point, the regulation includes effective training, effective written procedures, and effective plan within Section 5189.1.

Rather, "effective" speaks to the nature and quality of "participation" as it does for "training," "procedures," and "plan."

"Effective" is defined as:


effective adjective

Save Word

ef·fec·tive | \ i-ˈfek-tiv, e-, ē-, ə- \

Definition of *effective* (Entry 1 of 2)

1 a : producing a decided, decisive, or desired effect
// an *effective* policy

[2]

The 'desired effect' can be traced to Federal OSHA's reasoning related to 29 CFR 1910.119(c), employee participation, which served as the basis for Title 8, Section 5189(p), employee participation, (and staff presumes,) the inspiration for Section 5189.1(q). As stated previously, "*OSHA believes that this new provision [29 CFR 1910.119(c)], which requires broad and active employee participation in all elements of the process safety management program through consultation will enhance the overall program.*"

The Petitioner's recommendation to define "effective-participation" as "the timely invitation of designated employee representative to participate in the relevant process safety activity" is a miniscule fraction of what can be considered "broad and active employee participation in all elements of the process safety management program." Further, relegating "effective-participation" to merely the extension of an 'invitation' is inconsistent with the "consultation" aims of Section 5189.1 and its predecessors.

Request 3

Regarding Petitioner's Request 3, Board staff concludes the following:

- Request 3.1 – "Achieved in practice" is not defined in Title 8. However, "achieved in practice" is used in the CAAA where additional context may be derived. "Related industrial sector" is not defined and is not linked through regulation or common usage to provide guidance to its meaning within Title 8.

[2] Merriam-Webster. (n.d.). Effective. In *Merriam-Webster.com dictionary*. Retrieved December 10, 2020, from https://www.merriam-webster.com/dictionary/effective

- Request 3.2 – The 'geographical and technological' scope presented in the 5189.1(*l*)(4)(D) is not overbroad. Process safety management has been an adopted practice in many industrialized nations. Process safety management related to petroleum refineries has been implemented around the globe. The Petitioner's request for clarity regarding the technical scope may be addressed through further examination of "achieved in practice" and "related industrial sector."

- Request 3.3 – Sections 5189.1(x)(3), 5189.1(x)(4), 5189.1(x)(5) and 5189.1(x)(6) provide sufficient remedy in selecting and assessing a proper course of action including the Petitioner's posed scenario.

- Request 3.4 – Section 5189.1(x)(3), 5189.1(x)(4), 5189.1(x)(5) and 5189.1(x)(6) establish a performance-based criteria for the implementation of safeguards.

Hierarchy of Hazard Control is defined in Section 5189.1(c):

> *Hierarchy of Hazard Control. Hazard prevention and control measures, in priority order, to eliminate or minimize a hazard. Hazard prevention and control measures ranked from most effective to least effective are: First Order Inherent Safety, Second Order Inherent Safety, and passive, active and procedural protection layers.*

Board staff observes that HCA is not directly described within Section 5189.1.

The Board's Initial Statement of Reasons described the HCA as:

> *The employer is required to ensure the safety and integrity of refinery processes by applying inherent safety measures and safeguards in a specific sequence and priority order. The HCA includes:*
>
> *First-Order Inherent Safety Measure…*
>
> *Second-Order Inherent Safety Measure…*
>
> *Passive Safeguard…*
>
> *Active Safeguard...*
>
> *Procedural Safeguard…*
>
> *The HCA subsection requires that first- and second-order inherent safety measures be prioritized over passive or active safeguards, which must be prioritized over procedural safeguards.*

Request 3.1

Section 5189.1(*l*)(4)(D) states:

> *(l) Hierarchy of Hazard Controls Analysis.*
>
> *[…]*
>
> *(4) The HCA team shall:*
>
> *[…]*
>
> *(D) Identify, analyze, and document relevant, publically available information on inherent safety measures and safeguards. This information shall include inherent safety measures and safeguards that have been: 1. achieved in practice by the petroleum refining industry and related industrial sectors; and 2. required or recommended for the petroleum refining industry and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report; and[…] [Emphasis added]*

Title 19, Section 2762.13 states:

> *§ 2762.13. Hierarchy of Hazard Control Analysis.*
>
> *(a) The owner or operator shall conduct an HCA for all existing processes[…]*
>
> *(e) The HCA team shall:*
>
> *[…]*
>
> *(3) Identify, analyze, and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. Identify, analyze, and document relevant, publicly available information on inherent safety measures and safeguards. This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report. [Emphasis added]*

The Petitioner requests Section 5189.1 (*l*)(4)(D) be revised. Specifically, the Petitioner requests clarification related to “achieved in practice” and “related industries.”

"Achieved in practice" is used within Title 42, U.S.C. Chapter 85, *Air Pollution Prevention and Control*, but is not defined. While the meaning and intent of "achieved in practice" may be teased from within the context of the code, such an interpretation would not, in the context of Title 8, Section 5189.1, be readily apparent to the regulated public.

Board staff believes "achieved in practice" should be reviewed and discussed to foster clarity of its usage in the context of Title 8, Section 5189.1 and Title 19, Section 2762.13.

Board staff has found that "related industrial sectors" does not have a specific context within Title 8, Section 5189, 29 CFR 1910.119, 42 U.S.C. Chapter 85, or 40 CFR 300 et seq.

Board staff believes "related industrial sectors" should be reviewed and discussed to further foster clarity of its usage in the context of Title 8, Section 5189.1 and Title 19, Section 2762.13.

Request 3.2

The Petitioner requests that the Board establish geographical and technical scope boundaries to what constitutes publically available information on inherent safety measures and safeguards. It is unclear based upon the Petition what constitutes a technical boundary. Board staff asserts that examining "achieved in practice" and "related industrial sectors" will address the Petitioner's concerns related to the "technical scope."

It is unclear how establishing a geographical boundary improves employee safety. Process Safety Management exists globally. As stated previously, the UK, EU, China, and India have established rules and practices related to process safety management. Accompanying those rules are the potential means to improve process safety and thus enhance protection of employees. Excluding potential sources for safeguards from consideration because of geographical boundaries is, in Board staff's opinion, arbitrary and without merit.

Request 3.3

The Petitioner requests the Board provide guidance on resolving HCA scenarios where an inherent safety measure or safeguard for one hazard adversely impacts the refinery's control of other hazards.

The Petitioner claims Section 5189.1(*l*)(4)(E) fails to provide any guidance for how to resolve scenarios in which there is a conflict between inherent safety measures for different hazards. The Petitioner puts forth the possibility of mitigating one hazard which may exacerbate the hazard of another or create a new hazard.

The Petitioner poses a scenario from which the Petitioner seeks a resolution through the application of Section 5189.1(*l*)(4)(E). The purpose of Section 5189.1(*l*)(4)(E) is to prepare recommendation from which Section 5189.1(x) provisions would be applied. The duty under Section 5189.1(*l*)(4)(E) would be to identify potential resolutions to hazards and as part of the recommendation, the shortcomings. Where shortcomings negatively impact the safety of a recommendation, it is under Section 5189.1(x) where the viability of a recommendation is accepted, rejected, or modified—specifically, Sections 5189.1(x)(3), 5189.1(x)(4), and the rationale be documented and communicated through 5189.1(x)(5) and 5189.1(x)(6):

> *(x) Implementation.*
>
> *[…]*
>
> *(3) The employer may reject a team recommendation if the employer can demonstrate in writing that the recommendation meets one of the following criteria: [Emphasis added]*
>
> *(A) The analysis upon which the recommendation is based contains material factual errors;*
>
> *(B) The recommendation is not relevant to process safety; or,*
>
> *(C) The recommendation is infeasible; however, a determination of infeasibility shall not be based solely on cost.*
>
> *(4) The employer may change a team recommendation if the employer can demonstrate in writing that an alternative measure would provide an equivalent or higher order of inherent safety. The employer may change a team recommendation for a safeguard if an alternative safeguard provides an equally or more effective level of protection. [Emphasis added]*

Request 3.4

Based upon the Petitioner's request, Board staff hypothesizes that the Petitioner requests the following change:

> *(4) The HCA team shall:*
>
> *[…]*
>
> *(E) For each process safety hazard identified in subsection (l)(4), develop written recommendations ~~in the following sequence and priority order:~~*
>
> *~~1. Eliminate hazards to the greatest extent feasible using first order inherent safety measures;~~*

> ~~*2. Reduce any remaining hazards to the greatest extent feasible using second order inherent safety measures;*~~
>
> ~~*3. Effectively reduce remaining risks using passive safeguards;*~~
>
> ~~*4. Effectively reduce remaining risks using active safeguards; and,*~~
>
> ~~*5. Effectively reduce remaining risks using procedural safeguards.*~~
>
> *[…]*

As stated previously, the duty under Section 5189.1(*l*)(4)(E) would be to identify potential resolutions to hazards, prepare recommendations, and as part of the recommendations, to identify shortcomings of those potential resolutions to hazards. Removing the sequence and priority order from the development of recommendations could result in examining solutions that could shy away from first and second order measures as sources of hazard elimination and mitigation.

First and second order inherent safety measures are explained in the definition of "inherent safety" under Section 5189.1(c).

> • *First Order Inherent Safety Measure. A measure that eliminates a hazard. Changes in the chemistry of a process that eliminate the hazards of a chemical are usually considered first order inherent safety measures; for example, by substituting a toxic chemical with an alternative chemical that can serve the same function but is non-toxic. [Emphasis added]*
>
> • *Second Order Inherent Safety Measure. A measure that effectively reduces a risk by reducing the severity of a hazard or the likelihood of a release, without the use of add-on safety devices. Changes in process variables to minimize, moderate and simplify a process are usually considered second order inherent safety measures; for example, by redesigning a high-pressure, high-temperature system to operate at ambient temperatures and pressures. [Emphasis added]*

It is important to note that Title 19 also requires the preparation of written recommendations:

> *Title 19, Section 2762.13*
>
> *Section 2762.13. Hierarchy of Hazard Control Analysis.*
>
> *[…]*
>
> *(f) For each process safety hazard identified using the analysis required by subdivision (e), the team shall develop written recommendations to eliminate hazards to the greatest extent feasible using first order inherent safety*

> *measures. The team shall develop written recommendations to reduce any remaining hazards to the greatest extent feasible using second order inherent safety measures. If necessary, the team shall also develop written recommendations to address any remaining risks in the following sequence and priority order: [Emphasis added]*
>
> *(1) Effectively reduce remaining risks using passive safeguards;*
>
> *(2) Effectively reduce remaining risks using active safeguards;*
>
> *(3) Effectively reduce remaining risks using procedural safeguards.*

Title 19 and Title 8 require essentially the same priority in preparing written recommendations (i.e. first order inherent safety measures, second order inherent safety measures, passive safeguards, active safeguards, and finally procedural safeguards). As stated in response to Request 3.3, the development of recommendations is separate and apart from selecting recommendations for implementation. Board staff views the deletion of the priority order would not improve occupational safety and health afforded employees under the existing standard.

Request 4

Regarding Petitioner's Request 4, Board staff concludes the following:

- Request 4.1 – The definition of highly hazardous material does not require revision. Only the definitions within 29 CFR 1910.1200 Appendix A and B are incorporated by reference in Section 5189.1. The tests referenced need only be performed under the requirements of the Hazard Communication standard, Section 5194(d)(1). Specifically, "*Employers are not required to classify chemicals unless they choose not to rely on the classification performed by the manufacturer or importer for the chemical to satisfy this requirement.*"

- Request 4.2 – The current schema reflects more contemporary implementation of process safety management and should be augmented with threshold quantity limits. Board staff references both Title 19, Section 2770.5, Title 8, Section 5189 Appendix A, and the Seveso III, Directive 2012/18/EU as a starting point to establish threshold quantities.

<u>Request 4.1</u>

The Petitioner requests that the definition of "highly hazardous material" in Section 5189.1(c) be revised to provide a clear and straightforward way for employers to understand what chemicals are subject to the regulation. (Board staff evaluation of the Petitioner's request pertaining to threshold quantities will be addressed in Request 4.2)

According to the Petitioner, the terms referenced in the definition involve specific tests which are included within each Federal OSHA referenced appendix section. Each of the definitions referenced describe, in detail, the criteria for discernment. For example, a *flammable liquid means a liquid having a flash point of not more than 93°C (199.4°F);* a *flammable gas means a gas having a flammable range with air at 20°C (68°F) and a standard pressure of 101.3 kPa (14.7 psi).*

For the purposes of Section 5189.1, "highly hazardous material" is used when delineating "major changes."

Section 5189.1(c) defines:

> *Highly Hazardous Material. A flammable liquid or flammable gas, or a toxic or reactive substance.*
>
> *Flammable Gas. As defined in CCR Title 8, Section 5194, Appendix B.*
>
> *Flammable Liquid. As defined in CCR Title 8, Section 5194, Appendix B.*
>
> *Reactive Substance. A self-reactive chemical, as defined in CCR Title 8, Section 5194, Appendix B.*
>
> *Toxic Substance. Acute toxicity, as defined in CCR Title 8, Section 5194, Appendix A.*

For reference:

Terminology	**29 CFR 1910.1200 Appendix A and B definitions.**
Flammable liquid	*B.6 FLAMMABLE LIQUIDS* *B.6.1 Definition* *Flammable liquid means a liquid having a flash point of not more than 93°C (199.4°F).*
Flammable gas	*B.2 FLAMMABLE GASES* *B.2.1 Definition* *Flammable gas means a gas having a flammable range with air at 20°C (68°F) and a standard pressure of 101.3 kPa (14.7 psi).*

Terminology	**29 CFR 1910.1200 Appendix A and B definitions.**
Toxic substance	*A.1 ACUTE TOXICITY* *A.1.1 Definition* *Acute toxicity refers to those adverse effects occurring following oral or dermal administration of a single dose of a substance, or multiple doses given within 24 hours, or an inhalation exposure of 4 hours.*
Reactive substance	*B.8 SELF-REACTIVE CHEMICALS* *B.8.1 Definitions* *Self-reactive chemicals are thermally unstable liquid or solid chemicals liable to undergo a strongly exothermic decomposition even without participation of oxygen (air). This definition excludes chemicals classified under this section as explosives, organic peroxides, oxidizing liquids or oxidizing solids.* *A self-reactive chemical is regarded as possessing explosive properties when in laboratory testing the formulation is liable to detonate, to deflagrate rapidly or to show a violent effect when heated under confinement.*

It is unclear to Board staff, based upon the Petition, how "the definition creates significant uncertainty and risk of confusion or inconsistent application." First, the definitions are applicable to the Hazard Communication Standard (Title 8, Section 5194) which covers all General Industry employers. Second, the tests are not required to validate known substances to establish whether they are a "flammable liquid," "flammable gas," "toxic substance," or "reactive substance." The definitions under Section 5189.1(c), which pertain to "highly hazardous material," need only be tested where the employer chooses not to rely upon the classification performed by the manufacturer:

Section 5194(d)(1) allows:

> *(d) Hazard Classification.*
>
> *(1) Manufacturers and importers shall evaluate chemicals produced in their workplaces or imported by them to determine if they are hazardous and classify*

> *the chemicals in accordance with this section. For each chemical, the manufacturer or importer shall determine the hazard classes, and where appropriate, the category of each class that apply to the chemical being classified. Employers are not required to classify chemicals unless they choose not to rely on the classification performed by the manufacturer or importer for the chemical to satisfy this requirement. [Emphasis added]*

Where the substances cannot be readily classed as a flammable liquid or flammable gas, or a toxic or reactive substance, the hazards are required to be identified and communicated to employees under Title 8, Section 5194.

Board staff does find a disparity is the definition within Title 19, Section 2735.3. The Title 19 definition of "highly hazardous material" includes additional named substances (Table 1, 2, and 3) not included within Title 8, Section 5189.1.

Title 19, Section 2735.3:

> *(y) "Highly hazardous material" means a flammable liquid, flammable gas, toxic or reactive substance as those terms are defined: [¶]*
>
> *(1) flammable gas, as defined in California Code of Regulation (CCR) Title 8, §5194, Appendix B, [¶]*
>
> *(2) flammable liquid, as defined in CCR Title 8, §5194, Appendix B, [¶]*
>
> *(3) toxic substances as acute toxicity is defined in CCR Title 8, §5194, Appendix A, and [¶]*
>
> *(4) reactive substance as self-reactive chemical, as defined in CCR Title 8, §5194, Appendix B. [¶]*
>
> *Highly hazardous material includes all regulated substances listed in Tables 1, 2, and 3 [see Section 2770.5 List of Substances].*

Request 4.2

The threshold quantity limits established as part of the Federal OSHA PSM regulation were specifically adopted based upon identifying existing sources of hazardous substance lists:

> *The appendix A list has been drawn from a variety of relevant sources which include: The New Jersey "Toxic Catastrophe Prevention Act," the State of Delaware's "Extremely Hazardous Substances Risk Management Act," the World Bank's "Manual of Industrial Hazard Assessment Techniques," the Environmental Protection Agency's "Extremely Hazardous Substance List," the European Communities Directive on major accident hazards of certain industrial activities (82/501/EEC, sometimes called the Seveso Directive), the United Kingdom's "A Guide to the Control of Industrial Major Accident Hazards Regulations 1984," the American Petroleum Institute's RP 750, "Management of Process Hazards," the National Fire Protection Association's NFPA 49, "Hazardous Chemicals Data," and the Organization Resources Counselors, Inc.'s "Recommendations for Process Hazards Management of Substances with Catastrophic Potential."*

It is important to note that while Federal OSHA sourced appendix A from a number of different publications, many of those publications have since been revised, repealed, or augmented. Of note is the EU's (and UK's inclusion of) the Seveso III Directive Annex 1. Annex 1 includes both a list of "categories of dangerous substances" and "named dangerous substances." (see addendum 1). The "categories of dangerous substances" is an approach that Section 5189.1 utilizes, though the threshold limits within the EU directive are absent.

Including threshold quantity limits is reasonable to be consistent with the intent established within both 29 CFR 1910.119 and Title 8, Section 5189. Such limitations focus the requirements of Section 5189.1 on what Federal OSHA deemed as "those highly hazardous chemicals which present a potential catastrophic threat to employees." Board staff believes that the approach of identifying "categories of dangerous substances" and "named dangerous substances" with appropriate threshold quantity limits should be considered.

Conclusions

Regarding Petitioner's Request 1, Board staff concludes the following:

- Request 1.1 – The definition of "major change" is not, in itself, vague and overbroad. The exclusion of "minor equipment changes" from "major change" without scrutiny does not improve safety.

- Request 1.2 – "Worsens" in the context of an "existing process safety hazard" is not an impediment to the determination of a "major change."

- Request 1.3 – The definition of "major change" does not require an identical definition to that included in Title 19.

Regarding Petitioner's Request 2, Board staff concludes the following:

- Request 2.1 – There is no occupational safety and health related basis to restrict the definition of "employee representative" to the employees of the refinery.

- Request 2.2 – The definition of "employee representative" does not need to be modified. "Employee representatives" are not to be conflated with "operating and maintenance employees." "Operating and maintenance employees," when part of teams, are required to have experience and expertise specific to the process analysis for which they participate. Employee representatives are required to be consulted as part of the PHA. Only when "employee representatives" function in the role of "operating and maintenance employees" as part of teams is their experience and expertise necessary.

- Request 2.3 – Section 5189.1(q)(2) to the extent that the language confers rights on authorized collective bargaining agents, cannot be reasonably assessed by Board staff.

- Request 2.4 – The Board did not create new terminology (i.e. "effective-participation"), rather the Board called for employee participation to be "effective." Establishing a compound term "effective-participation" and inserting it into the context of Section 5189.1 undermines the aims of employee participation. Further, creating and defining "effective-participation" as merely the extension of an 'invitation' is inconsistent with the "consultation" aims of Section 5189.1 and its predecessors.

Regarding Petitioner's Request 3, Board staff concludes the following:

- Request 3.1 – "Achieved in practice" is not defined in Title 8. However, "achieved in practice" is used in the CAAA, where additional context may be derived. "Related industrial sector" is not defined and is not linked through regulation or common usage to provide guidance to its meaning within Title 8.

- Request 3.2 – The 'geographical and technological' scope presented in the 5189.1(*l*)(4)(D) is not overbroad. Process safety management has been an adopted practice in many industrialized nations. Process safety management related to petroleum refineries has been implemented around the globe. A geographical limitation regarding the sources of safeguards to protect employees does not further the aims of employee safety. The Petitioner's request for clarity regarding the technical scope may be addressed through further examination of "achieved in practice" and "related industrial sector."

- Request 3.3 – Sections 5189.1(x)(3), 5189.1(x)(4), 5189.1(x)(5) and 5189.1(x)(6) provide sufficient remedies in selecting and assessing a proper course of action, including the Petitioner's posed scenario.

- Request 3.4 – Section 5189.1(x)(3), 5189.1(x)(4), 5189.1(x)(5) and 5189.1(x)(6) establish a performance based criteria for the implementation of safeguards.

Regarding Petitioner's Request 4, Board staff concludes the following:

- Request 4.1 – The definition of "highly hazardous material" does not require revision. Extra-definitional portions of 29 CFR 1910.1200 Appendix A and B are not incorporated by reference in Section 5189.1. The tests referenced need only be performed under the requirements of Section 5194(d)(1). Specifically, "*Employers are not required to classify chemicals unless they choose not to rely on the classification performed by the manufacturer or importer for the chemical to satisfy this requirement.*"

- Request 4.2 – The current schema reflects more contemporary implementation of process safety management and should be augmented with threshold quantity limits. Board staff references both Title 19, Section 2770.5, Title 8, Section 5189 Appendix A, and the Seveso III, Directive 2012/18/EU as a starting point to establish threshold quantities.

STAFF RECOMMENDATION

Board staff recommends the following:

Request 1 should be DENIED

Request 2 should be DENIED

Request 3 should be GRANTED to the extent that an advisory committee consider amending or clarifying the phrases "achieved in practice" and "related industrial sector." Board staff references the CAAA of 1990 and subsequent state and federal codes including Title 19 to identify the intent of each phrase.

Request 4 should be GRANTED to the extent that an advisory committee consider amending Section 5189.1 to reflect a more contemporary scope of process safety management augmented with threshold quantity limits. Board staff references both Title 19, Section 2770.5 and Title 8, Section 5189 (including Appendix A), and the Seveso III, Directive 2012/18/EU as a starting point to establish threshold quantities.

Addendum 1: Directive 2012/18/EU (Seveso Directive III), Annex I, Part 1

PART 1

Categories of dangerous substances

This Part covers all dangerous substances falling under the hazard categories listed in Column 1:

Column 1	**Column 2**	**Column 3**
Hazard categories in accordance with Regulation (EC) No 1272/2008	**Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of**	
	Lower-tier requirements	**Upper-tier requirements**
Section 'H' – HEALTH HAZARDS		
H1 ACUTE TOXIC Category 1, all exposure routes	5	20
H2 ACUTE TOXIC – Category 2, all exposure routes – Category 3, inhalation exposure *route* (see note 7)	50	200
H3 STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE STOT SE Category 1	50	200
Section 'P' – PHYSICAL HAZARDS		
P1a EXPLOSIVES (see note 8) – Unstable explosives or – Explosives, Division 1.1, 1.2, 1.3, 1.5 or 1.6, or Substances or mixtures having explosive properties according to method A.14 of Regulation (EC) No 440/2008 (see note 9) and do not belong to the hazard classes Organic peroxides or Self-reactive substances and mixtures	10	50
P1b EXPLOSIVES (see note 8) Explosives, Division 1.4 (see note 0)	50	200

Column 1	Column 2	Column 3
Hazard categories in accordance with Regulation (EC) No 1272/2008	**Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of**	
	Lower-tier requirements	**Upper-tier requirements**
P2 FLAMMABLE GASES Flammable gases, Category 1 or 2	10	50
P3a FLAMMABLE AEROSOLS (see note 11.1) 'Flammable' aerosols *Category 1 or 2*, containing flammable gases Category 1 or 2 or flammable liquids Category 1	150 *(net)*	500 *(net)*
P3b FLAMMABLE AEROSOLS (see note 11.1) 'Flammable' aerosols *Category 1 or 2*, not containing flammable gases Category 1 or 2 nor flammable liquids category 1 (see note 11.2)	5 000 *(net)*	50 000 *(net)*
P4 OXIDISING GASES Oxidizing gases, Category 1	50	200
P5a FLAMMABLE LIQUIDS — Flammable liquids, Category 1, or — Flammable liquids Category 2 or 3 maintained at a temperature above their boiling point, or — Other liquids with a flash point ≤ 60 °C, maintained at a temperature above their boiling point (see note 12)	10	50

Column 1	Column 2	Column 3
Hazard categories in accordance with Regulation (EC) No 1272/2008	**Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of**	
	Lower-tier requirements	**Upper-tier requirements**
P5b FLAMMABLE LIQUIDS — Flammable liquids Category 2 or 3 where particular processing conditions, such as high pressure or high temperature, may create major-accident hazards, or — Other liquids with a flash point ≤ 60 °C where particular processing conditions, such as high pressure or high temperature, may create major-accident hazards (see note 12)	50	200
P5c FLAMMABLE LIQUIDS Flammable liquids, Categories 2 or 3 not covered by P5a and P5b	5 000	50 000
P6a SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES Self-reactive substances and mixtures, Type A or B or organic peroxides, Type A or B	10	50
P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES Self-reactive substances and mixtures, Type C, D, E or F or organic peroxides, Type C, D, E, or F	50	200
P7 PYROPHORIC LIQUIDS AND SOLIDS Pyrophoric liquids, Category 1 Pyrophoric solids, Category 1	50	200

Column 1	Column 2	Column 3
Hazard categories in accordance with Regulation (EC) No 1272/2008	**Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of**	
	Lower-tier requirements	**Upper-tier requirements**
P8 OXIDISING LIQUIDS AND SOLIDS Oxidizing Liquids, Category 1, 2 or 3, or Oxidizing Solids, Category 1, 2 or 3	50	200
Section 'E' – ENVIRONMENTAL HAZARDS		
E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1	100	200
E2 Hazardous to the Aquatic Environment in Category Chronic 2	200	500
Section 'O' – OTHER HAZARDS		
O1 Substances or mixtures with hazard statement EUH014	100	500
O2 Substances and mixtures which in contact with water emit flammable gases, Category 1	100	500
O3 Substances or mixtures with hazard statement EUH029	50	200

State of California
Department of Industrial Relations
Division of Occupational Safety and Health

Memorandum

Date: March 3, 2021

To: Christina Shupe, Executive Officer
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833

From: Eric Berg, Deputy Chief of Health Eric Berg
Division of Occupational Safety and Health

Subject: Evaluation of Petition No. 584 to amend Title 8 Section §5189.1, Process Safety Management for Petroleum Refineries.

On June 2, 2020 the Division of Occupational Safety and Health (Cal/OSHA) received a petition from Oyango Snell (petitioner), Senior Vice President and General Counsel for the Western Petroleum States Association (WSPA). The petition seeks to amend Title 8, Section §5189.1 *Process Safety Management for Petroleum Refineries*. WSPA is a trade association that represents companies that explore for, produce, refine, transport, and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states.

Labor Code Section 142.2 permits interested persons to propose new or revised standards concerning occupational safety and health to the Occupational Safety and Health Standards Board (Standards Board). Labor Code section 147 requires the Standards Board to refer to Cal/OSHA for evaluation of any proposed occupational safety and health standards.

This petition follows a Cal/OSHA "Request for New or Change in Existing, Safety Order" (Cal/OSHA Form-9) to amend section 5189.1 (see Attachment 1) from April 2020.

Section 5189.1 has been tremendously important and effective in protecting the health and safety of workers, and have been effectively enforced for several years.

Cal/OSHA disagrees with the specific requests set forth in the Petition. However, Cal/OSHA agrees that possible changes (as identified in the Cal/OSHA Form 9) should be considered by an Advisory Committee process in which the petitioner would have an opportunity to participate.

Cal/OSHA 9

State of California
Department of Industrial Relations

Division of Occupational Safety and Health

1. Date: April 9, 2020
2. Eng/IH: Clyde Trombettas, Statewide Manager, PSM
3. Region/District/Unit: PSM UNIT

REQUEST FOR NEW, OR CHANGE IN EXISTING, SAFETY ORDER

4. Industry:

Petroleum Industry

5. Proposal for New Safety Order or Change in Existing Safety Order:

Change in existing safety order; see Part 2.

PART 1
NEW SAFETY ORDER

6. Hazard Description (include process, condition, machinery, equipment or product involved):

N/A – see Part 2.

7. Recommended New Safety Order Language (Use any guidelines, standards or codes of work practices):

N/A – see Part 2.

PART 2
CHANGE IN EXISTING SAFETY ORDER

8. Reason(s) for request (employer's appeal granted, advice of Legal Unit Staff, Safety Order needs clarification or other):

Safety Order Needs Clarification

A stakeholder has expressed concern that the current definition of "employee representative" imposes the requirements of being "on-site" and "qualified for the task" only on an employee representative in a non-union workplace. Although the Division of

Occupational Safety and Health ("Cal/OSHA") disagrees with this interpretation, which is contrary to both intent and Cal/OSHA enforcement, the sentence structure and punctuation in the current text may have led to the concern. Cal/OSHA proposes clarifying the regulation to make clear that these requirements apply to employee representatives in both union and non-union workplaces. Cal/OSHA also proposes clarifying that the employee representative is responsible for selecting the employees who participate in the PSM program and other PSM-related activities.

9. Section/Subsection reference to existing Title 8 Safety Order:

Title 8 section 5189.1(c) Definitions: Employee Representative
Title 8 section 5189.1(q)(2) Employee Participation

10. Suggested change(s) to existing Safety Order (exact new wording):

The Cal/OSHA Process Safety Management Unit proposes the following changes:

New language with exact wording changes indicated in black-lining format:

Title 8 section 5189.1(c), Definitions:

Employee Representative. ~~A union representative, where a union exists, or an employee designated representative~~ An individual, who is on-site and qualified for the task, designated by an authorized collective bargaining agent or by the employees~~,~~ in the absence of an authorized collective bargaining agent. ~~a union that is on-site and qualified for the task. The term is to be construed broadly, and may include the local union, the international union, or a refinery or contract employee designated by these parties, such as the safety and health committee representative at the site.~~

Title 8 section 5189.1(q)(2), Employee Participation:

~~"Authorized collective bargaining agents may~~ The employee representative(s) select(s) (A) employee(s) to participate in overall PSM program development and implementation planning and (B) employee(s) to participate in PSM teams and other activities, pursuant to this section.

New exact wording without black-lining indicating the changes:

Title 8 section 5189.1(c) Definitions: Employee Representative

An individual, who is on-site and qualified for the task, designated by an authorized collective bargaining agent or by the employees in the absence of an authorized collective bargaining agent.

Title 8 section 5189.1(q)(2), Employee Participation:

The employee representative(s) select(s) (A) employee(s) to participate in overall PSM program development and implementation planning and (B) employee(s) to participate in PSM teams and other activities, pursuant to this section.

11. Signature of Requestor: _____

12. Signature of Supervisor: _____

Cal/OSHA Form 9

State of California
Department of Industrial Relations
Division of Occupational Safety and Health

1. Date: April 9,2020
2. Eng/IH: Clyde Trombettas, Statewide Manager,PSM
3. Region/District/Unit: PSM UNIT

REQUEST FOR NEW, OR CHANGE IN EXISTING, SAFETY ORDER

4. Industry:

Petroleum Industry

5. Proposal for New Safety Order or Change in Existing Safety Order:

Change in existing safety order; see Part 2.

PART 1
NEW SAFETY ORDER

6. Hazard Description (include process, condition, machinery, equipment or product involved):

N/A – see Part 2.

7. Recommended New Safety Order Language (Use any guidelines, standards or codes of work practices):

N/A – See Part 2.

PART 2
CHANGE IN EXISTING SAFETY ORDER

8. Reason(s) for request (employer's appeal granted, advice of Legal Unit Staff, Safety Order needs clarification or other):

Safety Order Needs Clarification

There has been concern expressed by some in the regulated industry that the definition of "Major Change" in the existing Safety Order could potentially be read more broadly than was intended. While the Division of Occupational Safety and Health

("Cal/OSHA") does not necessarily agree with such characterization or concern, it has concluded that the definition would benefit from minor changes and clarifying language.

In addition, the proposed changes will largely align the definition of "Major Change" in the Cal/OSHA Process Safety Management ("PSM") regulations with the definition of the same term in the California Office of Emergency Services ("Cal OES") Accidental Release Prevention regulations (referred to as "Program 4" or the "CalARP Program"). As the PSM and CalARP regulations have a number of parallel provisions, more closely aligning the definition of "Major Change" may provide benefits to enforcement efforts, as well as to the public and regulated community.

The clarifications proposed below will ensure consistent future enforcement and promote safety at refineries by focusing critical resources on the major changes and resulting potential process safety hazards that Cal/OSHA intended the PSM regulations to address.

9. Section/Subsection reference to existing Title 8 Safety Order:

Title 8 section 5189.1(c) Definitions: Major Change

10. Suggested change(s) to existing Safety Order (exact new wording):

The Cal/OSHA Process Safety Management Unit proposes the following changes:

Title 8 section 5189.1(c) Definitions:

New language with exact wording changes indicated in black-lining format:

"Major Change"~~.~~ means: (1) ~~Any of the following: I •~~ introduction of a new process, or (2) introduction of new process equipment~~,~~ or new highly hazardous material that results in any operational change outside of established safe operating limits; or (3) • A~~a~~ny ~~operational change outside of established safe operating limits; or, • Any~~ alteration in a process, process equipment, or process chemistry that introduces a new process safety hazard or worsens an existing process safety hazard.

New exact wording without black-lining indicating the changes:

"Major change" means: (1) introduction of a new process, or (2) introduction of new process equipment or new highly hazardous material that results in any operational change outside of established safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new process safety hazard or increases an existing process safety hazard.

11. Signature of Requestor: _____

12. Signature of Supervisor: _____

Oyango A. Snell, Esq.
Senior Vice President and General Counsel

May 22, 2020

Ms. Christina Shupe, Executive Officer
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833

via e-mail at: oshsb@dir.ca.gov

Re: Petition Requesting Change in Existing Safety Order - PSM Section 5189.1

Dear Ms. Shupe:

The Western States Petroleum Association (WSPA) formally petitions the Occupational Safety and Health Standards Board (OSHSB) to request a change in Title 8, Section 5189.1 of the General Industry Safety Orders, Process Safety Management for Petroleum Refineries (CalPSM Section 5189.1). Subsections of concern in the current version of CalPSM Section 5189.1 are as follows:

- §5189.1(c) Definition of Major Change
- §5189.1(c) Definition of Employee Representative and §5189.1(q)(1) & (2) Employee Participation
- §5189.1(l)(4)(D) & (E) Hierarchy of Hazard Controls Analysis
- §5189.1(c) Definition of Highly Hazardous Material

WSPA is a non-profit trade association that represents companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states.

It is our understanding that the California Department of Industrial Relations (Division of Occupational Safety and Health) has submitted to OSHSB Cal/OSHA Form 9s (requests for change in existing safety orders) for: §5189.1(c) Definitions: Major Change, §5189.1(c) Definitions: Employee Representative, and §5189.1(q)(2) Employee Participation. WSPA supports making revisions to the definitions of "Major Change" and "Employee Participation" as well as changes to certain provisions of §5189.1(q) and further petitions OSHSB to revise the following subsections : §5189.1(l)(4)(D) & (E) Hierarchy of Hazard Controls Analysis and §5189.1(c) Definitions: Highly Hazardous Material, all as described below. Please note we reserve the right to request additional changes to the provisions identified in this petition.

Request 1: Change to §5189.1(c) - Definition of Major Change

WSPA requests revision of §5189.1(c) which currently states:

*"Major Change. **Any of the following**:*
- *Introduction of a new process, new process equipment, or new highly hazardous material;*
- *Any operational change outside of established safe operating limits; or,*
- *Any alteration that introduces a new process safety hazard or worsens an existing process safety hazard"*

When coupled with the definitions of "process equipment," and "highly hazardous material," the definition of "Major Change" is vague and overly broad and could apply to very minor equipment changes. Such a broad application could undermine the safety of a refinery and its employees by diverting focus and resources away from those critical changes that are appropriately considered "major" changes.

In addition, the regulation utilizes vague language such as the phrase "worsens an existing process safety hazard," which does not put the regulated community sufficiently on notice of what constitutes a "Major Change." Furthermore, because the definition of "Major Change" in the CalPSM regulation is different from the definition of the same term in the California Office of Emergency Services Accidental Release Prevention (CalARP) regulations enacted by the California Office of Emergency Services, there is uncertainty as to how the regulated community must comply with both regulations.

WSPA requests that this subsection of the regulation and related definitions be revised to (1) provide further clarity that minor equipment changes are not covered; (2) eliminate the reference to "worsens an existing process safety hazard," and (3) provide consistency with the definition of the "Major Change" in the CalARP regulations.

Request 2: Change to §5189.1(c) - Definition of Employee Representative and §5189.1(q) - Employee Participation

WSPA requests revision of both §5189.1(c) - Definition of Employee Representative and §5189.1(q) - Employee Participation.

The regulation requires the participation of an "employee representative" in all elements of process safety management. While the regulation requires "employee representatives" at non-union refineries to be qualified for the task and to work on-site at the refinery, "employee representatives" at refineries with unionized employees, by contrast, are not required to meet these same prerequisites. That is, employee representatives selected at unionized refineries may be *unqualified* for the task because they lack the requisite experience required for the task, and/or are unfamiliar with the refinery's equipment and processes if they are not employees at that facility. This provision would allow unqualified employee representatives to participate in safety programs, thereby jeopardizing refinery safety.

Section 5189.1(q)(2) also impermissibly interferes in the collective bargaining process by specifying the rights of unions to appoint employee representatives and the terms for employee participation in safety programs in refineries with union-represented employees.

Finally, Section 5189.1(q)(1) requires that employees and employee representatives be afforded the opportunity to "effective[ly] participat[e]" in all phases of process safety program development, implementation, training and maintenance, including individual process safety activities (*e.g.* incident investigations). However, the regulation does not define or provide any criteria for what constitutes "effective participation."

WSPA requests (1) that the definition of employee representative be revised to require that all employee representatives be employees of the refinery at issue and be qualified to participate in the relevant activity(ies) for which they will serve as employee representatives; (2) deletion of Section (q)(2) and its language conferring rights on authorized collective bargaining agents; and (3) that, as used in Section 5189(q)(1), "effective participation" be defined to mean the timely

invitation of the designated employee representative to participate in the relevant process safety activity.

Request 3: Change to §5189.1(l) - Hierarchy of Hazard Controls Analysis

WSPA requests revision of §5189.1(l)(4)(D). This section ostensibly requires petroleum refineries to conduct a worldwide review of publicly available information regarding safety measures and safeguards and then make a subjective determination as to whether a measure or safeguard is "inherently safe," and whether it has been "achieved in practice," without any guidance on the meaning of these terms. Moreover, this search is not limited to the measures and safeguards used in the petroleum refining industry but also includes "related industries," again without providing guidance as to what constitutes such "related industries."

Moreover, Section 5189.1(l)(4)(E) fails to provide any guidance for how to resolve scenarios in which there is a conflict between inherent safety measures for different hazards. For example, an inherent safety measure or safeguard that minimizes one hazard could potentially adversely impact inherent safety measures or safeguards that minimize one or more other hazards, could worsen another existing hazard, or could introduce a new hazard.

Section 5189.1(l)(4)(E) also includes prescriptive requirements for adopting safety measures and safeguards that are contrary to the performance-based goals of the enabling statutes and regulations themselves.

WSPA requests that this subsection be revised to (1) provide clear, specific criteria for performing the review referenced in Section (l)(4)(D), including the meaning of the terms "achieved in practice" and "related industrial sectors;" (2) provide a reasonable and useful boundary on the geographic and technical scope of what publicly-available information on inherent safety measures and safeguards is required to be identified, analyzed, and documented; (3) provide guidance on resolving Hazard Controls Analysis scenarios where an inherent safety measure or safeguard for one hazard adversely impacts the refinery's control of other hazards; and (4) eliminate the prescriptive order of priorities in Section (l)(4)(E) for selecting recommended safety measures and safeguards as inconsistent with the performance based nature of the PSM standards.

Request 4: Change to §5189.1(c) - Definitions of Highly Hazardous Material

WSPA requests revision of §5189.1(c) which currently states:

> *"Highly Hazardous Material. A flammable liquid or flammable gas, or a toxic or reactive substance."*
> *"Flammable Liquid. As defined in CCR Title 8, Section 5194, Appendix B."*
> *"Flammable Gas. As defined in CCR Title 8, Section 5194, Appendix B."*
> *"Toxic Substance. Acute toxicity, as defined in CCR Title 8, Section 5194, Appendix A."*
> *"Reactive Substance. A self-reactive chemical, as defined in CCR Title 8, Section 5194, Appendix B."*

The term "highly hazardous material" is defined as "A flammable liquid or flammable gas, or a toxic or reactive substance." Those terms are defined by reference to the California hazard communication regulation, which in turn references the federal hazard communication regulation, which provides specific tests for determining whether a chemical qualifies as a flammable liquid or gas or a toxic or reactive substance. These tests in the federal hazard communication regulation are not intended for process safety management purposes and are highly complex, requiring the application of chemical classification criteria, formulas, guidance values and other

hazard categories. This definition creates significant uncertainty and risk of confusion or inconsistent application. By contrast, the original CalPSM regulation contained tables that clearly identified the chemical substances covered by the regulation.

The regulation also eliminates the previous requirement for a threshold quantity, with the result that very small quantities could trigger the requirements of CalPSM, even if they present no meaningful process safety hazard. As with the definition of "Major Change," WSPA believes that the absence of meaningful threshold quantities risks unintended and undesired dilution of the overall process safety management effort.

WSPA requests that the definition of "highly hazardous material" in §5189.1(c) be revised to provide a clear and straightforward way for employers to understand what chemicals are subject to the regulation, with associated threshold quantities.

If you have any questions regarding this petition, please contact me (916) 325-3115 or via email at osnell@wspa.org.

Sincerely,

Oyango A. Snell, Esq.

Occupational Safety and Health Standards Board

Business Meeting
Petition 585

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of a Petition by:	)	
	)	PETITION FILE NO. 585
Marisa "Reese" Fortin	)	
Area HS&E Manager	)	
Sundt Construction	)	
41 Corporate Park, Ste. 310	)	
Irvine, CA 92606	)	
	)	
Applicant.	)	

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

_____
DAVID THOMAS, Chairman

_____
BARBARA BURGEL, Member

_____
KATHLEEN CRAWFORD, Member

_____
DAVE HARRISON, Member

_____
NOLA KENNEDY, Member

_____
CHRIS LASZCZ-DAVIS, Member

_____
LAURA STOCK, Member

By: _____
Christina Shupe, Executive Officer

DATE: March 18, 2021
Attachments

STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
Tel: (916) 274-5721 Fax: (916) 274-5743
www.dir.ca.gov/oshsb

PROPOSED PETITION DECISION OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD (PETITION FILE NO. 585)

INTRODUCTION

The Occupational Safety and Health Standards Board (Board) received a Petition on June 2, 2020, from Marisa "Reese" Fortin, Area HS&E Manager, Sundt Construction (Petitioner). The Petitioner requests the Board amend title 8, California Code of Regulations, Construction Safety Orders, subsection 1711(e)(3), to allow the internal guying/bracing of reinforcing steel (rebar) assemblies when the guying/bracing system is designed by a Registered Professional Engineer (RPE) and to clarify that external guying and bracing of rebar assemblies shall be prohibited.

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. This timeline has been extended 120 days by Governor Gavin Newsom's Executive Orders N-63-20 and N-71-20, in recognition of the State of Emergency caused by COVID-19.

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. The Division has 60 days after receipt to submit an evaluation regarding the proposal; this timeline, running concurrently with the Board's timeline as described above, has also been extended 120 days pursuant to Executive Orders N-63-20 and N-71-20.

SUMMARY

Subsection 1711(e) contains stability requirements for vertical and horizontal columns, walls, and other reinforcing assemblies, while subsection 1711(e)(3) prohibits the use of reinforcing steel as a guy or brace. The Petitioner requests to amend subsection 1711(e)(3) to specify that rebar shall not be used as an external guy or brace. Additionally, the Petitioner requests to allow RPE-designed internal bracing to prevent collapse of reinforced steel assemblies.

Specifically, the Petitioner requests the proposed additions to 1711(e)(3) below in underline:

§1711. Reinforcing Steel and Post-Tensioning in Concrete Construction.
* * *
(e) Stability Requirements for Vertical and Horizontal Columns, Walls, and Other Reinforcing Assemblies.
(1) Reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies, and similar vertical structures shall be guyed, braced, or supported to prevent collapse.
(2)(A) Systems for guying, bracing, or supports shall be designed by a qualified person.
(B) Guys, braces, and supports shall be installed and removed as directed by a competent person.
(3) Reinforcing steel shall not be used as an external guy or brace. Reinforcing steel used for internal bracing must be designed by a Registered Professional Engineer using the Load and Resistance Factor Design. Calculations must include wind and person-on-the-cage loads.

The Petitioner makes the following arguments for amending subsection 1711(e)(3):

- While subsection 1711(e)(2)(a) states that systems for guying and bracing shall be designed by a qualified person, the language of subsection 1711(e)(3) would make a column rebar cage that was designed by an RPE with internal bracing consisting of reinforcing steel X-braces an illegal practice in the eyes of Cal/OSHA.
- Reinforcing steel internal bracing, when designed by an RPE, is a safer practice than relying on external bracing, as made evident in the report completed by Carlos A. Banchik, PE with Innova Technologies.
- Internal bracing does not impact formwork before or after installation, thereby decreasing the need for coordination between various contractors to maintain safety.

DIVISION'S EVALUATION

In its evaluation concerning the Petition, dated February 19, 2021, the Division notes that internal bracing comprised of rebar is commonly used by the industry to construct reinforcing steel columns, walls and other structures. However, they state that rebar should not be the bracing method used to prevent collapse/falling of reinforcing steel assemblies.

The Division's review of the design and analysis provided by Mr. Banchik with Innova Technologies finds the report to be overly simplistic and lacking vital information. The analysis did not include a maximum height for which internal rebar bracing could be used and focused solely on wind loading, with no mention of accidental contact by machinery and equipment.

Further, the provided technical report from the University of Nevada, Reno – Center for Civil Engineering Earthquake Research (CCEER) does not show that internal braces are adequate to prevent collapse. The report was based on bridge columns supported not only by internal bracing, but also by two guy wires. The purpose of the study was to increase the stability of bridge columns when guy or brace supports are removed for concrete installation and was not

intend to make the case that reinforcing steel braces should act as the only means of support for reinforcing steel structures.

The Division disagrees with the Petitioner's claims that removal of external bracing poses hazards to employees. The Division maintains that the Petitioner failed to provide specific hazard data to support their claim. Furthermore, if a collapse of reinforcing steel structures does occur, the root cause of the hazard would likely be inadequate bracing or guying, not the removal of the support.

Additionally, the Division does not agree with the Petitioner's arguments that internal bracing eliminates the need for coordination at worksites. To ensure employee safety, effective communication and coordination between contractors at worksites must be maintained.

While the Division agrees that properly designed and installed reinforcing steel bracing enhances strength and stability of reinforcing steel structures, they maintain that it should not be allowed as the sole means of bracing for reinforcing steel structures. Therefore, the Division recommends the Petition be DENIED.

BOARD STAFF'S EVALUATION

The Board staff evaluation dated July 29, 2020 opines that the intent of subsection 1711(e), which was added as a result of a rulemaking made effective in January of 2018, is to prevent vertical reinforcing steel structures from collapsing/falling during construction. Board staff surmises that the addition of subsection 1711(e)(3) was to prohibit rebar from being used as an external brace due to its tendency to buckle when loaded at the tip.

Board staff argues that subsection 1711(e)(3) was not intended to make internal bracing illegal, as neither ANSI/ASSP A10.9-2013 nor the federal standard specifically prohibit the use of rebar as an internal brace.

Current California regulations state that a qualified person should design systems for guying, bracing or supports; therefore, amending the language is unnecessary. In addition, Board staff believes an RPE should not be restricted to a certain calculation rubric or method in designing load requirements for internal bracing to ensure structural stability.

Lastly, internal bracing of vertical and horizontal columns, walls and other reinforcing assemblies must not preclude the judgement of the competent person on-site in determining where additional external guying or bracing is required for structural stability.

Board staff recommends the Petition be DENIED but suggests clarification on internal bracing be made to subsection 1711(e) through an additional rulemaking addressing:

- Internal bracing is not illegal.

- Internal bracing must be designed by an RPE.
- Internal bracing does not automatically exempt vertical and horizontal columns, walls, and other reinforcing assemblies from external bracing.
- The clarification of safe practices listed under Prohibited Use of Reinforcing Steel in ANSI/ASSE A10.9-2013, Safety Requirements for Concrete and Masonry Work.

DISCUSSION

Petitioner argues that the existing language lacks clarity, that a requirement for a RPE should be proscribed, and a specific calculation rubric to be employed by said RPE when determining requirements for internal bracing. Petitioner's proposal would delineate "external" vs. "internal" bracing, and create new standards for each, ultimately providing a pathway for the exclusive use of internal bracing. In support of this proposal, the Petitioner provided supporting documents drafted by Innova Technologies, which argues internal bracing is sufficient to prevent collapse of reinforcing steel structures, and CCEER, which provides comprehensive analysis of internal reinforcing bracing.

The Board is convinced by the Division's conclusion that, while the CCEER report proves internal reinforcing steel bracing adds significant stability to structures also supported by external bracing, internal steel bracing alone has not been shown to provide equivalent safety to the existing standard. The Division's determination that the analysis by Innova Technologies is incomplete, as it does not establish a maximum height for internal reinforcing steel bracing and considers only wind loading force, is well-founded. The Board agrees with the Division that the CCEER report notably analyzes internal reinforcing braces used *in conjunction with* guy wires. Additionally, the Board finds it material that the CCEER report considers not only tension and compression, as Innova Technologies does, but also forces exerted by bending and torsion. Bending and torsion forces are undeniably present during cases where accidental contact by machinery and equipment causes reinforcing steel assembly failure.

Neither the Division nor Board staff evaluation support the Petitioner's determination that internal bracing consisting of rebar X-braces is illegal under the existing regulation. Rather, the Division argues that *exclusive* use of internal bracing, absent supporting external bracing, is prohibited. The Division also notes correctly that effective communication and coordination between contractors at a worksite must always be maintained, and that this responsibility cannot be eliminated.

The staff evaluation points out that neither the ANSI/ASSP A10.9-2013 nor the federal standard, both of which informed the Board's 2016 rulemaking, specifically prohibit reinforcing steel from being used as an internal brace.

Similar to the Division's recommendation, the evaluation by Board staff recommends denial of the Petitioner's proposal. However, in focusing on the plain language of the existing regulation and the rulemaking history which informed it, Board staff acknowledges Petitioner's concerns

regarding clarity in the existing regulation. Staff finds that the Petitioner's proposed language flawed and unnecessarily proscriptive, with the potential to preclude the judgement of the competent person on-site in determining whether additional external guy or brace is needed for structural stability. In the alternative, the staff evaluation recommends consideration of a narrowly focused rulemaking to improve clarity on the use of internal bracing, qualifications for a "competent person", and to clarify safe practices listed in ANSI/ASSP A10.9-2013.

The Board finds it material that while the Board staff evaluation allows for the possibility that internal bracing alone may be sufficient in some cases, it does not point to supporting evidence for this conclusion. Instead, the staff evaluation defers to the (future) determination of an on-site engineer. The Division's evaluation does not agree, and implies that such a determination would be in error, as evidenced by the CCEER report. As such, this discrepancy in the evaluations argues strongly in favor of providing additional clarity to the requirements of subection 1711(e)(3).

CONCLUSION AND ORDER

Having considered Petition 585 and the evaluations of the Division and Board staff, for the reasons outlined in the preceding DISCUSSION, the Board herby GRANTS, IN PART the Petition to the extent that the Board directs its staff to consider a limited and narrowly constructed amendment to subsection 1711(e) to clarify the following:

- Internal bracing is not illegal.
- A Registered Professional Engineer must design any internal bracing.
- Safe practices listed under Prohibited Use of Reinforcing Steel in ANSI/ASSE A10.9-2013, Safety Requirements for Concrete and Masonry Work.

Furthermore, the Board directs staff to work with the Division to determine if sufficient data exists to support exclusive use of internal reinforcing bracing in some installations of vertical and horizontal columns, walls and other reinforcing assemblies. Subsequent to a determination, Board staff is directed to consider a further amendment to clarify subsection 1711(e).

Given the narrow focus of the amendment to be considered, an advisory committee meeting is not required.

OCCUPATIONAL SAFETY AND HEALTH
STANDARD BOARD

PETITION FILE NO. 585

Petitioner: Maria “Reese” Fortin, Area Health and Safety Manager of Sundt Construction

BOARD STAFF EVALUATION

Submitted by: Maryrose Chan, Senior Safety Engineer

Date: July 29, 2020

OSHSB Petition File No. 585
Board Staff Review
July 29, 2020

INTRODUCTION

On May 29, 2020, Maria "Reese" Fortin, Area Health and Safety Manager of Sundt Construction filed a petition by a letter with supporting documents, which was designated as Petition No. 585.

The Petition seeks to amend Section 1711(e)(3) of the Construction Safety Orders regarding guying or bracing of reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies, and similar structures.

REQUESTED ACTION

The Petitioner is asking for Section 1711(e)(3) to be amended in the following manner:

(e) Stability Requirements for Vertical and Horizontal Columns, Walls, and Other Reinforcing Assemblies.
(1) Reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies, and similar vertical structures shall be guyed, braced, or supported to prevent collapse.
(2)(A) Systems for guying, bracing, or supports shall be designed by a qualified person.
(B) Guys, braces, and supports shall be installed and removed as directed by a competent person.
(3) Reinforcing steel shall not be used as an external guy or brace. Reinforcing steel used for internal bracing must be designed by a Registered Professional Engineer using the Load and Resistance Factor Design. Calculations must include wind and person-on-the-cage loads.

PETITIONER'S ASSERTIONS

The Petitioner asserts that if a contractor erected a column rebar cage that was designed by a qualified, Registered Professional Engineer (RPE) to have internal bracing consisting of rebar X-braces, it would be considered an illegal practice by Cal/OSHA (despite the statement in the standard "*Systems for guying, bracing, or supports shall be designed by a qualified person*"). If designed by a qualified RPE, the Petitioner asks "why can't rebar be used as an internal brace—especially if multiple analyses show that it will create safer conditions in the field?"

OSHSB Petition File No. 585
Board Staff Review
July 29, 2020

STAFF EVALUATION

Relevant Standards

California Standards

§1711. Reinforcing Steel and Post-Tensioning in Concrete Construction.
(e) Stability Requirements for Vertical and Horizontal Columns, Walls, and Other Reinforcing Assemblies.
(1) Reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies, and similar vertical structures shall be guyed, braced, or supported to prevent collapse.
(2)(A) Systems for guying, bracing, or supports shall be designed by a qualified person.
(B) Guys, braces, and supports shall be installed and removed as directed by a competent person.
(3) Reinforcing steel shall not be used as a guy or brace.
(4) Wire mesh rolls shall be secured to prevent dangerous recoiling action.
(5) The controlling contractor shall prohibit other construction processes below or near the erection of reinforcement assemblies until they are adequately supported and/or secured to prevent structural collapse.
(6) The reinforcing steel contractor shall flag specific areas of the erection level for their work activity. The guying and/or bracing shall be in place before the release of the reinforcing assembly from the hoist rigging.

Federal Standards

§1926.703(d)
Reinforcing steel.
§1926.703(d)(1)
Reinforcing steel for walls, piers, columns, and similar vertical structures shall be adequately supported to prevent overturning and to prevent collapse.

Consensus Standards

ANSI/ASSE A10.9-2013, Safety Requirements for Concrete and Masonry Work
5.4 Prohibited Uses of Reinforcing Steel
5.4.1 Reinforcing steel shall not be used as guy/bracing attachments anchorage points.
5.4.2 Reinforcing steel shall not be used as hoisting/lifting inserts/plates unless approved by an engineer.

10.3.3 Stability Requirements for Vertical and Horizontal Columns, Walls and Other Reinforcing Assemblies
10.3.3.1 Structural stability of vertical and horizontal reinforcing steel assemblies shall be maintained at all times.
10.3.3.2 Vertical and horizontal column, caissons, walls, drilled piers, top mat and other reinforcing steel assemblies shall be guyed, braced or supported to prevent structural collapse.

10.3.3.3 Guying, bracing or supports shall be installed only with the approval of a competent person.
10.3.3.4 Guying, bracing or supports shall be removed only with the approval of a competent person.
10.3.3.5. The project constructor shall bar other construction processes below or near the erection of the reinforcement assemblies until they are adequately supported and/or secured to prevent structural collapse.
10.3.3.6. Prefabricated walls, caissons, drilled piers and other modular reinforcing steel assemblies that are free-standing shall be guyed, braced or supported under the direction of a competent person.
10.3.3.7 Systems for guying, bracing, or supports shall be designed by a qualified person of the project constructor, and removed only with the approval of a competent person.

Staff Analysis

On a rulemaking publicly heard December 15, 2016, Section 1711(e)(3) was added as a result of rulemaking entitled: Reinforcing Steel Concrete Construction and Post-Tensioning Operations. The standard became effective January 1, 2018. According to the initial statement of reasons, the standards in Section 1711(e) came from existing standards and Section 10.3.3 of ANSI 10.9-2013, Safety Requirement for Concrete and Masonry Work.

Subsection (e) consist of a of list required work practices to prevent the collapse of vertical and horizontal columns and other reinforcing assemblies during the process of erecting the structure of the building. The intent of subsection (e) is to prevent these vertical reinforcing steel structures from falling or collapsing during the construction process. Rebar cannot be used as an external brace due to its tendency to buckle when loaded at the tip.

Neither the ANSI A10.9-2013 nor the federal standard specifically prohibit reinforcing steel from being used as an internal brace. The 2016 rulemaking did not intend to make internal bracing illegal. The use of internal bracing does not eliminate the use of external brace or guy in all cases. See ANSI 10.3.3.6 above.

The federal standard and ANSI require that vertical and horizontal column, caissons, walls, drilled piers, top mat and other reinforcing steel assemblies shall be guyed, braced or supported to prevent structural collapse. In working to brace, guy, and support these structures, ANSI prohibits reinforcing steel from being used as an attachment anchorage point and prohibits reinforcing steel from being used as hoisting/lifting inserts/plates unless approved by an engineer.

Board staff reviewed the rulemaking file to determine the rationale for the addition of Section 1711(e)(3). Unfortunately, rulemaking documents do not specifically name the source of Section 1711(e)(3). The advisory committee members did not ponder the use of rebar for internal bracing. Board staff can only surmise that the intent of Subsection (e)(3) is to prohibit reinforcing steel from being used as external brace based on the October 27 and 28, 2014 advisory committee meeting.

> *"The committee discussed that appropriate guys or bracing (e.g. steel cables) are sometimes attached directly to vertical columns/plates of reinforcing steel which is an acceptable practice when it is part of the engineered plan. Therefore, similar language to the aforementioned Section 1713(c) is also proposed in Section 1711(e)(3) to prohibit reinforcing wall or other reinforcing steel assemblies….." [page 14, paragraph 5]*

The Petitioner's proposed amendment in Section 1711(e)(3) "Reinforcing steel used for internal bracing must be designed by a Registered Professional Engineer using the Load and Resistance Factor Design. Calculations must include wind and person-on-the-cage loads." is not necessary because of the current requirement that states that systems for guying, bracing, or supports shall be designed by a qualified person.

Board staff does not agree with the amended language specifying how reinforcing steel must be designed by the structural engineer as proposed by the applicant, because the registered engineer as a competent and a qualified person must not be restricted to a certain calculation rubric or method in designing load requirements for the internal bracing to ensure structural stability. There is no need to prescribe the type of analysis. Furthermore, internal bracing of vertical and horizontal columns, walls, and other reinforcing assemblies must not preclude the judgement of the competent person on-site in determining whether additional external guy or brace is needed for structural stability.

STAFF RECOMMENDATION

Board staff recommends that Petition No. 585 be DENIED. However it is Board staff's considered opinion that there is merit to having the Board direct staff to consider an amendment of CSO Section 1711(e) to clarify the following:

- Internal bracing is not illegal.
- Internal bracing must be designed by a registered engineer.
- Internal bracing does not automatically exempt vertical and horizontal columns, walls, and other reinforcing assemblies from external bracing.
- Clarify safe practices listed under Prohibited Use of Reinforcing Steel in ANSI ANSI/ASSE A10.9-2013, Safety Requirements for Concrete and Masonry Work.

Board staff will consult with subject matter experts and select a small group of stakeholders in the preparation of the proposed language. Given the narrow scope of the proposed amendment, Board staff does not anticipate the need for a formal advisory committee.

State of California
Department of Industrial Relations
Division of Occupational Safety and Health

Memorandum

Date: February 19, 2021

To: Christina Shupe, Executive Officer
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833

From: Eric Berg, Deputy Chief Eric Berg
Division of Occupational Safety and Health

Subject: Cal/OSHA Evaluation of Petition No. 585 to amend title 8 section 1711(e)(3).

1.0 INTRODUCTION AND BACKGROUND

On June 12, 2020, the Division of Occupational Safety and Health (Cal/OSHA) received a petition to amend title 8 from Ms. Marisa "Reese" Fortin of Sundt Construction, Inc. Sundt Construction, Inc. is a construction general contractor that manages and performs construction activities including concrete, structural steel, excavation and grading, underground utilities, drainage systems, and concrete paving operations within a variety of industrial, transportation and governmental sectors. The petitioner is requesting a change to title 8 section 1711(e)(3) of the Construction Safety Orders.

Labor Code Section 142.2 permits interested persons to propose new or revised standards concerning occupational safety and health, and requires the Occupational Safety and Health Standards Board (Standards Board) to consider such proposals. California Labor Code section 147 requires the Standards Board to refer to Cal/OSHA for evaluation of any proposed occupational safety and health standard.

2.0 PETITIONER'S PROPOSED AMENDMENTS TO SUBSECTION 1711(e)(3)

Subsection 1711(e)(3) contains requirements to ensure the stability of reinforcing steel columns and other assemblies, including bracing and the design of supports. The petitioner requests an amendment to subsection 1711(e)(3) to distinguish between internal and external bracing and to allow for internal bracing to prevent collapse of reinforced steel assemblies if such bracing is designed by registered professional engineer. The additions proposed by the petitioner are shown below in underline format:

Subchapter 4. Construction Safety Orders
Article 29. Erection and Construction

§1711. Reinforcing Steel and Post-Tensioning in Concrete Construction.
* * *
(e) Stability Requirements for Vertical and Horizontal Columns, Walls, and Other Reinforcing Assemblies.

(1) Reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies, and similar vertical structures shall be guyed, braced, or supported to prevent collapse.
(2)(A) Systems for guying, bracing, or supports shall be designed by a qualified person.
(B) Guys, braces, and supports shall be installed and removed as directed by a competent person.
(3) Reinforcing steel shall not be used as an external guy or brace. Reinforcing steel used for internal bracing must be designed by a Registered Professional Engineer using the Load and Resistance Factor Design. Calculations must include wind and person-on-the-cage loads.

3.0 APPLICABLE FEDERAL OSHA REGULATIONS

Federal OSHA regulations address reinforcing steel in title 29 Code of Federal Regulations subpart Q (sections 1926.700 – 1926.706) Concrete and Masonry Construction. Subsection 1926.703(d)(1) addresses ensuring stability of reinforcing steel structures but does not prohibit reinforcing steel used as guys or braces.

§1926.703 - Requirements for cast-in-place Concrete.
* * *
(d) Reinforcing Steel
* * *
(1) Reinforcing steel for walls, piers, columns, and similar vertical structures shall be adequately supported to prevent overturning and to prevent collapse.
* * *

4.0 APPLICABLE CONSENSUS STANDARDS

The American National Standards Institute (ANSI) and the American Society of Safety Professionals (ASSP) address construction hazards associated with rebar assemblies in ANSI/ASSP 10.9-2013 (R2018) Safety Requirements for Concrete and Masonry Work. Section 5.4.1 of the standard prohibits the use of reinforcing steel as guying or bracing attachments to anchorage points.

ANSI/ASSP A10.9-2013 (R2018) Safety Requirements for Concrete and Masonry Work
* * *
5. REINFORCING STEEL
* * *
5.1 General. This section deals with the safe handling, installation and use of reinforcing steel on the construction site.
5.2 Guying, Support, Stability for Reinforcing Assemblies.
5.2.1 Guying. Reinforcing steel for the fabrication of walls, piers, columns and similar vertical or horizontal structures shall be guyed or supported to prevent collapse as directed by a qualified person in accordance with the site-specific safety plan.
* * *
5.4 Prohibited Uses of Reinforcing Steel.
5.4.1 Reinforcing steel shall not be used as guy/bracing attachments anchorage points.
* * *

5.0 HAZARDS TO EMPLOYEES WORKING ON AND AROUND VERTICAL AND HORIZONTAL COLUMNS, WALLS, AND OTHER REINFORCING ASSEMBLIES

The hazards relating to working upon and in proximity to rebar assemblies during construction include falls and being struck by falling objects. Lack of adequate guying, bracing, and other supports increases the likelihood of collapse or other unintended movement and could result in serious and fatal injuries including but not limited to the following:

1. Concussions
2. Fractures
3. Crushing Injuries
4. Contusions
5. Lacerations
6. Avulsions
7. Abrasions

6.0 PETITIONER'S BASIS FOR AMENDMENTS TO TITLE 8 REGULATIONS

The petitioner believes that reinforcing steel may be used effectively as internal bracing to prevent the collapse of reinforcing steel structures. It is also the petitioner's belief that the use of reinforcing steel as internal bracing can enhance employee safety.

6.1 Guying and Bracing Designed by a Competent Person Allows for Internal Reinforcing Steel Bracing

In support of the assertion that reinforcing steel may be used effectively for internal bracing, the petitioner references title 8 subsection 1711(e)(2)(A) which requires guying and bracing of reinforcing steel structures to be designed by a competent person. Based on this requirement, the petitioner argues that reinforcing steel should be permitted for bracing systems if determined adequate to prevent collapse by the competent person.

6.2 Reinforcing Steel Can Be Used Effectively as Internal Bracing

As evidence of reinforcing steel used as internal bracing, the petitioner included designs and structural analysis[1] of several reinforcing steel structures performed by Carlos A. Banchik. Mr. Banchik is the founder of Innova Technologies based in Las Vegas, Nevada and is a registered professional civil engineer in the state of Arizona. The detail design drawings included with the petition were of column and shear wall reinforcing cages for the University of Arizona Shoring Base project in Tucson, Arizona. Sizes of the columns analyzed were 16"X24", 22"X22" and 24"X24" and walls were of 10" width. Reinforcing steel brace pairs in X-configurations were incorporated in to the design at 10' maximum vertical spacing between bracing ends for columns and shear walls and 5' maximum horizontal spacing for shear walls. Each leg of the X-bracing was connected to the reinforcing steel cages by two 15-guarge double snap

[1] Banchik. *Column and Shear Wall Cages – Structural Calculations, University of Arizona Shoring Base, Tucson, Arizona*. Project No. 119-312. Innova Technologies. December, 2019.

ties[2]. Although a maximum elevation of 58 feet 6 inches was given for the structures, the maximum cage length referenced in the designs was not provided.

Analysis of the reinforcing steel cages was performed using Load Resistance Factor Design (LRFD[3]) and was based on wind forces as the maximum potential loading on the structures in addition to the weight of the cages themselves. Based on this analysis, the reinforcing steel cages could withstand, without failure, wind speeds of up to 77.25 miles per hour. The petitioner argues that the analysis performed by Mr. Banchik provides sufficient evidence that reinforcing steel bracing, when designed by a competent engineer, can be used effectively to prevent collapse of reinforcing steel structures.

As further evidence for the enhancement of structural integrity afforded to reinforcing steel structures by internal reinforcing steel braces, the petitioner also included a technical report[4] conducted by the University of Nevada's Center of Engineering Earthquake Research in November, 2010. This report details an analysis of the lateral behavior and stability of bridge column rebar cages and the potential of failure and collapse during construction.

For the analysis, two full-scale bridge column reinforcing steel cages were constructed for both internal X-bracing (Figure 1) and square bracing (Figure 2) configurations. All of the columns were 34 feet in height with a diameter of 4 feet and were constructed of #11 (1.4 in.) and #8 (1 in.) longitudinal and transverse members respectively. Two cage designs (Specimen 1 and Specimen 2) were utilized for each bracing configuration with the longitudinal and transverse members of Specimen 2 placed at half the spacing of Specimen 1 thereby incorporating twice the amount of reinforcing steel and resultant weight. Braces of both configurations were constructed of #8 (1 inch diameter) reinforcing steel and were tied with several different configurations and welded in place at 10' 6" vertical intervals. These cages were subjected to incremental loading to determine the lateral behavior, identify failure modes and determine an

Figure 1. X-Brace Configuration

Figure 2. Square Brace Configuration

[2] A snap tie is a method of securing reinforcing steel with wire tied diagonally on two perpendicular reinforcing steel members.
[3] LRFD is an adjustment method used in structural engineering to reduce the loading capacity of a structure to ensure a conservative design.
[4] Builes-Mejia, Itani, Sedarat. *Stability of Bridge Column Rebar Cages During Construction*. Report No. CCEER 10-07. November, 2010.

appropriate analytical model. Nonlinear finite elemental analysis[5] was then developed for cages from 30 feet to 80 feet in height to determine critical parameters that affect the lateral stability and failure of bridge column reinforcing steel cages. The model utilized included two 6x19[6] Independent Wire Rope Core (IWRC) guy cables of both 3/8 inch and 5/8 inch diameters placed in horizontal and vertical directions to simulate the common practice of removing two of the four guy cables for the placement of formwork. The parameters analyzed were tie wire connections, internal braces, column diameter, longitudinal and transverse reinforcement ratios, and column height.

Based on the results of their analysis, the authors of the report concluded that internal reinforcing steel bracing significantly increased the lateral strength and stiffness for both cage designs. Table 1 below summarizes the factor of increase for lateral strength and stiffness for the cages equipped with X and square bracing configurations compared to unbraced cages.

Table 1. Factor of Increase for Strength and Stiffness of Braced Reinforcing Steel Cages

	X-Bracing Factors		**Square Bracing Factors**	
	Specimen 1	Specimen 2	Specimen 1	Specimen 2
Strength	3.0	2.0	4.8	3.6
Stiffness	2.5	1.8	3.2	2.3

The petitioner asserts that results of this study provide further evidence that internal reinforcing steel bracing can be an effective method to prevent the collapse of reinforcing steel structures when designed by a competent engineer.

6.3 Internal Reinforcing Steel Bracing Can Enhance Employee Safety

The petitioner also states that using reinforcing steel as internal bracing can enhance employee safety. Since internal bracing is incorporated into the design and does not need not be adjusted or removed for the installation of formwork, the petitioner argues that the hazards associated with adjusting and removing internal bracing are eliminated. Additionally, the petitioner argues that eliminating external bracing prevents the need for coordination between the general, reinforcing steel and concrete contractors to maintain safety of reinforcing steel structures at construction sites.

7.0 ANAYLSIS

Internal braces composed of reinforcing steel are commonly used throughout industry in the construction of reinforcing steel columns, walls and other structures. Internal bracing is necessary to maintain internal support of an assembly during fabrication, when being hoisted into place, and as a component of support after the structure is in its final position prior to concrete placement. However, reinforcing steel should not be the bracing method for preventing the collapse or fall of reinforcing steel assemblies.

[5] Finite Element Analysis is an engineering analysis in which a complex system is subdivided into simpler components (elements) to determine where failure in the system could occur.
[6] A 6x19 wire rope is one constructed of 6 strands each composed of 19 individual wires.

7.1 Design and Analysis from Innova Technologies Lacks Important Information and is Overly Simplistic

Cal/OSHA disagrees that the design and analysis provided by Innova Technologies is sufficient to prove that equal safety is provided by the use of internal reinforcing steel braces to prevent collapse of reinforcing steel structures. Although the design included maximum heights of the reinforcing steel columns and walls to be 58 feet 6 inches, no maximum height was determined for which internal reinforcing steel bracing could be utilized. Wind loading was also the only force considered for the analysis. However, based on research of Cal/OSHA case history and interviews with industry professionals conducted by Research and Standards Safety Unit staff, accidental contact by machinery and equipment was one of the most common causes of reinforcing steel assembly failure. Therefore, forces other than wind should be considered when conducting such an analysis.

Additionally, the connections (boundary conditions) assumed in the analysis for the internal braces were pinned connections at both ends. This assumption allows for the braces to act as two-force members[7] and for bending moments and torsion to be ignored. Such an assumption is overly simplistic as recognized in the analysis of the University of Nevada Center of Engineering Earthquake Research report (Report No. CCEER 10-07) for which the brace boundary conditions were assumed to be semi-rigid and were analyzed not only for tension and compression but also bending and torsion.

7.2 The University of Nevada Center of Engineering Earthquake Research Report Does Not Indicate Internal Braces are Sufficient to Prevent Collapse

Although the report from the University of Nevada Center of Engineering Earthquake Research included a very comprehensive analysis of the effects of internal reinforcing bracing on the stability of reinforcing steel structures, there is no indication that this type of bracing could be used exclusively for support. Cal/OSHA agrees that internal reinforcing steel bracing is not only beneficial but necessary to maintain stability and structural integrity of reinforcing steel structures. The report clearly indicates a significant increase in the strength and stiffness of braced reinforcing steel structures; however, the analysis was based on bridge columns supported not only by internal bracing but also by two guy wires. One of the central purposes of the study was to increase the stability of bridge columns when guy or braces supports are removed to allow for the installation of concrete formwork. Cal/OSHA believes that the authors of the study did not intend reinforcing steel braces to serve as the only means of support for reinforcing steel structures.

7.3 The Petitioner's Claim that Removal of External Bracing Poses a Serious Hazard is Not Substantiated

The petitioners claims that the removal of external bracing of reinforcing steel structures poses a serious hazard to employees. However, no information was provided by the petitioner on the specific hazard(s) of this claim. If the hazard to which the petitioner refers is the collapse of reinforcing steel structures, then the root cause of the hazard is insufficient bracing and/or guying of the structure rather than removal of the support.

[7] Two-force members are components of a structural system in which only tension and compression forces are assumed to be present.

A search of Cal/OSHA's investigative history conducted by Research and Standards Safety Unit staff did reveal that one of the most common causes of reinforcing steel structure failure was removal of bracing or insufficient support. However, if a brace or other support must be removed for the installation of formwork or other activities, the structure must be adequately supported to prevent collapse thereby eliminating the hazard of collapse for employees removing the supports.

7.4 The Petitioner's Argument that Internal Bracing Eliminates the Need for Coordination at Worksites is Contrary to Employee Safety

The petitioner argues that utilizing internal reinforcing steel bracing for reinforcing steel structures eliminates the need to remove external bracing thereby eliminating the need for coordination between the general, concrete, reinforcing steel, formwork and other contractors to maintain safety.

Such an argument is contrary to employee safety and title 8 subsection 1711(d). Effective communication and coordination between contractors at a worksite must always be maintained to ensure safety for employees.

8.0 CONCLUSION - DENY

Cal/OSHA agrees that reinforcing steel bracing, when properly designed and installed, enhances the strength, stiffness and resulting stability of reinforcing steel structures and can be a necessary element for their construction. Such bracing could be used in addition to other supports but should not be allowed as the sole means of bracing for reinforcing steel structures. Therefore, Cal/OSHA recommends that the petition be DENIED.

SUNDT

Marisa “Reese” Fortin, CSP, ASP, CHST, STSC
Area HS&E Manager
May 29, 2020

Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350,
Sacramento, California 95833

OSHSB:

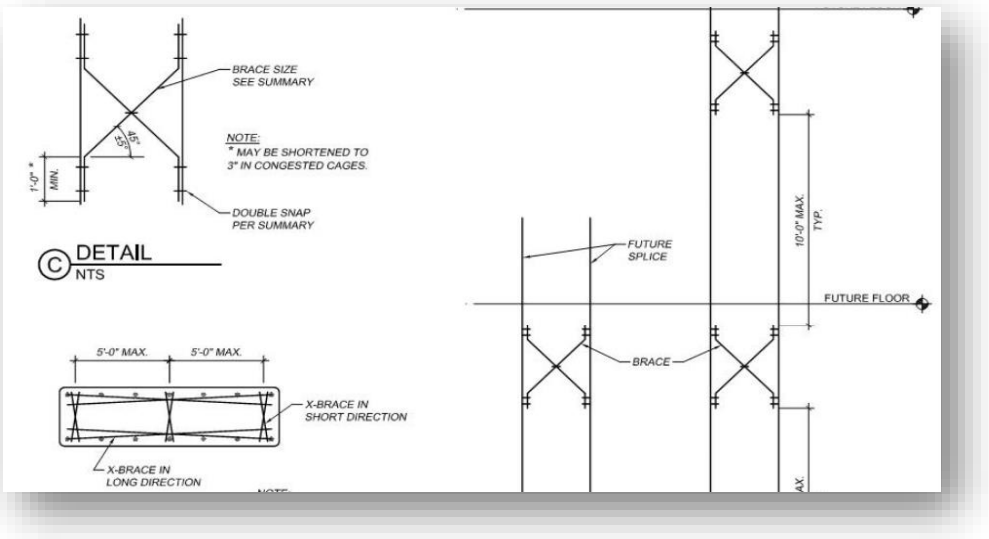
Upon request by the OSHSB on 5/29/2020, I updated my previous petition (Board’s petition file No. 582). The original petition has been amended as follows.

In summary, Cal/OSHA’s 1711 states “Reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies, and similar vertical structures shall be guyed, braced, or supported to prevent collapse. Systems for guying, bracing, or supports shall be designed by a qualified person. Guys, braces, and supports shall be installed and removed as directed by a competent person. Reinforcing steel shall not be used as a guy or brace.”

In addition to several colleagues in the industry and a voiced agreement with the Association of General Contractors’ San Diego Safety Committee members, I see an issue with the verbiage “Reinforcing steel shall not be used as a guy or brace.” The issue is that if a contractor erected a column rebar cage that was designed by a qualified, Registered Professional Engineer to have internal bracing consisting of rebar X-braces, then this would be considered an illegal practice by Cal/OSHA (despite the statement in the standard “Systems for guying, bracing, or supports shall be designed by a qualified person”).

If designed by a qualified RPE, why can’t rebar be used as an internal brace—especially if multiple analyses show that it will create safer conditions in the field? Sundt has contracted a qualified RPE to analyze internal bracing. Their full report is attached to this petition, but here are two relevant snapshots for reference:

To provide for buckling stability of column rebar cages under their own weight and for the required strength to resist bending moments due to wind loads, X-bracing at all faces of rebar cage is required.



This qualified engineer's analysis prescribes reinforcing steel to be used as internal bracing in an "x" configuration. Additionally, internal bracing can eliminate the need to adjust or remove external braces which poses a serious risk to workers. Given Sundt's experience with and knowledge of the risk of removing external bracing, we want to ensure our work is carried out as safely as possible while minimizing mistakes that can occur in the field with communication. We see the use of internal bracing as a step in eliminating potentially catastrophic incidents. Our stance is that internal bracing, when designed by an RPE, is a safer option than relying on external bracing. The industry should not forego a safer practice that is available and proven effective.

Internal bracing does not impact formwork before or after its installation. Also, once installed, internal bracing stays in place and is incorporated into the design and final structure. This prevents the need to have coordination between various contractors to maintain safety (i.e., general contractor, formwork, rebar, and concrete contractors).

A study done by Dr. Ahmad M. Itani at the University of Nevada, Reno, "Stability of Bridge Column Rebar Cages during Construction" for the California Department of Transportation shows that internal bracing creates greater column stiffness which reduces the potential for column cage failure and collapse. This study showed three critical components to column structural stability: 1) The template hoops (orange) needed to be spaced every 8 to 10 feet and tied at every intersection with the longitudinal bar with either double U or wrap-and-saddle ties. 2) The pickup bars (green) need to be positioned 90 degrees from the adjacent pickup bar to form a square, tied at every intersection, with either double or quadruple snap ties. 3) The internal reinforcing (red), which provides rigidity, should be X-type or square with No. 8 bar, and the bracing should be

spaced every 10 feet tied to the longitudinal bars and the end rings. The full study proves the value of internal bracing and is attached to this petition.

The August 2011 issue of Concrete International included an article on "Detailing Concrete Columns" (attached). The article shares the value and practice of internal bracing with reinforcing steel.

Ideally, the column cage should be stable enough to stand on its own so that cable guying or pipe bracing (Fig. 1) is avoided, because it can obstruct construction activities. Inadvertent, "temporary" releases by other trades can result in instability, so coordination is required. A slightly more robust column cage design by the engineer may eliminate the need for guying or bracing. Certain factors will affect the stability of a

Fig. 1: Pipe bracing helps to stabilize tall column cages

For larger column cages, greater than about 36 in. (910 mm) OD, X-bracing is added to supplement the inner hoops. The brace locations are usually provided by two reinforcing bars with a Type 19 bend pattern.[3] They are then placed perpendicular to one another in a three-dimensional fashion, located in the column cage interior. The bar size is usually two sizes smaller than the longitudinal bars, but this can vary by shop practice and experience.

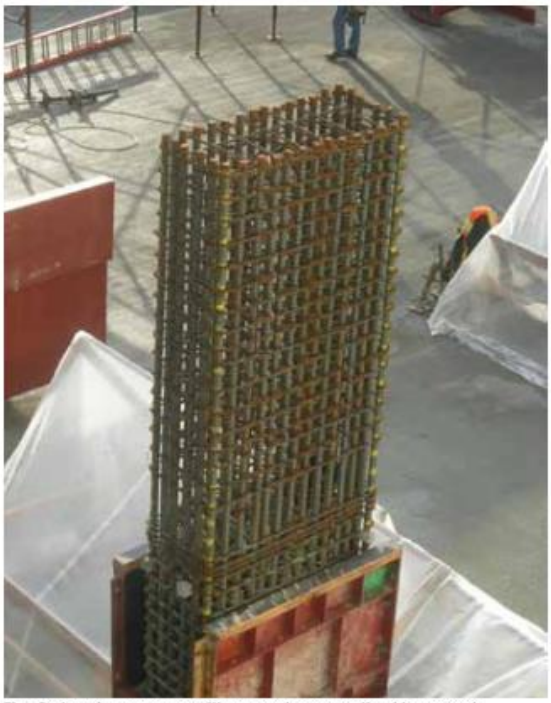


Fig. 2: A column cage with many large vertical bars and crossties can be stable enough to eliminate the need for temporary bracing

The completed column cage will also have bars added to the pick or lift points to add local strength. Figure 7 shows a well-braced caisson (drilled shaft) cage with X-bracing, inner hoops, and lift point reinforcing, which makes it rigid enough to be picked without deforming.

Fig. 7: A well-braced drilled shaft cage is picked with minimal distortion *(photo courtesy of Dimension Fabricators, Inc.)*

Since this petition shows it is possible to safely use rebar for internal bracing *in certain conditions*, I ask that the Standards Board consider updating 1711. I propose the standard be amended by adding the underlined language:

(e) Stability Requirements for Vertical and Horizontal Columns, Walls, and Other Reinforcing Assemblies.
(1) Reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies, and similar vertical structures shall be guyed, braced, or supported to prevent collapse.
(2)(A) Systems for guying, bracing, or supports shall be designed by a qualified person.
(B) Guys, braces, and supports shall be installed and removed as directed by a competent person.
(3) Reinforcing steel shall not be used as an external guy or brace. Reinforcing steel used for internal bracing must be designed by a Registered Professional Engineer using the Load and Resistance Factor Design. Calculations must include wind and person-on-the-cage loads.

Please consider this petition and amend 1711 to permit internal bracing with reinforcing steel.

Sincerely,

Marisa Fortin

Occupational Safety and Health Standards Board

Business Meeting

Proposed Variance Decisions

CONSENT CALENDAR—PROPOSED VARIANCE DECISIONS
MARCH 18, 2021, MONTHLY BUSINESS MEETING
OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

A. TUTOR PERINI /O&G JV— HEARD FEBRUARY 22, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
18-V-182	Tutor Perini /O&G JV	GSO	GRANT

B. MICROSOFT CORPORATION — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
19-V-158M1	Microsoft Corporation	Elevator	GRANT

C. MICROSOFT CORPORATION — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
19-V-159M1	Microsoft Corporation	Elevator	GRANT

D. CHF-DAVIS I, LLC — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-254M1	CHF-Davis I, LLC	Elevator	GRANT

E. THYSSENKRUPP ELEVATORS (GROUP IV; WIRE ROPES AND SHEAVES) — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-449	Fremont Walnut Apartments LLC	Elevator	GRANT
21-V-002	Kipling Post LP	Elevator	GRANT

F. KONE MONOSPACE 500 ELEVATORS — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-469	ARHC HRCYCA001, LLC	Elevator	GRANT
20-V-514	CAP VZ, LLC	Elevator	GRANT
20-V-521	ONELEGACY	Elevator	GRANT
20-V-522	NASH Holland 1375 St Andrews Investors, LLC	Elevator	GRANT
20-V-544	625-675 Mathilda LLC.	Elevator	GRANT
20-V-545	National City Pacific Associates, A CA Limited Partnership	Elevator	GRANT

G. OTIS GEN2S ELEVATORS (GROUP IV) — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-509	Kern Community College	Elevator	GRANT
20-V-517	University of California – Santa Cruz	Elevator	GRANT
20-V-518	Jefferson Southgate, LLC	Elevator	GRANT
20-V-519	University of California at Riverside	Elevator	GRANT
20-V-524	UB RiverRow LLC	Elevator	GRANT
20-V-525	Gemdale Aperture Phase 2 LLC	Elevator	GRANT
20-V-526	Alliance Residential	Elevator	GRANT
20-V-527	Alliance Residential	Elevator	GRANT
20-V-528	1503 Venice LLC	Elevator	GRANT
20-V-529	Marmar Corning, LLC.	Elevator	GRANT
20-V-530	Shenandoah Plaza, LLC.	Elevator	GRANT
20-V-531	1101 Bedford, LLC	Elevator	GRANT

20-V-532	502 Harvard Venture, LLC	Elevator	GRANT
20-V-533	Bridge Berkeley Way, LP	Elevator	GRANT
20-V-534	BFHP Hope Center LP	Elevator	GRANT
20-V-535	3050 Del Hombre Holdings, LLC	Elevator	GRANT
20-V-538	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	Elevator	GRANT
20-V-539	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	Elevator	GRANT
20-V-540	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	Elevator	GRANT
20-V-541	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	Elevator	GRANT
20-V-542	RREEF Management L.L.C.	Elevator	GRANT
21-V-003	Hollywood Park Retail/Commercial Investors, LLC	Elevator	GRANT
21-V-004	Hollywood Park Retail/Commercial Investors, LLC	Elevator	GRANT

H. WAL-MART STORES, INC. — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-516	Wal-Mart Stores, Inc.	Elevator	GRANT

I. OTIS ELEVATOR (GROUP IV) GEN2(O) AND/OR GEN2L ELEVATORS [W VARIANT GOVERNOR ROPE/SHEAVE] — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-523	1122 7th Street LLC	Elevator	GRANT

J. OTIS GEN2(O) AND/OR GEN2L ELEVATORS (GROUP IV)— HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-536	SCP Horton Owner 1, LLC	Elevator	GRANT

K. MITSUBISHI ELEVATORS (GROUP IV) — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-537	Qualcomm California, Inc.	Elevator	GRANT

L. LEO J. CACITTI LIVING TRUST — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-546	Leo J. Cacitti Living Trust	Elevator	GRANT

M. SCHINDLER MODEL 3300 ELEVATORS (GROUP IV) — HEARD FEBRUARY 24, 2021

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
21-V-001	Microsoft Corporation	Elevator	GRANT

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance by: Tutor Perini / O & G Joint Venture	OSHSB FILE No. 18-V-182 Proposed Decision Dated: March 4, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Autumn Gonzalez, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: Tutor Perini / O & G Joint Venture	OSHSB File No.: 18-V-182 PROPOSED DECISION Hearing Date: February 22, 2021

A. Jurisdictional and Procedural Matters

1. On April 19, 2018, Tutor Perini/O & G Joint Venture (Applicant) has applied for permanent variance from certain provisions of California Code of Regulations, Title 8[1], section sections 6080, subdivision (b), 6085, subdivision (a), 6090, subdivision (d), and 6095, subdivision (a), regulations related to pressurized work during tunnel construction. On May 18, 2018, Applicant submitted a first amended application for permanent variance regarding the same above-mentioned regulations.

2. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, title 8, section 401, et. seq.

3. The hearing was held on February 22, 2021, in Sacramento, California, by delegation of the Occupational Safety and Health Standards Board (Board). The Hearing Panelists are Board Chair David Thomas and Board Member Kathleen Crawford. The Hearing Officer was Autumn Gonzalez. This proposed decision, prepared as directed by the Hearing Panel, is presented to the Board for its consideration, in accordance with section 426 of the Board's rules of procedure.

4. Appearing for the Applicant were Dan Louis, Project Manager; Matt Kendall, Tunnel Project Manager; Dave Rogstad, President and CEO of Frontier Kemper Constructors; Matt Jones, Safety Manager; Matt Kendall, VP of EHS for Tutor Perini; Kevan Corson, CEO of Poseidon Safety International; and Darrell Grimes, Project Safety Manager. David Kernazitskas, Senior Safety Engineer appeared, acting in a technical advisory role apart from the Board. Eric Berg, Jason Denning, and Spencer Price appeared for the Division of Occupational Safety and Health (Cal/OSHA).

5. Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: subject Application and First Amended Application for

[1] Unless otherwise stated, all references are to the California Code of Regulations, Title 8.

Permanent Variance as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Division Review of Application as PD-3, Board Staff Review of Application as PD-4, and Applicant's Supplemental Package Regarding Item 4 as Exhibit 5, and official notice taken of the Board's rulemaking records, and variance decisions concerning the safety order requirements from which variance is requested.

6. At hearing, at request of the Applicant and with no objection from any party, applicant's request for a variance from section 6095, subdivision (a) was amended to request a variance from section 6095, subdivisions (b) and (e).

7. The hearing was closed on February 22, 2021, with the record closed.

B. Findings of Fact

Based upon the record of this proceeding, the Board finds the following:

1. Applicant requests a permanent variance from sections 6080, subdivision (b), 6085, subdivision (a), section 6090, subdivision (d), and 6095, subdivisions (b) and (e), in order to complete hyperbaric tunneling work for the Los Angeles County Metropolitan Transportation Authority's Westside Purple Line Extension Project, from Constellation Blvd. To Wilshire Blvd. And S. Stanley Dr., in Los Angeles, California.

C. Applicable Regulations

As stated above, the Applicant requests a variance from section 6080, subdivision (b), 6085, subdivision (a), 6090, subdivision (d), and 6095, subdivisions (b) and (e).

Section 6080, subdivision (b): "No employee shall be subjected to pressure exceeding 50 pounds per square inch."

Section 6085, subdivision (a):"Decompression tables. Decompression shall be in accordance with the following specified decompression tables contained in Volume 2, Chapter 9 of the U.S. Navy Diving Manual, Revision 6, April 15, 2008, which is hereby incorporated by reference."

Section 6090, subdivision (d): Except where air pressure in the working chamber is below 12 psig, each air lock shall be equipped with suitable automatic controls which automatically

regulate decompressions. It shall also be equipped with manual controls to permit the lock attendant to override the automatic system in the event of an emergency."

Section 6095, subdivision (b): "Size, Capacity, and Construction. The headroom in the special decompression chamber shall be not less than 7 feet and the cubical content shall provide at least 50 cubic feet of air space for each person. For each occupant there shall be provided 4 square feet of free walking area and 3 square feet of seating space exclusive of area required for lavatory and toilet facilities. The rated capacity shall be based on the stated minimum space per person and shall be posted at the chamber entrance. The posted capacity shall not be exceeded, except in case of emergency. The chamber shall be constructed in accordance with the Unfired Pressure Vessel Safety Orders."

Section 6095, subdivision (e): "Automatic Controls. Special decompression chambers shall be equipped with automatic controls complying with Section 6090(d) and (e)."

Conclusive Findings

Based upon the record in this proceeding, the Board finds the following:

1. Applicant requests a permanent variance from sections 6080, subdivision (b), 6085, subdivision (a), section 6090, subdivision (d), and 6095, subdivisions (b) and (e), in order to complete hyperbaric tunneling work for the Los Angeles County Metropolitan Transportation Authority's Westside Purple Line Extension Project, from Constellation Blvd. To Wilshire Blvd. And S. Stanley Dr., in Los Angeles, California.

2. The project includes two underground subway stations, two 18 foot, 10 inch inner diameter tunnels that are approximately 12,500 feet long and 16 cross passages.

3. Construction of the subway tunnels will involve an Earth Pressure Balance Tunnel Boring Machine (TBM). The tunnels will be bored through soft soils consisting of clay, silt, and sand below the water table.

4. Applicant intends to conduct inspections and maintenance work on the cutterhead structure and tools of the TBM at regular intervals. In order to maintain a stable tunnel face while employees perform such maintenance and inspection work, the working chamber of the TBM will be pressurized to the appropriate level.

Decision and Order

The Application for Permanent Variance of Tutor Perini/ O & G Joint Venture, OSHSB File No. 18-V-182, is conditionally GRANTED subject to the following conditions:

1. Applicant shall notify Cal/OSHA in writing no less than 24 hours prior to any operation involving personnel exposed to greater than 50 pounds force per square inch (psi). If requested, Applicant shall wait until the Division's Mining and Tunneling Unit is able to be present at the site before proceeding with the work.

2. No personnel exposure shall exceed 53 psi.

3. Prior to initiating hyperbaric operations, the applicant shall provide evidence of a written agreement with the UCLA Medical Center hyperbaric unit for procedures related to standby and emergency response. The agreement shall be maintained throughout the duration of the project.

4. Applicant shall comply with all requirements of section 6085 except for the decompression tables specified in that section. The applicant shall only use decompression tables listed in variance conditions 5 and 6 below.

5. Decompression times and procedures shall be done in accordance with:
    a. Decompression tables of the U.S. Navy Diving Manual, Revision 6, Volume 2, Chapter 9; or
    b. Decompression tables of the U.S. Navy Diving Manual Revision 7, Volume 2, Chapter 9; or
    c. 1992 French Navy decompression tables as specified in Condition 6.

6. The 1992 French Navy decompression tables submitted by the applicant may only be used for decompression when the working pressure is greater than 1.05 bar (15.2 psi) and less than 3.65 bar (53 psi).

7. Regardless of which decompression table is used, employees shall never be subject to working times and pressures that are exceptional exposures in the decompression tables of the U.S. Navy Diving Manual, Revision 6, Volume 2, Chapter 9.

8. Decompression of employees shall be performed under the direction of the supervising hyperbaric physician.

9. All hyperbaric workers shall have baseline and periodic medical exams that comply with the most current medical standards of the American Academy of Underwater Sciences for scientific diving. The medical exams shall be conducted by an experienced hyperbaric physician. Workers must be determined to be medically fit for hyperbaric work by the physician before being allowed to work in the hyperbaric environment.

10. Hyperbaric workers shall be screened for fitness for hyperbaric work by a qualified person in hyperbaric operations prior to each hyperbaric operation.

11. There shall be a rigorous medical protocol for evaluation and follow-up of workers post decompression under the supervision of a hyperbaric physician and in accordance with applicable medical standards.

12. For repetitive hyperbaric work, all work within the previous 18 hours must be taken into account when determining the proper decompression.

13. All workers and contractors involved in hyperbaric operations shall be trained on all of the following:
    a. Recognizing the contraindications to working in a high-pressure environment and symptoms of hyperbaric illness;
    b. Follow-up requirements for medical evaluation;
    c. Safe practices to prevent decompression illness post-decompression;
    d. The dangers of breathing 100% oxygen including post-decompression procedures for physical activity as prescribed by the hyperbaric physician; and
    e. Oxygen enrichment fire hazards.

14. All hyperbaric workers shall be informed of the hazards of flying and traveling to high elevations within 24 hours of working in a high-pressure atmosphere.

15. All hyperbaric workers shall be informed of risk factors such as dehydration, smoking, and medications (such as PDES inhibitors) which promote the onset and severity of neurological decompression illness.

16. Prior to each shift with hyperbaric intervention, the applicant shall perform a comprehensive inspection and performance check of all pressure and safety related equipment and appurtenances associated with any decompression chamber that may be used at the worksite including, but not limited to:
    a. Lock seals, air compressors and their intakes;
    b. Control valves, pressure gages, alarms;
    c. Oxygen systems and oxygen detectors; and

d. Power sources and backups.

17. Pressure gauges shall be calibrated at least weekly during hyperbaric intervention.
18. Records of inspections, performance checks, and calibrations shall be retained and provided to Cal/OSHA upon request.

19. A continuous automatic recording of air pressure shall be logged for each entry into high pressure environments equal to or greater than 10.9 psi. The recordings shall include all time employees are in a high-pressure environment starting from when the chamber is first pressurized from atmospheric pressure up to working pressure until the time when the workers have completed decompression back to atmospheric pressure.

20. The names and job titles of all hyperbaric workers, lock attendants, competent persons, hyperbaric supervisors, and onsite physicians shall be maintained with each pressure recording as well as gas breathed and the date and time of entry and exit into and out of the pressurized environment.

21. Recordkeeping required by conditions 19 and 20 shall be deemed to be "Employee Exposure Records" in accordance with Title 8, section 3204. Those data shall be subject to all requirements that pertain to Employee Exposure Records pursuant to section 3204, and apart from any provision of section 3204 each hyperbaric worker shall be provided (free of charge) with a copy of the data (electronic or hardcopy) referred to in conditions 19 and 20. The data shall be provided to hyperbaric workers within 30 days after each hyperbaric intervention in which the worker participated.

22. Qualified, trained, and experienced lock attendant(s), back-up lock attendant, or Hyperbaric Operations Managers shall be stationed at the air pressure control valves and in communication with hyperbaric workers at all times during hyperbaric intervention. At all times during hyperbaric intervention there shall be at least two qualified, trained, and experienced persons immediately available to operate the controls of the decompression chamber.

23. The onsite hyperbaric physician or a qualified physician's assistance supervised by the onsite hyperbaric physician shall be stationed inside the tunnel in close proximity to the TBM during hyperbaric operations. If the onsite physician is not stationed inside the tunnel in close proximity to the TBM during hyperbaric operations, the physician shall be onsite and no more than 30 minutes total travel time away from the decompression chamber.

24. Hyperbaric workers shall not work more than eight hours in a pressurized environment in any 24-hour period.

25. Hyperbaric workers shall not exceed safe hyperbaric exposure limits as determined by the hyperbaric physician in any 24-hour period.

26. If any employee is decompressed more rapidly than allowed for the applicant's decompression tables for any reason, the applicant shall notify Cal/OSHA immediately and provide the details of the emergency, the compression/decompression data required by conditions 19 and 20, and the health status of all hyperbaric workers.

27. Any emergencies under compressed air, decanting, or symptoms of decompression illness will be reported to Cal/OSHA within 24 hours of the occurrence.

28. Both of the primary and secondary hyperbaric physicians shall be licensed in the state of California.

29. Decanting shall only be permitted in an emergency, provided that employees are decompressed in accordance with decompression tables utilized for the project shall be kept at the hyperbaric chambers and medical chamber.

30. Additional copies of the decompression tables utilized for the project shall be kept at the hyperbaric chambers and medical chamber.

31. Compressed air workers shall remain on the job after decompression for treatment and medical evaluations when necessary, as determined by the hyperbaric physician.

32. In oxygen systems, only equipment and materials that have been specifically designed for oxygen shall be used.

33. Oxygen equipment shall be thoroughly leak checked using suitable methods prior to each use.

34. When the work period is over, the main oxygen supply valve shall be closed to avoid possible oxygen leakage while the equipment is not being used.

35. Ventilation of at least six air changes per hour shall be provided during decompression with oxygen.

36. At least two separate and independent oxygen sensors shall be installed in chambers where oxygen decompression will be used. Oxygen levels shall be closely monitored during oxygen decompression. Ventilation shall be increased to maintain oxygen levels at or below 21.0 percent. If oxygen levels reach 23.5 percent, oxygen decompression must be stopped and decompression resumed using only decompression.

37. No hot work shall be done in decompression chambers during oxygen decompression.

38. Hyperbaric workers shall use flam resistant clothing or clothing made from natural fibers. No synthetic clothing can be sued.

39. Decompression in the TBM air locks/staging area shall not exceed 180 minutes.

40. Applicant shall notify its employees and their authorized representative, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2 and 411.3.

41. This Decision and Order shall remain in effect unless duly modified or revoked upon application by Applicant, affected employee(s), the Division, or by the Board on its own motion, in accordance with then in effect administrative procedures of the Board.

DATED: March 4, 2021

Autumn Gonzalez, Hearing Officer

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application to Modify Permanent Variance by: Microsoft Corporation	OSHSB FILE No. 19-V-158M1 Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application to Modify Permanent Variance by: Microsoft Corporation	OSHSB File No.: 19-V-158M1 PROPOSED DECISION Hearing Date: February 24, 2021

A. The following person or entity ("Applicant") has applied for a modification of permanent variance from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, for each elevator having the below specified preexisting variance location address of record:

Preexisting OSHSB File No.	Applicant Name	Variance Address of Record	Preexisting Number of Elevators
19-V-158	Microsoft Corporation	1065 La Avenida Street Mountain View, CA	7

B. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

C. Procedural Matters:

1. This hearing was held on February 24, 2021, in Sacramento, California, and via teleconference, by Occupational Safety and Health Standards Board ("Board") with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Jennifer Linares appeared on behalf of the Applicants' representative, the Schindler Elevator Company; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"); and Michael Nelmida appeared on behalf of Board staff.

3. Documentary and oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: the subject modification of

permanent variance application captioned above as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending Application(s) for Permanent Variance Opinion Letter as PD-3, Division evaluation as PD-4, Review Draft 1 Proposed Decision as PD-5, and official notice taken of the Board's files, records, recordings and decisions concerning the Elevator Safety Order requirements from which variance shall issue. On February 24, 2021, the hearing and record closed, and the matter was taken under submission by the Hearing Officer.

D. Findings and Basis:

Address Change

1. The Applicant requests modification of the address of the unchanging variance location specified within Board records for each elevator the subject of previously granted Permanent Variance 19-V-158.

2. Application Section 3, declared to be wholly truthful under penalty of perjury by Application signatory, states facts upon which reasonably may be based a finding that the address, specified in the records of the Board, at which Permanent Variance 19-V-158 is in effect, in fact is more completely, and correctly the different combination of addresses specified in below subsection D.5.

3. The Division has evaluated the request for modification of variance location address, finds no issue with it, and recommends that the application for modification be granted subject to the same conditions of the Decision and Order in OSHSB Permanent Variance File No. 19-V-158.

4. The Board finds the above subpart D.2 referenced declaration to be credible, uncontroverted, and consistent with available, sufficient facts, and of no bearing as to the finding of equivalent occupational health and safety upon which Grant of preexisting Permanent Variance 19-V-158 was, in part, based.

5. The Board finds the correct address by which to designate the location of each elevator the subject of Permanent Variance No. 19-V-158, to be:

1045 La Avenida St.
Mountain View, CA

Quantity Change

6. The Applicant requests modification of the quantity of elevators the subject of

previously granted Permanent Variance No. 19-V-158, to decrease the quantity of elevators from seven (7) to six (6).

7. The Division has evaluated the immediate request for modification of variance, finds no issue with it, and recommends that the application for modification be granted subject to the same conditions of the Decision and Order in OSHSB Permanent Variance File No. 19-V-158.

8. The Board finds the subpart D.2 referenced declaration to be credible, uncontroverted, and consistent with available, sufficient facts, and finds modification of Permanent Variance 19-V-158, decreasing the quantity of subject elevators from seven (7) to six (6), to be of no bearing upon the finding of equivalent occupational health and safety upon which Grant of preexisting Permanent Variance 19-V-158 was, in part, based.

E. Decision and Order:

1. Application for Modification of Permanent Variance, No. 19-V-158M1, is conditionally GRANTED, as specified below:

a a total of six (6) elevators are the subject of Permanent Variance No. 19-V-158, as hereby modified.

b without change in variance location, each elevator being the subject of Permanent Variance Nos. 19-V-158, and 19-V-158M1, shall have the following address designation:

1045 La Avenida St.
Mountain View, CA

2. Permanent Variance No. 19-V-158, being only modified as to the subject location address and quantity of elevators specified in above Decision and Order Section 1, is otherwise unchanged and remaining in full force and effect, as hereby incorporated by reference into Modification of Permanent Variance No. 19-V-158M1.

3. The applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way that the Applicant was required to notify them of the application for permanent variance, per California Code of Regulations, Title 8, Sections 411.2 and 411.3.

4. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division, or by the Board on its own motion, in the manner prescribed for its issuance.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, Hearing Officer

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application to Modify Permanent Variance by: Microsoft Corporation	OSHSB FILE No. 19-V-159M1 Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application to Modify Permanent Variance by: Microsoft Corporation	OSHSB File No.: 19-V-159M1 PROPOSED DECISION Hearing Date: February 24, 2021

A. The following person or entity ("Applicant") has applied for a modification of permanent variance from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, for each elevator having the specified preexisting variance location address of record:

Preexisting OSHSB File No.	**Applicant Name**	**Preexisting Variance Address of Record**
19-V-159	Microsoft Corporation	1065 La Avenida Street Mountain View, CA

B. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

C. Procedural Matters**:**

1. This hearing was held on February 24, 2021, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Jennifer Linares, appeared on behalf of the Applicant's representative, the Schindler Elevator Company; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"); and Michael Nelmida appeared on behalf of Board staff, in a technical advisory role apart from the Board.

3. Documentary and oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: the subject modification of permanent variance application captioned above as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending Application(s) for Permanent Variance Opinion Letter as PD-3, Division evaluation as PD-4, Review Draft 1 Proposed Decision as PD-5, and official notice taken of the Board's files, records, recordings and decisions concerning the Elevator Safety Order requirements from which variance shall issue. On February 24,

2021, the hearing and record closed, and the matter was taken under submission by the Hearing Officer.

D. Based on the record of this hearing, the Board makes the following findings of fact:

1. The Applicant requests modification of the address of the unchanging variance location specified within Board records for each elevator the subject of previously granted Permanent Variance 19-V-159.

2. Application Section 3, declared to be wholly truthful under penalty of perjury by Application signatory, states facts upon which reasonably may be based a finding that the address, specified in the records of the Board, at which Permanent Variance 19-V-159 is in effect, in fact is more completely, and correctly the different combination of addresses specified in below subsection D.5.

3. The Division has evaluated the request for modification of variance location address, finds no issue with it, and recommends that the application for modification be granted subject to the same conditions of the Decision and Order in OSHSB Permanent Variance File No. 19-V-159.

4. The Board finds the above subpart D.2 referenced declaration to be credible, uncontroverted, and consistent with available, sufficient facts, and of no bearing as to the finding of equivalent occupational health and safety upon which Grant of preexisting Permanent Variance 19-V-159 was, in part, based.

5. The Board finds the correct address by which to designate the location of each elevator the subject of Permanent Variance No. 19-V-159, to be:

1045 La Avenida St.
Mountain View, CA

E. <u>Decision and Order:</u>

1. Permanent Variance Application No. 19-V-159M1 is conditionally GRANTED, thereby modifying Board records, such that, without change in variance location, each elevator being the subject of Permanent Variance Nos. 19-V-159, and 19-V-159M1, shall have the following address designation:

1045 La Avenida St.
Mountain View, CA

2. Permanent Variance No. 19-V-159, being only modified as to the subject location address specified in above Decision and Order Section 1, is otherwise unchanged and

remaining in full force and effect, as hereby incorporated by reference into this Decision and Order of Permanent Variance No. 19-V-159M1.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, Hearing Officer

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application to Modify Permanent Variance by: CHF-Davis I, LLC	OSHSB FILE No. 20-V-254M1 Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application to Modify Permanent Variance by: CHF-Davis I, LLC	OSHSB File No.: 20-V-254M1 PROPOSED DECISION Hearing Date: February 24, 2021

A. The following person or entity ("Applicant") has applied for a modification of permanent variance from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, for each elevator having the specified preexisting variance location address of record:

Preexisting OSHSB File No.	Applicant Name	Preexisting Variance Address of Record
20-V-254	CHF-Davis I, LLC	UC Davis Student Housing West Village 2228 Tilia Street Davis, CA

B. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

C. Procedural Matters:

1. This hearing was held on February 24, 2021, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Wolter Geesink with Otis Elevator Company, and Dan Leacox of Leacox & Associates, appeared on behalf of the Applicant; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"); and Michael Nelmida appeared on behalf of Board staff in a technical advisory role apart from the Board.

3. Documentary and oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: the subject modification of permanent variance application captioned above as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending Application(s) for Permanent Variance Opinion Letter as PD-3, Division evaluation as PD-4, Review Draft 1 Proposed Decision as PD-5, and official notice taken of the Board's rulemaking records and variance decisions concerning the

safety order provisions from which variance has been requested. On February 24, 2021, the hearing and record closed, and the matter was taken under submission by the Hearing Officer.

D. Based on the record of this hearing, the Board makes the following findings of fact:

1. The Applicant requests modification of the address of the unchanging variance location specified within Board records for each elevator the subject of previously granted Permanent Variance 20-V-254.

2. Application Section 3, declared to be wholly truthful under penalty of perjury by Application signatory, states facts upon which reasonably may be based a finding that the address, specified in the records of the Board, at which Permanent Variance 20-V-254 is in effect, in fact is more completely, and correctly the different address information specified in below subsection D.5.

3. The Division has evaluated the request for modification of variance location address, finds no issue with it, and recommends that the application for modification be granted subject to the same conditions of the Decision and Order in OSHSB Permanent Variance File No. 20-V-254.

4. The Board finds the above subpart D.2 referenced declaration to be credible, uncontroverted, and consistent with available, sufficient facts, and of no bearing as to the finding of equivalent occupational health and safety upon which Grant of preexisting Permanent Variance 20-V-254 was, in part, based.

5. The Board finds the correct address by which to designate the location of each elevator the subject of Permanent Variance No. 20-V-254, to be:

298 Celadon St.
Davis, CA
301 Celadon St.
Davis, CA
2079 Tilia St.
Davis, CA
184 Horizon St.
Davis, CA
298 Horizon St.
Davis, CA
2231 Jade St.
Davis, CA

187 Mint St.
Davis, CA
298 Citron St.
Davis, CA
301 Citron St.
Davis, CA

E. Decision and Order**:**

1. Permanent Variance Application No. 20-V-254M1 is conditionally GRANTED, thereby modifying Board records, such that, without change in variance location, each elevator being the subject of Permanent Variance Nos. 20-V-254, and 20-V-254M1, shall have the following address designation:

298 Celadon St.
Davis, CA
301 Celadon St.
Davis, CA
2079 Tilia St.
Davis, CA
184 Horizon St.
Davis, CA
298 Horizon St.
Davis, CA
2231 Jade St.
Davis, CA
187 Mint St.
Davis, CA
298 Citron St.
Davis, CA
301 Citron St.
Davis, CA

2. Permanent Variance No. 20-V-254, being only modified as to the subject location address specified in above Decision and Order Section 1, is otherwise unchanged and remaining in full force and effect, as hereby incorporated by reference into this Decision and Order of Permanent Variance No. 20-V-254M1.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 25, 2021

Christina Shupe, Hearing Officer

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance Regarding: ThyssenKrupp Elevators (Group IV; wire ropes and sheaves)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: ThyssenKrupp Elevators[1] (Group IV; wire ropes and sheaves)	OSHSB File Nos.: Per Section A.1 table PROPOSED DECISION Hearing Date: February 24, 2021

A. Subject Matter:

1. Each below listed applicant ("Applicant") has applied for permanent variance from provisions California Code of Regulations, Title 8, Elevator Safety Orders, with respect to a conveyance, or conveyances, in the listed quantity, at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-449	Fremont Walnut Apartments LLC	3515 Walnut Ave. Fremont, CA	3
21-V-002	Kipling Post LP	429 University Ave. Palo Alto, CA	1

2. The subject safety orders requirements are specified in the prefatory part of the Section E, Decision and Order.

B. Procedural:

1. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

2. This hearing was held on February 24, 2021, in Sacramento, California via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

3. At the hearing, Andrew Ferris, with ThyssenKrupp Elevator appeared on behalf of each Applicant, Mark Wickens appeared on behalf of the Division of Occupational Safety and

[1] During the February 24, 2021, hearing, Mr. Ferris notified the Hearing Officer that ThyssenKrupp Elevators has recently rebranded as "TK Elevators". While an amended application was not filed in this matter, future variance applications will reflect this change.

Health ("Division"), and Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

4. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: each respective Section A.1 specified Application for Permanent Variance as Exhibit PD-1; Notice of Hearing in this matter as PD-2; Board staff Pending Application Memorandum as PD-3; Division Review of Application as PD-4; Review Draft 1 Proposed Decision as PD-5; and official notice taken of the Board's files, records, recordings and decisions regarding conveyances. At the close of the hearing on February 24, 2021, the record was closed, and matter taken under submission by the Hearing Officer.

C. Findings of Fact—Based on the record of this proceeding, the Board finds the following:

1. Each Applicant intends to utilize ThyssenKrupp elevators in the numbers and at the locations stated in the above Section A.1 table.

2. The installation contracts for these elevators were, or will be, signed on or after May 1, 2008, making the elevators subject to the Group IV Elevator Safety Orders (ESO).

3. Each Applicant proposes to diverge from the safety orders by using:

   a. 8x19 suspension ropes that are 8 mm in diameter (9.5 mm is the minimum diameter allowed by ASME A17.1-2004, Section 2.20.4) and that have outer wires that are 0.36 mm in diameter (0.56 mm is the minimum diameter allowed by ASME A17.1 2004, Section 2.20.4); and

   b. Non-metallic deflector and idler sheaves (specifically, Schwartz Optamid-6 thermoplastic cast sheaves).

4. With respect to the ropes and outer wires, equivalent safety is to be provided by such measures as the following (some or all of which are intended to provide a factor of safety meeting or exceeding the safety factor required by ASME A17.1-2004, Table 2.20.3):

   a. Using a designated number of suspension ropes per elevator, in accordance with each elevator's capacity;

   b. Providing a 2:1 roping ratio;

   c. Installing a device known as a loadweigher (a rope tension monitoring system);

   d. Limiting the car speed in accordance with ThyssenKrupp engineering data; and

e. Limiting the maximum suspended load of the elevator in accordance with the elevator's design and specifications.

5. In many prior ThyssenKrupp and KONE elevator variances, the Board has allowed the use of ropes and outer wires with diameters less than the minimums stated in ASME A17.1-2004, Section 2.20.4. In prior ThyssenKrupp variances of this nature, the Board has made findings of fact to the following effect:

   a. Each Applicant has adopted the assertion that "One rope manufacturer, with an estimated 20% of the Global market, has sold over 20 million meters of 8 mm rope with no indication of problems."

   b. Tests performed on Drako brand 8 mm diameter rope generated data to the effect that "the breaking force applied in single bend for failure of the rope resulted in" forces of 7910 pounds to 9550 pounds for the Drako rope; the breaking force when new and when using production rope shackles was calculated as 9740 pounds for the Drako rope. As to Gustav Wolf brand 8 mm diameter wire rope (part number 80-056SC, 8X19 Warrington), test data include the following: cycling tests disclosed that the breaking force applied in single bend for failure of the rope resulted in a force of 8360 pounds, and that the breaking force when new was calculated at 9919 pounds using production rope shackles.

   c. Division evaluations have stated that "ThyssenKrupp Elevator contends that the smaller diameter steel ropes are more pliable and less likely to kink thus reducing the probability of operational failures due to rope damage."

   d. Each Applicant has asserted that the ropes proposed for use (both the Drako and the Gustav Wolf) have steel cores which augment the strength of the ropes so that the required factor of safety is achieved when 0.36 mm diameter outer wires are used.

   e. Each Applicant has asserted that the factor of safety for the proposed suspension ropes is at least equivalent to the factor of safety for code-compliant suspension ropes, and neither the Division nor the Board staff presented any evidence or argument to the contrary.

6. With respect to the sheaves, the Board has made findings of fact to the following effect in prior, similar variance matters:

   a. Documentation has stated that similar Schwartz Optamid-6 thermoplastic cast sheaves "have been used successfully throughout the world since 1970."

b. Such sheaves have been used in ThyssenKrupp ISIS-1 and ISIS-2 elevator systems in California, starting with a temporary/experimental variance issued in 2004, and the Board staff is not aware of any service problems related to the thermoplastic sheaves.

c. Each Applicant has asserted that the proposed thermoplastic sheaves have advantages in these areas: noise reduction, reduction in vibration, resistance to rope lubricants and increased rope life.

d. Each Applicant has asserted that the factor of safety for the proposed non-metallic sheaves is at least equivalent to the factor of safety for code-compliant sheaves, and neither the Division nor the Board staff has presented any evidence or argument to the contrary.

7. The number of suspension ropes per Condition No. 3, the maximum rated speed per Condition No. 6, and the total suspended load per Condition No. 7 in the Decision and Order result from the details of the proposed installations.

8. The Board incorporates by reference Section B.9, of the Proposed Decision adopted by the Board on September 25, 2014, in OSHSB File No. 14-V-117.

9. Conditions set forth in the present Decision and Order are necessary and sufficient to provide for, at minimum, safety equivalent to that which would exist upon non-variant conformity with the ESO requirements from which variance is to be granted.

10. Both Division and Board staff, by means of respective written submissions to the record (Exhibits PD-4, and PD-3), as well as consistent statements of position at hearing, have made clear their concurrence of opinion and recommending that grant of permanent variance, subject to the conditions and limitations incorporated into the present Decision and Order, will provide, at minimum, safety equivalent to that of non-variant compliance with the ESO requirements at issue.

D. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted, and (2) a preponderance of the evidence establishes that each Applicants proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent conveyance and workplace safety

and health to that which would prevail upon full compliance with the ESO requirements from which variance is being sought.

E. Decision and Order:

Each Application for Permanent Variance that is a subject of this proceeding, per Section A.1 table above, is conditionally GRANTED, as specified below, and to the extent, as of the date the Board adopts this Proposed Decision, the Applicant shall have permanent variances from California Code of Regulations, Title 8, Section 3141 [ASME A17.1-2004, Section 2.20.4 (insofar as it requires that the "minimum diameter of hoisting and counter-weight ropes shall be 9.5 mm (0.375 in.)" and that the outer wires of the ropes "shall be not less than 0.56mm (0.024 in.) in diameter") and 2.24.2.1 (to the extent necessary to allow the Applicant to use the cast thermoplastic deflector and idler sheaves proposed in the subject permanent variance application)], for the locations and numbers of elevators set forth in the Section A.1 table, subject to the following conditions:

1. Variance is granted from the Title 8 and ASME provisions referred to in the prefatory portion of this Decision and Order only to the extent necessary to allow the Applicant to use suspension ropes specified in Condition No. 2 and the non-metallic sheaves specified in Condition No. 10.

2. The diameter of the hoisting steel ropes shall be not less than 8 mm, and the outer wires of the suspension rope shall be not less than 0.36 mm in diameter. The rope shall be Drako brand 250T 8 strand EHS rated or Gustav Wolf brand, part no. 80-056SC, 8x19 Warrington IWRC, steel rope.

3. The number of suspension ropes for each elevator shall be not less than the number of ropes stated in Appendix 1 attached hereto and incorporated herein by this reference. The roping ratio for each elevator shall be two to one (2:1).

4. The ropes shall be inspected annually for wire damage (rouge, valley break, etc.) in accordance with the manufacturer's recommendation for 8 mm steel wire rope.

5. The rope inspection log shall be maintained and shall be available in the elevator control room at all times.

6. The elevator rated speed shall not exceed the rated speed specified in Appendix 1, attached hereto, and incorporated herein by this reference.

7. The total suspended load for each elevator shall not exceed the total load stated in Appendix 1, attached hereto, and incorporated herein by this reference.

8. The Applicant shall provide and install a Rope Tension Monitoring System (RTMS) on each suspension rope. The RTMS shall monitor the tension in each suspension rope and immediately cut off power to the elevator machine and brakes if the differential between any single rope and the average tension in all ropes suspending the car exceeds ±40% for more than 3 seconds. The Applicant will take all reasonable steps to make sure that this system is set to operate if there is a "±40%" tension discrepancy; however, no violation of this condition will be deemed to occur if, on a given occasion, the system goes into operation when the tension discrepancy is between "±40%" and "±45%."

9. Any Certified Qualified Conveyance Company (CQCC; elevator contractor) performing inspection, maintenance, servicing or testing of the elevator shall be provided a copy of the variance decision. Before any CQCC works on any of these elevators, the Applicant will ensure that the CQCC has personnel who are trained and available to perform CQCC duties with respect to the RTMS referred to in Condition No. 8 and that such work is performed only by trained and qualified personnel.

10. If non-metallic deflector and/or idler sheave(s) are installed, they shall be a Schwartz thermoplastic cast polymide 6 "Optamid". The ratio of the sheave diameter to the rope diameter (D/d ratio) shall be not less than 40:1.

11. The Division shall be notified when the elevator is ready for inspection, and the elevator shall not be put into service prior to having been inspected, and issued a Permit to Operate by the Division.

12. The Applicant shall be subject to the Suspension Means Replacement Reporting Condition stated in Appendix 2; that condition is incorporated herein by this reference.

13. The Applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2 and 411.3.

14. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division of Occupational Safety and Health, or by the Board on its own motion, in accordance with procedures per Title 8, Division 1, Chapter 3.5.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 25, 2021

Christina Shupe, Hearing Officer

APPENDIX 1

OSHSB File Number	Car	Minimum Suspension Ropes per Elevator (per Condition No. 3)	Roping Ratio	Max. Rated Speed In Feet per Minute (per Condition No. 6)	Maximum Suspended Load per Elevator (+5%) (per Cond.No. 7)
20-V-449	G1	6	2:1	150	6,800
20-V-449	G2	6	2:1	150	6,800
20-V-449	R1	6	2:1	150	6,789
21-V-002	1	6	2:1	150	7,206

APPENDIX 2

Suspension Means Replacement Reporting Condition

Beginning on the date the Board adopts this Proposed Decision and continuing for a period of two years, the Applicant shall report to the Division within 30 days any and all replacement activity performed on the elevator(s) pursuant to the requirements of ASME A17.1-2004, Section 8.6.3 involving the suspension means or suspension means fastenings. Further:

1. A separate report for each elevator shall be submitted, in a manner acceptable to the Division, to the following address (or to such other address as the Division might specify in the future): DOSH Elevator Unit, 2 MacArthur Place, Suite 700, Santa Ana, CA 92707, Attn: Engineering Section.

2. Each such report shall contain, but not necessarily be limited to, the following information:

    a. The State-issued conveyance number, complete address, and OSHSB file number that identifies the permanent variance.

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

    f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement and (2) any conditions that existed to cause damage or distress to the suspension components being replaced.

    g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in Section 2.a above.

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance Regarding: KONE Monospace 500 Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: KONE Monospace 500 Elevators (Group IV)	OSHSB File Nos.: Per Section A.1 Grid Below PROPOSED DECISION Hearing Date: February 24, 2021

A. Subject Matter:

1. Each below listed applicant ("Applicant") applied for a permanent variance from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, with respect to a conveyance, or conveyances, in the listed quantity, at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-469	ARHC HRCYCA001, LLC	5751 Katella Ave. Cypress, CA	1
20-V-514	CAP VZ, LLC	1194 Champions Dr. San Jose, CA	4
20-V-521	ONELEGACY	1303 W. Optical Drive Azusa, CA	2
20-V-522	NASH Holland 1375 St Andrews Investors, LLC	5620 De Longpre Ave. Los Angeles, CA	2
20-V-544	625-675 Mathilda LLC.	650 Vaqueros Avenue Sunnyvale, CA	1
20-V-545	National City Pacific Associates, A CA Limited Partnership	1125 National City Blvd., National City, CA	3

2. The subject Title 8, safety order requirements are set out within California Code of Regulations, Title 8, Section 3141 incorporated ASME A17.1-2004, Sections 2.18.5.1 and 2.20.4.

B. Procedural:

1. This hearing was held on February 24, 2021, in Sacramento, California and via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Manish Sablok, with KONE, Inc., appeared on behalf of each Applicant; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Michael Nelmida appeared on behalf of Board staff in a technical advisory capacity apart from the Board.

3. Documentary and oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: permanent variance applications per Section A.1 table as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review Draft 1 Proposed Decision as PD-5, and official notice taken of the Board's rulemaking records and variance decisions concerning the safety order requirements from which variance is sought. Upon close of hearing on February 24, 2021, the record closed and the matter was taken under submission by the Hearing Officer.

C. Findings of Fact—Based on the record of this proceeding, the Board finds the following:

1. Each respective Applicant intends to utilize the KONE Inc. Monospace 500 type elevator, in the quantity, at the location, specified per the above Section A.1 table.

2. The installation contract for this elevator was or will be signed on or after May 1, 2008, thus making the elevator subject to the Group IV Elevator Safety Orders.

3. Each Applicant proposes to use hoisting ropes that are 8 mm in diameter which also consist of 0.51 mm diameter outer wires, in variance from the express requirements of ASME A17.1-2004, Section 2.20.4.

4. In relevant part, ASME A17.1-2004, Section 2.20.4 states:

2.20.4 Minimum Number and Diameter of Suspension Ropes

> *…The minimum diameter of hoisting and counterweight ropes shall be 9.5 mm (0.375 in.). Outer wires of the ropes shall be not less than 0.56 mm (0.024 in.) in diameter.*

5. An intent of the afore cited requirement of ASME A17.1-2004, Section 2.20.4, is to ensure that the number, diameter, and construction of suspension ropes are adequate to provided safely robust and durable suspension means over the course of the ropes' foreseen service life.

6. KONE has represented to Division and Board staff, having established an engineering practice for purposes of Monospace 500 elevator design, of meeting or exceeding the minimum factor of safety of 12 for 8 mm suspension members, as required in ASME A17.1-2010, Section 2.20.3—under which, given that factor of safety, supplemental broken suspension member protection is not required.

7. Also, each Applicant proposes as a further means of maintaining safety equivalence, monitoring the rope in conformity with the criteria specified within the *Inspector's Guide to 6 mm Diameter Governor and 8 mm Diameter Suspension Ropes for KONE Elevators* (per Application attachment "B", or as thereafter revised by KONE subject to Division approval).

8. In addition, each Applicant has proposed to utilize 6 mm diameter governor ropes in variance from Title 8, Section 3141, incorporated ASME A17.1-2004, Section 2.18.5.1.

9. ASME A17.1-2004, Section 2.18.5.1, specifies, in relevant part:

> *2.18.5.1 Material and Factor of Safety.*
>
> *… [Governor ropes] not less than 9.5 mm (0.375 in.) in diameter. The factor of safety of governor ropes shall be not less than 5…*

10. The Board takes notice of Title 8, Elevator Safety Order Section 3141.7, subpart (a)(10):

> *A reduced diameter governor rope of equivalent construction and material to that required by ASME A17.1-2004, is permissible if the factor of safety as related to the strength necessary to activate the safety is 5 or greater;*

11. Applicants propose use of 6mm governor rope having a safety factor of 5 or greater, in conformity with Section 3141.7(a)(10), the specific parameters of which, being expressly set out within Title 8, Elevator Safety Orders, take precedence over more generally referenced governor rope diameter requirements per ASME A17.1-2004, Section 2.18.5.1. Accordingly, the governor rope specifications being presently

proposed, inclusive of a factor of safety of 5 or greater, would comply with current Title 8, Elevator Safety Orders requirements, and therefore not be subject to issuance of permanent variance.

12. Absent evident diminution in elevator safety, over the past decade the Board has issued numerous permanent variances for use in KONE (Ecospace) elevator systems of 8 mm diameter suspension rope materially similar to that presently proposed (e.g. OSHSB File Nos. 06-V-203, 08-V-245, and 13-V-303).

13. As noted by the Board in OSHSB File Nos. 18-V-044, and 18-V-045, Decision and Order Findings, subpart B.17 (hereby incorporated by reference), the strength of wire rope operating as an elevator's suspension means does not remain constant over its years of projected service life. With increasing usage cycles, a reduction in the cross-sectional area of the wire rope normally occurs, resulting in decreased residual strength. This characteristic is of particular relevance to the present matter because, as also noted by Board staff, decreasing wire rope diameter is associated with a higher rate of residual strength loss. This foreseeable reduction in cross-sectional area primarily results from elongation under sheave rounding load, as well as from wear, and wire or strand breaks. However, these characteristics need not compromise elevator safety when properly accounted for in the engineering of elevator suspension means, and associated components.

14. The presently proposed wire rope is Wuxi Universal steel rope Co LTD. 8 mm 8x19S+8x7+PP, with a manufacturer rated breaking strength of 35.8 kN, and an outer wire diameter of less than 0.56 mm, but not less than 0.51 mm. Both Board staff and Division safety engineers have scrutinized the material and structural specifications, and performance testing data, of this particular proposed rope, and conclude it will provide for safety equivalent to ESO compliant 9.5 mm wire rope, with 0.56 mm outer wire (under conditions of use included within the below Decision and Order).

15. The applicant supplies tabulated data regarding the "Maximum Static Load on All Suspension Ropes." To obtain the tabulated data, the applicant uses the following formula derived from ASME A17.1 2004, Section 2.20.3:

W = (S x N)/ f

where

W = maximum static load imposed on all car ropes with the car and its rated load at any position in the hoistway

N = number of runs of rope under load. For 2:1 roping, N shall be two times the number of ropes used, etc.

S = manufacturer's rated breaking strength of one rope
f = the factor of safety from Table 2.20.3

16. ASME A17.1-2010 Sections 2.20.3 and 2.20.4 utilize the same formula, but provide for use of suspension ropes having a diameter smaller than 9.5 mm, under specified conditions, key among them being that use of ropes having a diameter of between 8 mm to 9.5 mm be engineered with a factor of safety of 12 or higher. This is a higher minimum factor of safety than that proposed by Applicant, but a minimum recommended by both Board staff and Division as a condition of variance necessary to the achieving of safety equivalence to 9.5 mm rope.

17. Board staff and Division are in accord with Applicant, in proposing as a condition of safety equivalence, that periodic physical examination of the wire ropes be performed to confirm the ropes continue to meet the criteria set out in the (Application attachment) *Inspector's Guide to 6 mm Diameter Governor and 8 mm Diameter Suspension Ropes for KONE Elevators.* Adherence to this condition will provide an additional assurance of safety equivalence, regarding smaller minimum diameter suspension rope outer wire performance over the course of its service life.

18. Both Board staff, and Division, by way of written submissions to the record (Exhibits PD-3 and PD-4 respectively), and stated positions at hearing, are of the well informed opinion that grant of permanent variance, as limited and conditioned per the below Decision and Order will provide employment, places of employment, and subject conveyances, as safe and healthful as would prevail given non-variant conformity with the Elevator Safety Order requirements from which variance has been requested.

D. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted; and (2) a preponderance of the evidence establishes that each Applicants proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent safety and health to that which would prevail upon full compliance with the requirements of California Code of Regulation, Title 8, Elevator Safety Orders from which variance is being sought.

E. Decision and Order:

Each Application being the subject of this proceeding, per above Section A.1 table, is conditionally GRANTED, to the extent that each such Applicant shall be issued permanent

variance from California Code of Regulations, Title 8, Section 3141 incorporated ASME A17.1-2004, Section 2.20.4, in as much as it precludes use of suspension rope of between 8 mm and 9.5 mm, or outer wire of between 0.51 mm and 0.56 mm in diameter, at such locations and numbers of Group IV KONE Monospace 500 elevators identified in each respective Application, subject to the following conditions:

1. The diameter of the hoisting steel ropes shall be not less than 8 mm (0.315 in) diameter and the roping ratio shall be two to one (2:1).

2. The outer wires of the suspension ropes shall be not less than 0.51 mm (0.02 in.) in diameter.

3. The number of suspension ropes shall be not fewer than those specified per hereby incorporated Decision and Order Appendix 1 Table.

4. The ropes shall be inspected annually for wire damage (rouge, valley break etc.) in accordance with "KONE Inc. Inspector's Guide to 6 mm diameter and 8 mm diameter steel ropes for KONE Elevators" (per Application Exhibit B, or as thereafter amended by KONE subject to Division approval).

5. A rope inspection log shall be maintained and available in the elevator controller room / space at all times.

6. The elevator rated speed shall not exceed those speeds specified per the Decision and Order Appendix 1 Table.

7. The maximum suspended load shall not exceed those weights (plus 5%) specified per the Decision and Order Appendix 1 Table.

8. The opening to the hoistway shall be effectively barricaded when car top inspection, maintenance, servicing, or testing of the elevator equipment in the hoistway is required. If the service personnel must leave the area for any reason, the hoistway and control room doors shall be closed.

9. The installation shall meet the suspension wire rope factor of safety requirements of ASME A17.1-2013 Section 2.20.3.

10. Any Certified Qualified Conveyance Company performing inspections, maintenance, servicing or testing the elevators shall be provided a copy of this variance decision.

11. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division and a "Permit to Operate" issued before the elevator is placed in service.

12. The Applicant shall comply with suspension means replacement reporting condition per hereby incorporated Decision and Order Appendix 2.

13. The Applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2 and 411.3.

14. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division of Occupational Safety and Health, or by the Board on its own motion, in accordance with procedures per Title 8, Division 1, Chapter 3.5.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, Hearing Officer

Appendix 1

	Monospace 500 Suspension Ropes Appendix 1 Table			
OSHSB File No.	Elevator ID	Minimum Quantity of Ropes (per Condition 3)	Maximum Speed in Feet per Minute (per Condition 6)	Maximum Suspended Load (per Condition 7)
20-V-469	1	7	200	11,556
20-V-514	1	7	150	12,247
20-V-514	2	7	150	12,247
20-V-514	3	7	150	12,247
20-V-514	4	7	150	12,247
20-V-521	#4 Parking	4	150	6,998
20-V-521	#5 West Lobby	4	150	6,998
20-V-522	1	8	350	11,706
20-V-522	2	8	350	11,706
20-V-544	1	7	150	12,247
20-V-545	1	8	200	13,207
20-V-545	2	8	200	13,207
20-V-545	3	8	200	13,207

Appendix 2

Suspension Means Replacement Reporting Condition

Beginning on the date the Board adopts this Proposed Decision and continuing for a period of two years, the Applicant shall report to the Division within 30 days any and all replacement activity performed on the elevator(s) pursuant to the requirements of ASME A17.1-2004, Section 8.6.3 involving the suspension means or suspension means fastenings. Further:

1. A separate report for each elevator shall be submitted, in a manner acceptable to the Division, to the following address (or to such other address as the Division might specify in the future): DOSH Elevator Unit, 2 MacArthur Place, Suite 700, Santa Ana, CA 92707, Attn: Engineering Section.

2. Each such report shall contain, but not necessarily be limited to, the following information:

    a. The State-issued conveyance number, complete address, and OSHSB file number that identifies the permanent variance.

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

    f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement and (2) any conditions that existed to cause damage or distress to the suspension components being replaced.

g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in above Appendix 2, Section 2, Subsection (a), above.

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance Regarding: Otis Gen2S Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: Otis Gen2S Elevators (Group IV)	OSHSB File Nos.: Per Section A table, below PROPOSED DECISION Hearing Date: February 24, 2021

A. Subject Matter

1. Each below listed applicant ("Applicant") has applied for permanent variances from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, with respect to the listed conveyance or conveyances, in the specified quantity, at the specified location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-509	Kern Community College	ABC Campus Center ABC Building 1801 Panorama Drive Bakersfield, CA	2
20-V-517	University of California - Santa Cruz	Kresge College: Academic Center and Residence Halls A, B, and C 510 Porter-Kresge Road Santa Cruz, CA	4
20-V-518	Jefferson Southgate, LLC	10920 Garfield Ave. South Gate, CA	3
20-V-519	University of California at Riverside	UCR Student Success Center, #823 900 University Drive Riverside, CA	2
20-V-524	UB RiverRow LLC	1901 W. Blake Ave Los Angeles, CA	1
20-V-525	Gemdale Aperture Phase 2 LLC	Aperture Parking Structure 6039 Edgewood Bend Court San Diego, CA	4

20-V-526	Alliance Residential	Heritage Village Parking 2590 S. Red Hill Avenue, Bldg C Santa Ana, CA	2
20-V-527	Alliance Residential	Heritage Village Apartments 2590 S. Red Hill Avenue, Bldg C Santa Ana, CA	3
20-V-528	1503 Venice LLC	1503 E. Venice Blvd. Los Angeles, CA	1
20-V-529	Marmar Corning, LLC.	1051 S. Corning St. Los Angeles, CA	1
20-V-530	Shenandoah Plaza, LLC.	1021 S. Shenandoah St. Los Angeles, CA	1
20-V-531	1101 Bedford, LLC	1101 S. Bedford St. Los Angeles, CA	1
20-V-532	502 Harvard Venture, LLC	3920 W 5th St. Los Angeles, CA	1
20-V-533	Bridge Berkeley Way, LP	2012 Berkeley Way - BRIDGE Berkeley, CA	2
20-V-534	BFHP Hope Center LP	2012 Berkeley Way - BFHP HOPE Berkeley, CA	2
20-V-535	3050 Del Hombre Holdings, LLC	3050 Del Hombre Lane Walnut Creek, CA	3
20-V-538	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	4310 Hubbard St. Emeryville, CA	1
20-V-539	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	4510 Hubbard St. Emeryville, CA	3
20-V-540	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	4515 Hubbard St. Emeryville, CA	2
20-V-541	LMV II Emeryville Holdings, LP a Delaware Limited Partnership	4610 Hubbard St. Emeryville, CA	2
20-V-542	RREEF Management L.L.C.	3100 N. Sepulveda Blvd. Manhattan Beach, CA	1

21-V-003	Hollywood Park Retail/Commercial Investors, LLC	3988 East Hardy Street Inglewood, CA	2
21-V-004	Hollywood Park Retail/Commercial Investors, LLC	3998 East Hardy Street Inglewood, CA	3

2. The safety orders from which variance may issue, are enumerated in the portion of the below Decision and Order preceding the variance conditions.

B. Procedural

1. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

2. This hearing was held on February 24, 2021, in Sacramento, California, and via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

3. At the hearing, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator, appeared on behalf of each Applicant; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Michael Nelmida appeared on behalf of Board staff, in a technical advisory role apart from the Board.

4. Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: each respective permanent variance applications per Section A table as Exhibit PD-1; Notice of Hearing as Exhibit PD-2; Board staff Pending Application Memorandum as PD-3; Division Review of Application as PD-4; Review Draft 1 Proposed Decision as PD-5; and official notice taken of the Board's rulemaking records, and variance files and decisions, concerning the Elevator Safety Order standards at issue. At close of hearing on February 24, 2021, the record was closed, and the matter taken under submission by the Hearing Officer.

C. Findings and Basis:

Based on the record of this hearing, the Board makes the following findings of fact:

1. Each Applicant intends to utilize Otis Gen2S elevators at the locations and in the numbers stated in the above Section A table.

2. The installation contracts for these elevators were or will be signed on or after May 1, 2008, making the elevators subject to the Group IV Elevator Safety Orders.

3. The Board incorporates by reference Items (i.e. Sections) D.3 through D.9 of the Proposed Decision adopted by the Board on July 18, 2013 regarding OSHSB File No. 12-V-093 and Item D.4 of the Proposed Decision adopted by the Board on September 25, 2014 in OSHSB File No. 14-V-206.

4. Both Board staff and Division, by way of written submissions to the record (Exhibits PD-3 and PD-4 respectively), and positions stated at hearing, are of the well informed opinion that grant of requested permanent variance, as limited and conditioned per the below Decision and Order will provide employment, places of employment, and subject conveyances, as safe and healthful as would prevail given non-variant conformity with the Elevator Safety Order requirements from which variance has been requested.

D. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted; and (2) a preponderance of the evidence establishes that each Applicants proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent safety and health to that which would prevail upon full compliance with the requirements of California Code of Regulation, Title 8, Elevator Safety Orders from which variance is being sought.

E. Decision and Order:

Each permanent variance application the subject of this proceeding is conditionally GRANTED as specified below, and to the extent, as of the date the Board adopts this Proposed Decision, each Applicant listed in the above Section A table shall have permanent variances from California Code of Regulations, Title 8, Section 3141 and from the following sections of ASME A17.1-2004 that Section 3141 makes applicable to the elevators the subject of those applications:

- Car top railing: Sections 2.14.1.7.1 (only to the extent necessary to permit an inset car top railing, if, in fact, the car top railing is inset);

- Speed governor over-speed switch: 2.18.4.2.5(a) (only insofar as is necessary to permit the use of the speed reducing system proposed by the Applicants, where the speed reducing switch resides in the controller algorithms, rather than on the governor, with the necessary speed input supplied by the main encoder signal from the motor);

- Governor rope diameter: 2.18.5.1 (only to the extent necessary to allow the use of reduced diameter governor rope);

- Pitch diameter: 2.18.7.4 (to the extent necessary to use the pitch diameter specified in Condition No. 13.c);

- Suspension means: 2.20.1, 2.20.2.1, 2.20.2.2(a), 2.20.2.2(f), 2.20.3, 2.20.4, 2.20.9.3.4 and 2.20.9.5.4—the variances from these "suspension means" provisions are only to the extent necessary to permit the use of Otis Gen2 flat coated steel suspension belts in lieu of conventional steel suspension ropes;

- Inspection transfer switch: 2.26.1.4.4(a) (only to the extent necessary to allow the inspection transfer switch to reside at a location other than a machine room, if, in fact, it does not reside in the machine room); and

- Seismic reset switch: 8.4.10.1.1(a)(2)(b) (only to the extent necessary to allow the seismic reset switch to reside at a location other than a machine room, if, in fact, it does not reside in the machine room).

These variances apply to the locations and numbers of elevators stated in the Section A table (so long as the elevators are Gen2S Group IV devices that are designed, equipped, and installed in accordance with, and are otherwise consistent with, the representations made in the Otis Master File [referred to in previous proposed decisions as the "Gen2 Master File") maintained by the Board, as that file was constituted at the time of this hearing) and are subject to the following conditions:

1. The suspension system shall comply with the following:

    a. The coated steel belt and connections shall have factors of safety equal to those permitted for use by Section 3141 [ASME A17.1-2004, Section 2.20.3] on wire rope suspended elevators.

    b. Steel coated belts that have been installed and used on another installation shall not be reused.

c. The coated steel belt shall be fitted with a monitoring device which has been accepted by the Division and which will automatically stop the car if the residual strength of any single belt drops below 60 percent. If the residual strength of any single belt drops below 60 percent, the device shall prevent the elevator from restarting after a normal stop at a landing.

d. Upon initial inspection, the readings from the monitoring device shall be documented and submitted to the Division.

e. A successful test of the monitoring device's functionality shall be conducted at least once a year (the record of the annual test of the monitoring device shall be a maintenance record subject to ASME A17.1-2004, Section 8.6.1.4).

f. The coated steel belts used shall be accepted by the Division.

2. With respect to each elevator subject to this variance, the applicant shall comply with Division Circular Letter E-10-04, the substance of which is attached hereto as Addendum 1 and incorporated herein by this reference.

3. The Applicant shall not utilize the elevator unless the manufacturer has written procedures for the installation, maintenance, inspection, and testing of the belts and monitoring device and criteria for belt replacement, and the applicant shall make those procedures and criteria available to the Division upon request.

4. The flat coated steel belts shall be provided with a metal data tag that is securely attached to one of those belts. This data tag shall bear the following flat steel coated belt data:

a. The width and thickness in millimeters or inches;

b. The manufacturer's rated breaking strength in (kN) or (lbf);

c. The name of the person or organization that installed the flat coated steel belts;

d. The month and year the flat coated steel belts were installed;

e. The month and year the flat coated steel belts were first shortened;

f. The name or trademark of the manufacturer of the flat coated steel belts; and

g. Lubrication information.

5. There shall be a crosshead data plate of the sort required by Section 2.20.2.1, and that plate shall bear the following flat steel coated belt data:

    a. The number of belts;

    b. The belt width and thickness in millimeters or inches; and

    c. The manufacturer's rated breaking strength per belt in (kN) or (lbf).

6. The opening to the hoistway shall be effectively barricaded when car top inspection, maintenance, servicing, or testing of elevator equipment in the hoistway is required. If service personnel must leave the area for any reason, the hoistway and control room doors shall be closed.

7. If there is an inset car top railing:

    a. Serviceable equipment shall be positioned so that mechanics and inspectors do not have to climb on railings to perform adjustment, maintenance, repairs or inspections. The applicant shall not permit anyone to stand on or climb over the car top railing.

    b. The distance that the car top railing may be inset shall be limited to no more than 6 inches.

    c. All exposed areas outside the car top railing shall preclude standing or placing objects or persons which may fall and shall be beveled from the mid- or top rail to the outside of the car top.

    d. The top of the beveled area and/or car top outside the railing, shall be clearly marked. The markings shall consist of alternating 4 inch diagonal red and white stripes.

    e. The applicant shall provide durable signs with lettering not less than ½ inch on a contrasting background on each inset railing; each sign shall state:

CAUTION
DO NOT STAND ON OR CLIMB OVER RAILING

    f. The Group IV requirements for car top clearances shall be maintained (car top clearances outside the railing shall be measured from the car top and not from the required bevel).

8. If the seismic reset switch does not reside in a machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the inspection and test control panel located in one upper floor hoistway door jamb or in the control space (outside the hoistway) used by the motion controller.

9. If the inspection transfer switch required by ASME A17.1, rule 2.26.1.4.4(a) does not reside in a machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the inspection and test control panel located in one upper floor hoistway door jamb or in the control space (outside the hoistway) used by the motion controller.

10. When the inspection and testing panel is located in the hoistway door jamb, the inspection and test control panel shall be openable only by use of a Security Group I restricted key.

11. The elevator shall be serviced, maintained, adjusted, tested, and inspected only by Certified Competent Conveyance Mechanics who have been trained to, and are competent to, perform those tasks on the Gen2S elevator system in accordance with the written procedures and criteria required by Condition No. 3 and in accordance with the terms of this permanent variance.

12. The governor speed-reducing switch function shall comply with the following:

    a. It shall be used only with direct drive machines; i.e., no gear reduction is permitted between the drive motor and the suspension means.

    b. The velocity encoder shall be coupled to the driving machine motor shaft. The "C" channel of the encoder shall be utilized for velocity measurements required by the speed reducing system. The signal from "C" channel of the encoder shall be verified with the "A" and "B" channels for failure. If a failure is detected then an emergency stop shall be initiated.

    c. Control system parameters utilized in the speed-reducing system shall be held in non-volatile memory.

    d. It shall be used in conjunction with approved car-mounted speed governors only.

    e. It shall be used in conjunction with an effective traction monitoring system that detects a loss of traction between the driving sheave and the suspension means. If a loss of traction is detected, then an emergency stop shall be initiated.

f. A successful test of the speed-reducing switch system's functionality shall be conducted at least once a year (the record of the annual test of the speed-reducing switch system shall be a maintenance record subject to ASME A17.1-2004, Section 8.6.1.4).

g. A successful test of the traction monitoring system's functionality shall be conducted at least once a year (the record of the annual test of the traction monitoring system shall be a maintenance record subject to ASME A17.1-2004, Section 8.6.1.4).

h. The Applicant shall not utilize the elevator unless the manufacturer has written procedures for the maintenance, inspection, and testing of the speed-reducing switch and traction monitoring systems. The Applicant shall make the procedures available to the Division upon request.

13. The speed governor rope and sheaves shall comply with the following:

    a. The governor shall be used in conjunction with a 6 mm (0.25 in.) diameter steel governor rope with 6-strand, regular lay construction.

    b. The governor rope shall have a factor of safety of 8 or greater as related to the strength necessary to activate the safety.

    c. The governor sheaves shall have a pitch diameter of not less than 180 mm (7.1 in.).

14. Any Certified Qualified Conveyance Company performing inspections, maintenance, servicing, or testing of the elevators shall be provided a copy of this variance decision.

15. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division, and a Permit to Operate shall be issued before the elevator is placed in service.

16. The Applicant shall be subject to the Suspension Means – Replacement Reporting Condition stated in Addendum 2, as hereby incorporated by this reference.

17. The Applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2 and 411.3.

18. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division of Occupational Safety

and Health, or by the Board on its own motion, in accordance with procedures per Title 8, Division 1, Chapter 3.5.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, Hearing Officer

ADDENDUM 1

October 6, 2010

CIRCULAR LETTER E-10-04

TO: Installers, Manufacturers of Conveyances and Related Equipment and, Other Interested Parties

SUBJECT: Coated Steel Belt Monitoring

The Elevator Safety Orders require routine inspection of the suspension means of an elevator to assure its safe operation.

The California Labor Code Section 7318 allows the Division to promulgate special safety orders in the absence of regulation.

As it is not possible to see the steel cable suspension means of a Coated Steel Belt, a monitoring device which has been accepted by the Division is required on all Coated Steel Belts which will automatically stop the car if the residual strength of any belt drops below 60%. The Device shall prevent the elevator from restarting after a normal stop at a landing.

The monitoring device must be properly installed and functional. A functioning device may be removed only after a determination has been made that the residual strength of each belt exceeds 60%. These findings and the date of removal are to be conspicuously documented in the elevator machine room. The removed device must be replaced or returned to proper service within 30 days.

If upon routine inspection, the monitoring device is found to be in a non-functional state, the date and findings are to be conspicuously documented in the elevator machine room.

If upon inspection by the Division, the monitoring device is found to be non-functional or removed, and the required documentation is not in place, the elevator will be removed from service.

If the device is removed to facilitate belt replacement, it must be properly installed and functional before the elevator is returned to service.

A successful test of the device's functionality shall be conducted once a year.

This circular does not preempt the Division from adopting regulations in the future, which may address the monitoring of Coated Steel Belts or any other suspension means.

This circular does not create an obligation on the part of the Division to permit new conveyances utilizing Coated Steel Belts.

Debra Tudor
Principal Engineer
DOSH-Elevator Unit HQS

ADDENDUM 2

Suspension Means – Replacement Reporting Condition

Beginning on the date the Board adopts this Proposed Decision and continuing for a period of two years, the Applicant shall report to the Division within 30 days any and all replacement activity performed on the elevator(s) pursuant to the requirements of ASME A17.1-2004, Section 8.6.3 involving the suspension means or suspension means fastenings.

Further:

1. A separate report for each elevator shall be submitted, in a manner acceptable to the Division, to the following address (or to such other address as the Division might specify in the future): DOSH Elevator Unit, 2 MacArthur Place, Suite 700, Santa Ana, CA 92707, Attn: Engineering Section.

2. Each such report shall contain, but not necessarily be limited to, the following information:

    a. The State-issued conveyance number, complete address, and OSHSB file number that identifies the permanent variance.

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement and (2) any conditions that existed to cause damage or distress to the suspension components being replaced.

g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in item 2a above.

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance by: Wal-Mart Stores, Inc	OSHSB FILE No. 20-V-516 Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance by: Wal-Mart Stores, Inc.	OSHSB File No.: 20-V-516 Proposed Decision Hearing Date: February 24, 2021

A. Procedural Matters

1. Wal-Mart Stores, Inc.("Applicant") has applied for a permanent variance from provisions of Title 8 of the California Code of Regulations regarding vertical platform (wheelchair) lifts, with respect to one vertical platform (wheelchair) lift proposed to be located at:

   15100 S. Pedro St.
   Gardena, CA

2. The safety orders at issue are stated in the prefatory part of the Decision and Order. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

3. This hearing was held on February 24, 2021, in Sacramento, California and via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

4. Appearing at hearing were Craig Fiore with McKinley Elevator Corporation appearing on behalf of the Applicant; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"); and Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

5. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: subject Application for Permanent Variance as Exhibit PD-1, Notice of Hearing in this matter as PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review-Draft-1 Proposed Decision as PD-5; and official notice taken of the Board's rulemaking records and variance decisions concerning the safety order requirements from which variance has been requested. On February 24, 2021, at close of hearing, the record closed and the matter was taken under submission on behalf of the Board.

B. Findings of Fact

Based on the record of this proceeding, and officially noticed Board records per (above Section A.5) stipulation of Applicant and Division—inclusive of permanent variance file records of sworn testimony, findings and decisions in OSHSB File No. 15-V-297, the Board finds the following:

1. The Applicant proposes to install one vertical platform (wheelchair) lift at a location having the address of:

   15100 S. Pedro St.
   Gardena, CA

2. Applicant requests variance solely from Title 8, Section 3142(a) and Section 3142.1.

3. The subject vertical lift is proposed to be a Garaventa Lift, Model GVL-EN-168, with a vertical travel range of approximately 168 inches. That range of travel exceeds the 12-foot maximum vertical rise allowed by ASME A18.1-2003, Section 2.7.1—the State of California standard in force at the time of this Decision.

4. The Division's evaluation in this Matter, states that the more recent consensus code, ASME A18.1-2005, allows for vertical platform lifts to have a travel not exceeding 14 feet (168 in.).

5. Permanent variances regarding the extended travel of vertical platform lifts, of similar configuration to that of the subject proposed model, have been previously granted, without subsequent safety problems attributable to such variance being reported. (e.g. OSHSB File Nos. 13-V-260, 15-V-097, 15-V-297, 18-V-069)

6. It is the well informed professional opinion of Board staff and Division (per Exhibits PD-3, and PD-4, respectively) that equivalent safety will be achieved upon grant of presently requested permanent variance, subject to conditions materially equivalent to those imposed by Board adopted Decision and Order, In Matters of Application for Permanent Variance Nos. 15-V-297, and 18-V-069. Board Staff concurs with Division (per Exhibit PD-3) in recommending such conditional grant.

7. With respect to the equivalence or superior of safety, conditions and limitations of the below Decision and Order are in material conformity with those of previously issued Permanent Variance Nos. 15-V-297, and 18-V-069.

C. Conclusive Findings

On the basis of the above procedural matters, legal authority, and findings of fact, the Board finds that Applicant has complied with the statutory and regulatory requirements that must be met before an application for a permanent variance may be granted and that a preponderance of the evidence establishes that the Applicant's proposal, subject to all limiting conditions set forth in the below Decision and Order, will provide both conveyance safety, and employment and a place of employment that are as safe and healthful as those that would prevail if the Applicant complied with the safety orders at issue.

D. Decision and Order

The Application for Permanent Variance of Wal-Mart Stores, Inc., OSHSB File No. 20-V-516, is conditionally GRANTED to the limited extent, upon the Board's adoption of this Proposed Decision, Wal-Mart Stores, Inc., shall have permanent variance from California Code of Regulations, Title 8, Sections 3142(a) and 3142.1 incorporated ASME A18.1-2003, Section 2.7.1, inasmuch as each restricts the vertical rise of a wheelchair lift to a maximum of 12 feet, with respect to one (1) Garaventa Lift, Model GVL-EN-168 Vertical Platform Lift, to be located at:

15100 S. Pedro St.
Gardena, CA

The above referenced vertical platform lift shall be subject to the following further conditions and limitations:

1. This lift may travel up to 168 inches, unless the manufacturer's instructions provide for a lesser vertical travel limit, or lesser total elevation change, in which case, travel shall be limited to the lesser limit or elevation change.

2. The wheelchair lift shall be installed and operated in accordance with the manufacturer's instructions, unless the provisions of this variance or applicable provisions of the law provide or require otherwise.

3. Durable signs with lettering not less than 5/16 inch on a contrasting background shall be permanently and conspicuously posted inside the car and at all landings indicating that the lift is for the exclusive use of persons with physical impairments and that the lift is not to be used to transport material or equipment. The use of the lift shall be limited in accordance with these signs.

4. A maintenance contract shall be executed between the owner/operator and a Certified Qualified Conveyance Company (CQCC). The contract shall stipulate that the routine preventive maintenance required by Section 3094.5(a)(1) shall be performed at least quarterly and shall include but not be limited to:

   (a) Platform driving means examination;

   (b) Platform examination;

   (c) Suspension means examination;

   (d) Platform alignment;

   (e) Vibration examination;

   (f) Door/gate electrical; and

   (g) Mechanical lock examination.

5. The lift shall be tested annually for proper operation under rated load conditions. The Division's Elevator Unit District Office shall be provided written notification in advance of the test, and the test shall include a check of car or platform safety device.

6. The lift shall be shut down immediately if the lift experiences unusual noise and vibration, and the Applicant shall notify the CQCC immediately. The lift shall only be restarted by the CQCC.

7. The Applicant shall notify the CQCC if the lift shuts down for any reason. The lift shall only be restarted by the CQCC.

8. Service logs including, but not limited to, the device shutdown(s) shall be kept in the maintenance office and shall be available to the Division. The shutdown information shall contain the date of the shutdown, cause of the shutdown, and the action taken to correct the shutdown.

9. The Applicant shall provide training on the safe operation of the lift in accordance with Section 3203. Such training shall be conducted annually for all employees using or who will be assisting others in using the lift. The Applicant shall notify the Division in writing that training has been conducted. A copy of the training manual (used for the subject training), and documentation identifying the trainer and attendees shall be maintained for at least 1 year and provided to the Division upon request.

10. Any CQCC performing inspections, maintenance, servicing or testing of the elevators shall be provided a copy of this variance decision.

11. The Division shall be notified when the lift is ready for inspection, and the lift shall be inspected by the Division and a Permit to Operate shall be issued before the lift is put into service.

12. The Applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2 and 411.3.

13. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division, or by the Board on its own motion, in the procedural manner prescribed per Title 8, Division 1, Chapter 3.5.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 25, 2021

Christina Shupe, Hearing Officer

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance Regarding: Otis Elevator (Group IV) Gen2(O) and/or Gen2L Elevators [w/variant Governor Rope/Sheave]	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: Otis Elevator (Group IV) Gen2(O) and/or Gen2L Elevators [w/variant Governor Rope/Sheave]	OSHSB File Nos.: Per Section A.1 table PROPOSED DECISION Hearing Date: February 24, 2021

A. Subject Matter:

1. Each applicant ("Applicant") listed in the table below has applied for permanent variances from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, with respect to a conveyance, or conveyances, in the listed quantity, at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-523	1122 7th Street LLC	1120 7th Street Sacramento, CA	1

2. The safety orders at issue are stated in the portion of Section F that precedes the variance conditions.

B. Jurisdiction:

This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

C. Procedural:

1. This hearing was held on February 24, 2021, in Sacramento, California, and via teleconference, by Occupational Safety and Health Standards Board ("Board") with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator Company, appeared on behalf of each Applicant; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"); and Michael Nelmida appeared on behalf of Board staff in a technical advisory role apart from the Board.

3. Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: each respective permanent variance applications per Section A.1 table as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review Draft 1 Proposed Decision as PD-5, and official notice taken of the Board's rulemaking records and variance decisions concerning the safety order requirements at issue. At close of hearing on February 24, 2021, the record was closed, and the matter taken under submission by the Hearing Officer.

D. Findings:

1. Each Applicant intends to utilize Otis Gen2(O) and/or Otis Gen2L elevators, with further variance as to governor sheave and rope diameter, at the location and in the numbers stated in the Section A.1 table (as used in this Proposed Decision, the term "Gen2(O)" refers to the original type of Gen2 elevator, as distinguished from other types with such designations as "Gen2L" or "Gen2S" or "Gen2 at 150").

2. The installation contract for these elevators was, or will be, signed on or after May 1, 2008, making the elevators subject to the Group IV Elevator Safety Orders.

3. The Board incorporates by reference the findings stated in: (a) Items 3 through 5.c, 5.e, and 5.f of the "Findings of Fact" Section of the Proposed Decision adopted by the Board on February 19, 2009, in OSHSB File No. 08-V-247; (b) Item D.3 of the Proposed Decision adopted by the Board on July 16, 2009, in OSHSB File No. 09-V-042; (c) Item D.4 of the Proposed Decision adopted by the Board on September 16, 2010, in OSHSB File No. 10-V-029; (d) Items D.4, D.5, and D.7 of the Proposed Decision adopted by the Board on July 18, 2013, in OSHSB File No. 12-V-146; and (e) Items D.4 and D.5 of the Proposed Decision adopted by the Board on September 25, 2014, in OSHSB File No. 14-V-170.

4. Regarding requested variance in governor sheave diameter, and governor rope diameter, in variance from Title 8, Section 3141, incorporated ASME A17.1-2004, Section 2.18.7.4, and Section 2.18.5.1, respectively, the Board incorporates by reference the following previous findings of record: Items 8 through 12 of the Proposed Decision adopted by the Board on December 13, 2018, in OSHSB File No. 18-V-425, and further substantiating bases per therein cited Permanent Variance Decisions of the Board.

5. Both Board staff and Division safety engineers, and Division, by way of written submissions to the record (Exhibits PD-3 and PD-4 respectively), and positions stated at hearing, are of the well informed opinion that grant of requested permanent variance, as limited and conditioned per the below Decision and Order will provide employment, places of employment, and subject conveyances, as safe and healthful as would prevail

given non-variant conformity with the Elevator Safety Order requirements from which variance has been requested.

E. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted; and (2) a preponderance of the evidence establishes that each Applicants proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent safety and health to that which would prevail upon full compliance with the requirements of California Code of Regulation, Title 8, Elevator Safety Orders from which variance is being sought.

F. Decision and Order:

Each permanent variance application that is the subject of this proceeding is conditionally GRANTED, as below specified, and to the extent that, as of the date the Board adopts this Proposed Decision, each Applicant listed in the Section A.1 table of this Proposed Decision shall have a permanent variance from California Code of Regulations, Title 8, Section 3141 [ASME A17.1-2004, Sections 2.14.1.7.1 (only to the extent necessary to permit an inset car top railing, if, in fact, the car top railing is inset), 2.20.1, 2.20.2.1(b), 2.20.2.2(a), 2.20.2.2(f), 2.20.3, 2.20.4, 2.20.9.3.4, 2.20.9.5.4, (only to the extent necessary to permit the use of Otis Gen2 flat coated steel suspension belts [the belts proposed for use on these Gen2(O) and/or Gen2L elevators] in lieu of conventional steel suspension ropes); 2.26.1.4.4(a) (only to the extent necessary to allow the inspection transfer switch to reside at a location other than a machine room, if, in fact, it does not reside in the machine room); 8.4.10.1.1(a)(2)(b) (only to the extent necessary to allow the seismic reset switch to reside at a location other than a machine room, if, in fact, it does not reside in the machine room)], regarding car top railings, switches, and suspension ropes and connections; Section 2.18.7.4, with respect to conditioned variance in governor sheave diameter; and Section 2.18.5.1, with respect to below conditioned variance in governor rope diameter—for the location and number of elevators listed in the Section A.1 table (so long as the elevators are Gen2(O) or Gen2L Group IV devices that are designed, equipped, and installed in accordance with, and are otherwise consistent with, the representations made in the Otis Master Files [referred to in previous Proposed Decisions as the “Gen2 Master File” or “Gen2S Master File”] maintained by the Board, as that file was constituted at the time of this hearing), subject to the following conditions:

The variance shall be subject to the following additional conditions:

1. Each elevator subject to this variance shall comply with all applicable Group IV Elevator Safety Orders and with all ASME provisions made applicable by those Group IV Elevator Safety Orders, except those from which variances are granted, as set forth in the prefatory portion of this Decision and Order.

2. The suspension system shall comply with the following:

    a. The coated steel belt shall have a factor of safety at least equal to the factor of safety that ASME A17.1-2004, Section 2.20.3, would require for wire ropes if the elevator were suspended by wire ropes rather than the coated steel belt.

    b. Steel-coated belts that have been installed and used on another installation shall not be reused.

    c. The coated steel belt shall be fitted with a monitoring device which has been accepted by the Division and which will automatically stop the car if the residual strength of any single belt drops below 60 percent. If the residual strength of any single belt drops below 60 percent, the device shall prevent the elevator from restarting after a normal stop at a landing.

    d. Upon initial inspection, the readings from the monitoring device shall be documented and submitted to the Division.

    e. A successful test of the monitoring device's functionality shall be conducted at least once a year (the record of the annual test of the monitoring device shall be a maintenance record subject to ASME A17.1-2004, Section 8.6.1.4).

    f. The coated steel belts used shall be accepted by the Division.

    g. The installation of belts and connections shall be in conformance with the manufacturer's specifications, which shall be provided to the Division.

3. With respect to each elevator subject to this variance, the applicant shall comply with Division Circular Letter E-10-04, a copy of which is attached hereto as Addendum 1 and incorporated herein by this reference.

4. The Applicant shall not utilize the elevator unless the manufacturer has written procedures for the installation, maintenance, inspection, and testing of the belts and monitoring device, and criteria for belt replacement, and shall make those procedures and criteria available to the Division upon request.

5. The flat coated steel belts shall be provided with a metal data tag that is securely attached to one of those belts. This data tag shall bear the following flat steel coated belt data:

    a. The width and thickness in millimeters or inches;

    b. The manufacturer's rated breaking strength in (kN) or (lbf);

    c. The name of the person who, or organization that, installed the flat coated steel belts;

    d. The month and year the flat coated steel belts were installed;

    e. The month and year the flat coated steel belts were first shortened;

    f. The name or trademark of the manufacturer of the flat coated steel belts;

    g. Lubrication information.

6. There shall be a crosshead data plate of the sort required by Section 2.20.2.1, and that plate shall bear the following flat steel coated belt data:

    a. The number of belts,

    b. The belt width and thickness in millimeters or inches, and

    c. The manufacturer's rated breaking strength per belt in (kN) or (lbf).

7. If the seismic reset switch does not reside in a machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the inspection and test control panel located in one upper floor hoistway door jamb or in the control space (outside the hoistway) used by the motion controller.

8. If the inspection transfer switch required by ASME A17.1, rule 2.26.1.4.4(a), does not reside in a machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the inspection and test control panel located in one upper floor hoistway door jamb or in the control space (outside the hoistway) used by the motion controller.

9. When the inspection and test control panel is located in the hoistway door jamb, the inspection and test control panel shall be openable only by use of a Security Group I restricted key.

10. The opening to the hoistway shall be effectively barricaded when car top inspection, maintenance, servicing, or testing of elevator equipment in the hoistway is required. If service personnel must leave the area for any reason, the hoistway and control room doors shall be closed.

11. If there is an inset car top railing:

    a. Serviceable equipment shall be positioned so that mechanics and inspectors do not have to climb on railings to perform adjustment, maintenance, repairs, or inspections. The applicant shall not permit anyone to stand on or climb over the car top railing.

    b. The distance that the car top railing may be inset from the car top perimeter shall be limited to no more than 6 inches.

    c. All exposed areas of the car top outside the car top railing shall preclude standing or placing objects or persons which may fall and shall be beveled from the mid- or top rail to the outside of the car top.

    d. The top of the beveled area and/or the car top outside the railing, shall be clearly marked. The markings shall consist of alternating four-inch diagonal red and white stripes.

    e. The Applicant shall provide, on each inset railing, durable signs with lettering not less than ½ inch on a contrasting background. Each sign shall state:

    CAUTION
    DO NOT STAND ON OR CLIMB OVER RAILING

    f. The Group IV requirements for car top clearances shall be maintained (car top clearances outside the railing shall be measured from the car top, and not from the required bevel).

12. The speed governor rope and sheaves shall comply with the following:

    a. The governor shall be used in conjunction with a 8 mm (0.315 in.) diameter steel governor rope with 8-strand, regular lay construction.

    b. The governor rope shall have a factor of safety of 8 or greater as related to the strength necessary to activate the safety.

    c. The governor sheaves shall have a pitch diameter of not less than 240 mm (9.45 in.).

13. The elevator shall be serviced, maintained, adjusted, tested, and inspected only by Certified Competent Conveyance Mechanics who have been trained to, and are competent to, perform those tasks on the Gen2(O) and/or Gen2L elevator system the Applicant proposes to use, in accordance with the written procedures and criteria required by Condition No. 4 and the terms of this permanent variance.

14. Any Certified Qualified Conveyance Company performing inspections, maintenance, servicing, or testing of the elevators shall be provided a copy of this variance decision.

15. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division, and a Permit to Operate shall be issued before the elevator is placed in service.

16. The Applicant shall be subject to the suspension means replacement reporting condition stated in Addendum 2; that condition is incorporated herein by this reference.

17. The applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way that the Applicant was required to notify them of the application for permanent variance, per California Code of Regulations, Title 8, Sections 411.2 and 411.3.

18. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division of Occupational Safety and Health, or by the Board on its own motion, in accordance with procedures per Title 8, Division 1, Chapter 3.5.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, Hearing Officer

ADDENDUM 1

October 6, 2010

CIRCULAR LETTER E-10-04

TO: Installers, Manufacturers of Conveyances and Related Equipment and, Other Interested Parties

SUBJECT: Coated Steel Belt Monitoring

The Elevator Safety Orders require routine inspection of the suspension means of an elevator to assure its safe operation.

The California Labor Code Section 7318 allows the Division to promulgate special safety orders in the absence of regulation.

As it is not possible to see the steel cable suspension means of a Coated Steel Belt, a monitoring device which has been accepted by the Division is required on all Coated Steel Belts which will automatically stop the car if the residual strength of any belt drops below 60%. The Device shall prevent the elevator from restarting after a normal stop at a landing.

The monitoring device must be properly installed and functional. A functioning device may be removed only after a determination has been made that the residual strength of each belt exceeds 60%. These findings and the date of removal are to be conspicuously documented in the elevator machine room. The removed device must be replaced or returned to proper service within 30 days.

If upon routine inspection, the monitoring device is found to be in a non-functional state, the date and findings are to be conspicuously documented in the elevator machine room.

If upon inspection by the Division, the monitoring device is found to be non-functional or removed, and the required documentation is not in place, the elevator will be removed from service.

If the device is removed to facilitate belt replacement, it must be properly installed and functional before the elevator is returned to service.

A successful test of the device's functionality shall be conducted once a year.

This circular does not preempt the Division from adopting regulations in the future, which may address the monitoring of Coated Steel Belts or any other suspension means.

This circular does not create an obligation on the part of the Division to permit new conveyances utilizing Coated Steel Belts.

Debra Tudor
Principal Engineer
DOSH-Elevator Unit HQS

ADDENDUM 2

Suspension Means – Replacement Reporting Condition

Beginning on the date the Board adopts this Proposed Decision and continuing for a period of two years, the Applicant shall report to the Division within 30 days any and all replacement activity performed on the elevator(s) pursuant to the requirements of ASME A17.1-2004, Section 8.6.3 involving the suspension means or suspension means fastenings.

Further:

1. A separate report for each elevator shall be submitted, in a manner acceptable to the Division, to the following address (or to such other address as the Division might specify in the future): DOSH Elevator Unit, 2 MacArthur Place, Suite 700, Santa Ana, CA 92707, Attn: Engineering Section.

2. Each such report shall contain, but not necessarily be limited to, the following information:

    a. The State-issued conveyance number, complete address, and OSHSB file number that identifies the permanent variance.

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

    f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement and (2) any

conditions that existed to cause damage or distress to the suspension components being replaced.

g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in item 2a above.

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance Regarding: Otis Gen2(O) and/or Gen2L Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: Otis Gen2(O) and/or Gen2L Elevators (Group IV)	OSHSB File Nos.: Per Section A.1 table PROPOSED DECISION Hearing Date: February 24, 2021

A. Subject Matter:

1. Each applicant ("Applicant") listed in the table below has applied for permanent variances from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, with respect to a conveyance, or conveyances, in the listed quantity, at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-536	SCP Horton Owner 1, LLC	The Campus at Horton Plaza Building A 103 Horton Plaza San Diego, CA	6

2. The safety orders at issue are stated in the portion of Section F that precedes the variance conditions.

B. Jurisdiction:

This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

C. Procedural:

1. This hearing was held on February 24, 2021, in Sacramento, California, and via teleconference, by Occupational Safety and Health Standards Board ("Board") with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator Company, appeared on behalf of each Applicant; Mark Wickens appeared on

behalf of the Division of Occupational Safety and Health ("Division"); and Michael Nelmida appeared on behalf of Board staff.

3. Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: each respective permanent variance applications per Section A.1 table as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review Draft 1 Proposed Decision as PD-5, and official notice taken of the Board's rulemaking records and variance decisions concerning the safety order requirements at issue. At close of hearing on February 24, 2021, the record was closed, and the matter taken under submission by the Hearing Officer.

D. Findings:

1. Each Applicant intends to utilize Otis Gen2(O) and/or Otis Gen2L elevators at the location and in the numbers stated in the Section A.1 table (as used in this Proposed Decision, the term "Gen2(O)" refers to the original type of Gen2 elevator, as distinguished from other types with such designations as "Gen2L" or "Gen2S" or "Gen2 at 150").

2. The installation contract for these elevators was, or will be, signed on or after May 1, 2008, making the elevators subject to the Group IV Elevator Safety Orders.

3. The Board incorporates by reference the findings stated in: (a) Items 3 through 5.c, 5.e, and 5.f of the "Findings of Fact" Section of the Proposed Decision adopted by the Board on February 19, 2009, regarding OSHSB File No. 08-V-247; (b) Item D.3 of the Proposed Decision adopted by the Board on July 16, 2009, regarding OSHSB File No. 09-V-042; (c) Item D.4 of the Proposed Decision adopted by the Board on September 16, 2010, regarding OSHSB File No. 10-V-029; (d) Items D.4, D.5, and D.7 of the Proposed Decision adopted by the Board on July 18, 2013 regarding OSHSB File No. 12-V-146; and (e) Items D.4 and D.5 of the Proposed Decision adopted by the Board on September 25, 2014, in OSHSB File No. 14-V-170.

4. Both Board staff and Division safety engineers, and Division, by way of written submissions to the record (Exhibits PD-3 and PD-4 respectively), and positions stated at hearing, are of the well informed opinion that grant of requested permanent variance, as limited and conditioned per the below Decision and Order will provide employment, places of employment, and subject conveyances, as safe and healthful as would prevail given non-variant conformity with the Elevator Safety Order requirements from which variance has been requested.

E. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted; and (2) a preponderance of the evidence establishes that each Applicants proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent safety and health to that which would prevail upon full compliance with the requirements of California Code of Regulation, Title 8, Elevator Safety Orders from which variance is being sought.

F. Decision and Order:

Each permanent variance application that is the subject of this proceeding is conditionally GRANTED, as below specified, and to the extent that, as of the date the Board adopts this Proposed Decision, each Applicant listed in the Section A.1 table of this Proposed Decision shall have a permanent variance from California Code of Regulations, Title 8, Section 3141 [ASME A17.1-2004, Sections 2.14.1.7.1 (only to the extent necessary to permit an inset car top railing, if, in fact, the car top railing is inset), 2.20.1, 2.20.2.1(b), 2.20.2.2(a), 2.20.2.2(f), 2.20.3, 2.20.4, 2.20.9.3.4, 2.20.9.5.4, (only to the extent necessary to permit the use of Otis Gen2 flat coated steel suspension belts [the belts proposed for use on these Gen2(O) and/or Gen2L elevators] in lieu of conventional steel suspension ropes), 2.26.1.4.4(a) (only to the extent necessary to allow the inspection transfer switch to reside at a location other than a machine room, if, in fact, it does not reside in the machine room) and 8.4.10.1.1(a)(2)(b) (only to the extent necessary to allow the seismic reset switch to reside at a location other than a machine room, if, in fact, it does not reside in the machine room)], regarding car top railings, switches, and suspension ropes and connections, for the location and number of elevators listed in the Section A.1 table (so long as the elevators are Gen2(O) or Gen2L Group IV devices that are designed, equipped, and installed in accordance with, and are otherwise consistent with, the representations made in the Otis Master File [referred to in previous Proposed Decisions as the "Gen2 Master File"] maintained by the Board, as that file was constituted at the time of this hearing), subject to the following conditions:

The variance shall be subject to the following additional conditions:

1. Each elevator subject to this variance shall comply with all applicable Group IV Elevator Safety Orders and with all ASME provisions made applicable by those Group IV Elevator Safety Orders, except those from which variances are granted, as set forth in the prefatory portion of this Decision and Order.

2. The suspension system shall comply with the following:

    a. The coated steel belt shall have a factor of safety at least equal to the factor of safety that ASME A17.1-2004, Section 2.20.3, would require for wire ropes if the elevator were suspended by wire ropes rather than the coated steel belt.

    b. Steel-coated belts that have been installed and used on another installation shall not be reused.

    c. The coated steel belt shall be fitted with a monitoring device which has been accepted by the Division and which will automatically stop the car if the residual strength of any single belt drops below 60 percent. If the residual strength of any single belt drops below 60 percent, the device shall prevent the elevator from restarting after a normal stop at a landing.

    d. Upon initial inspection, the readings from the monitoring device shall be documented and submitted to the Division.

    e. A successful test of the monitoring device's functionality shall be conducted at least once a year (the record of the annual test of the monitoring device shall be a maintenance record subject to ASME A17.1-2004, Section 8.6.1.4).

    f. The coated steel belts used shall be accepted by the Division.

    g. The installation of belts and connections shall be in conformance with the manufacturer's specifications, which shall be provided to the Division.

3. With respect to each elevator subject to this variance, the applicant shall comply with Division Circular Letter E-10-04, a copy of which is attached hereto as Addendum 1 and incorporated herein by this reference.

4. The Applicant shall not utilize the elevator unless the manufacturer has written procedures for the installation, maintenance, inspection, and testing of the belts and monitoring device, and criteria for belt replacement, and shall make those procedures and criteria available to the Division upon request.

5. The flat coated steel belts shall be provided with a metal data tag that is securely attached to one of those belts. This data tag shall bear the following flat steel coated belt data:

    a. The width and thickness in millimeters or inches;

    b. The manufacturer's rated breaking strength in (kN) or (lbf);

c. The name of the person who, or organization that, installed the flat coated steel belts;

d. The month and year the flat coated steel belts were installed;

e. The month and year the flat coated steel belts were first shortened;

f. The name or trademark of the manufacturer of the flat coated steel belts;

g. Lubrication information.

6. There shall be a crosshead data plate of the sort required by Section 2.20.2.1, and that plate shall bear the following flat steel coated belt data:

   a. The number of belts,

   b. The belt width and thickness in millimeters or inches, and

   c. The manufacturer's rated breaking strength per belt in (kN) or (lbf).

7. If the seismic reset switch does not reside in a machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the inspection and test control panel located in one upper floor hoistway door jamb or in the control space (outside the hoistway) used by the motion controller.

8. If the inspection transfer switch required by ASME A17.1, rule 2.26.1.4.4(a), does not reside in a machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the inspection and test control panel located in one upper floor hoistway door jamb or in the control space (outside the hoistway) used by the motion controller.

9. When the inspection and test control panel is located in the hoistway door jamb, the inspection and test control panel shall be openable only by use of a Security Group I restricted key.

10. The opening to the hoistway shall be effectively barricaded when car top inspection, maintenance, servicing, or testing of elevator equipment in the hoistway is required. If service personnel must leave the area for any reason, the hoistway and control room doors shall be closed.

11. If there is an inset car top railing:

    a. Serviceable equipment shall be positioned so that mechanics and inspectors do not have to climb on railings to perform adjustment, maintenance, repairs, or

inspections. The applicant shall not permit anyone to stand on or climb over the car top railing.

b. The distance that the car top railing may be inset from the car top perimeter shall be limited to no more than 6 inches.

c. All exposed areas of the car top outside the car top railing shall preclude standing or placing objects or persons which may fall and shall be beveled from the mid- or top rail to the outside of the car top.

d. The top of the beveled area and/or the car top outside the railing, shall be clearly marked. The markings shall consist of alternating four-inch diagonal red and white stripes.

e. The Applicant shall provide, on each inset railing, durable signs with lettering not less than ½ inch on a contrasting background. Each sign shall state:

CAUTION
DO NOT STAND ON OR CLIMB OVER RAILING

f. The Group IV requirements for car top clearances shall be maintained (car top clearances outside the railing shall be measured from the car top, and not from the required bevel).

12. The elevator shall be serviced, maintained, adjusted, tested, and inspected only by Certified Competent Conveyance Mechanics who have been trained to, and are competent to, perform those tasks on the Gen2(O) and/or Gen2L elevator system the Applicant proposes to use, in accordance with the written procedures and criteria required by Condition No. 4 and the terms of this permanent variance.

13. Any Certified Qualified Conveyance Company performing inspections, maintenance, servicing, or testing of the elevators shall be provided a copy of this variance decision.

14. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division, and a Permit to Operate shall be issued before the elevator is placed in service.

15. The Applicant shall be subject to the suspension means replacement reporting condition stated in Addendum 2; that condition is incorporated herein by this reference.

16. The applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way that the Applicant was required to notify them of the

application for permanent variance, per California Code of Regulations, Title 8, Sections 411.2 and 411.3.

17. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division of Occupational Safety and Health, or by the Board on its own motion, in accordance with procedures per Title 8, Division 1, Chapter 3.5.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, OSHSB Hearing Officer

ADDENDUM 1

October 6, 2010

CIRCULAR LETTER E-10-04

TO: Installers, Manufacturers of Conveyances and Related Equipment and, Other Interested Parties

SUBJECT: Coated Steel Belt Monitoring

The Elevator Safety Orders require routine inspection of the suspension means of an elevator to assure its safe operation.

The California Labor Code Section 7318 allows the Division to promulgate special safety orders in the absence of regulation.

As it is not possible to see the steel cable suspension means of a Coated Steel Belt, a monitoring device which has been accepted by the Division is required on all Coated Steel Belts which will automatically stop the car if the residual strength of any belt drops below 60%. The Device shall prevent the elevator from restarting after a normal stop at a landing.

The monitoring device must be properly installed and functional. A functioning device may be removed only after a determination has been made that the residual strength of each belt exceeds 60%. These findings and the date of removal are to be conspicuously documented in the elevator machine room. The removed device must be replaced or returned to proper service within 30 days.

If upon routine inspection, the monitoring device is found to be in a non-functional state, the date and findings are to be conspicuously documented in the elevator machine room.

If upon inspection by the Division, the monitoring device is found to be non-functional or removed, and the required documentation is not in place, the elevator will be removed from service.

If the device is removed to facilitate belt replacement, it must be properly installed and functional before the elevator is returned to service.

A successful test of the device's functionality shall be conducted once a year.

This circular does not preempt the Division from adopting regulations in the future, which may address the monitoring of Coated Steel Belts or any other suspension means.

This circular does not create an obligation on the part of the Division to permit new conveyances utilizing Coated Steel Belts.

Debra Tudor
Principal Engineer
DOSH-Elevator Unit HQS

ADDENDUM 2

Suspension Means – Replacement Reporting Condition

Beginning on the date the Board adopts this Proposed Decision and continuing for a period of two years, the Applicant shall report to the Division within 30 days any and all replacement activity performed on the elevator(s) pursuant to the requirements of ASME A17.1-2004, Section 8.6.3 involving the suspension means or suspension means fastenings.

Further:

1. A separate report for each elevator shall be submitted, in a manner acceptable to the Division, to the following address (or to such other address as the Division might specify in the future): DOSH Elevator Unit, 2 MacArthur Place, Suite 700, Santa Ana, CA 92707, Attn: Engineering Section.

2. Each such report shall contain, but not necessarily be limited to, the following information:

    a. The State-issued conveyance number, complete address, and OSHSB file number that identifies the permanent variance.

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement and (2) any conditions that existed to cause damage or distress to the suspension components being replaced.

g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in item 2a above.

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance Regarding: Mitsubishi Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: Mitsubishi Elevators (Group IV)	OSHSB File Nos.: See Section A.1 Table PROPOSED DECISION Hearing Date: February 24, 2021

A. Procedural Matters:

1. Each below listed applicant ("Applicant") has applied for permanent variance from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, with respect to a conveyance, or conveyances, in the listed quantity, at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-537	Qualcomm California, Inc.	3150 Central Expressway Santa Clara, CA	1

2. The safety orders at issue are set forth in the prefatory portion of the Decision and Order. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

3. This hearing was held on February 24, 2021, in Sacramento, California and via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

4. At the hearing, Carolina Castaneda, with Mitsubishi Electric, Elevator Division, appeared on behalf of each Applicant, Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Michael Nelmida appeared on behalf of Board staff in a technical advisory role apart from the Board.

5. At the hearing, documentary and oral evidence was received, and by stipulation of all parties, documents were accepted into evidence: each permanent variance application per Section A table as Exhibit PD-1; Notice of Hearing as PD-2; Board staff Pending Application Memorandum as PD-3; Division Review of Application report as PD-4;

Review Draft 1 Proposed Decision as PD-5; and Official Notice taken of the Board's rulemaking records and variance decisions concerning the safety order requirements from which variance is requested. At the close of hearing on February 24, 2021, the record was closed and the matter taken under submission by the Hearing Officer.

B. Findings of Fact:

Based on the record of this proceeding, the Board makes the following findings of fact:

1. Each Section A table specified Applicant intends to utilize Mitsubishi elevators at the location and in the number stated in the table in Item A. The installation contracts for these elevators were signed on or after May 1, 2008, thus making the elevators subject to the Group IV Elevator Safety Orders.

2. The Board takes official notice and incorporates herein, Subsections D.3 through D.5 of the February 20, 2014, Decision of the Board in OSHSB Permanent Variance File No. 13-V-270.

3. As reflected in the record of this matter, including Board staff Pending Application for Permanent Variance Opinion Letter as PD-3, Division evaluation as PD-4, and testimony at hearing, it is the professionally informed opinion of Board staff and Division, that grant of requested variance, subject to conditions and limitations in substantial conforming with those set out per below Decision and Order, will provide Occupational Safety and Health equivalent or superior to that provided by the safety order requirements from which variance is sought.

C. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted, and (2) a preponderance of the evidence establishes that each Applicants proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent safety and health to that which would prevail upon full compliance with the requirements of California Code of Regulation, Title 8, Elevator Safety Orders from which variance is being sought.

D. Decision and Order:

As of such date as the Board adopts this Proposed Decision, each Application for Permanent Variance listed in the above Section A.1 table, is conditionally GRANTED to the extent each Applicant of record shall have permanent variance from California Code of Regulations, Title 8, Section 3141 [ASME A17.1-2004, Sections 2.10.2.2 (only to the extent necessary to permit the intermediate rail to be located at a point other than halfway between the top rail and the surface on which the railing is installed), 2.10.2.4 (only to the extent necessary to permit a bevel sloping that conforms with the variance conditions) and 2.14.1.7.1 (only to the extent necessary to permit the car top railing to be inset to clear obstructions when the conveyance is elevated to perform work on the machine and/or governor). The variance applies to the location and number of elevators stated in the Section A.1 table, and the variance is subject to the above limitations and following conditions:

1. The car top railing may be inset only to the extent necessary to clear obstructions when the conveyance is located at the top landing to perform work on the machine and/or governor.

2. Serviceable equipment shall be positioned so that mechanics, inspectors, and others working on the car top can remain positioned on the car top within the confines of the railings and do not have to climb on or over railings to perform adjustment, maintenance, minor repairs, inspections, or similar tasks. Persons performing those tasks are not to stand on or climb over railing, and those persons shall not remove handrails unless the equipment has been secured from movement and approved personal fall protection is used.

3. All exposed areas outside the car top railing shall preclude standing or placing objects or persons which may fall, and shall be beveled from an intermediate or bottom rail to the outside of the car top.

4. The top surface of the beveled area shall be clearly marked. The markings shall consist of alternating 4-inch red and white diagonal stripes.

5. The Applicant shall provide a durable sign with lettering not less than ½-inch high on a contrasting background. The sign shall be located on the inset top railing; the sign shall be visible from the access side of the car top, and the sign shall state:

CAUTION
DO NOT STAND ON OR CLIMB OVER RAILING.
PERSONNEL ARE PROHIBITED FROM REMOVING HANDRAIL

UNLESS THE EQUIPMENT HAS BEEN SECURED FROM MOVEMENT
AND APPROVED PERSONAL FALL PROTECTION IS USED.

6. The Group IV requirements for car top clearances shall be maintained (car top clearances outside the railing will be measured from the car top and not from the required bevel).

7. A mechanical means (e.g., locking bar mechanism) that will secure the car to the guide rail to prevent unintended movement shall be provided and used during machine and/or governor car-top work. The mechanical means (e.g., locking bar mechanism) shall have a safety factor of not less than 3.5 for the total unbalanced load.

8. An electrical switch or a lockout/tagout procedure shall be provided that will remove power from the driving machine and brake when the mechanical means (e.g., locking bar mechanism) is engaged.

9. In order to inhibit employees from working outside the car top railing, sections shall not be hinged and they shall be installed by means that will inhibit (but not necessarily completely preclude) removal. The Applicant shall ensure that all persons performing work that requires removal of any part of the car top railing are provided with fall protection that is appropriate and suitable for the assigned work. That fall protection shall consist of a personal fall arrest system or fall restraint system that complies with California Code of Regulations, Title 8, Section 1670.

10. The bevel utilized by the Applicant in accordance with the variance granted from ASME A17.1-2004, Section 2.10.2.4 shall slope at not less than 75 degrees from the horizontal to serve as the toe board; however, that slope may be reduced to a minimum of 40 degrees from the horizontal as may be required for sections where machine encroachment occurs.

11. If the Applicant directs or allows its employees to perform tasks on the car top, the Applicant shall develop, implement, and document a safety training program that shall provide training to Applicant employees. Components of the training shall include, but not necessarily be limited to, the following: car blocking procedures; how examination, inspection, adjustment, repair, removal and replacement of elevator components are to be performed safely, consistent with the requirements of the variance conditions; applicable provisions of the law and other sources of safety practices regarding the operation of the elevator. A copy of the training program shall be located in the control room of each elevator that is the subject of this variance, and a copy of the training program shall be attached to a copy of this variance that shall be retained in any

building where an elevator subject to this variance is located. The Applicant shall not allow Certified Qualified Conveyance Company (CQCC) or other contractor personnel to work on the top of any elevator subject to this variance unless the Applicant first ascertains from the CQCC or other contractor that the personnel in question have received training equivalent to, or more extensive than, the training components referred to in this condition.

12. Any CQCC performing inspections, maintenance, servicing, or testing of the elevators shall be provided a copy of this variance decision.

13. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division, and a Permit to Operate shall be issued before the elevator is placed in service.

14. The Applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2 and 411.3.

15. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division, or by the Board on its own motion, in the manner prescribed for its issuance.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, Hearing Officer

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance by: Leo J. Cacitti Living Trust	OSHSB FILE No. 20-V-546 Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance by: Leo. J. Cacitti Living Trust	OSHSB File No.: 20-V-546 Proposed Decision Hearing Date: February 24, 2021

A. Procedural Matters

1. Leo. J. Cacitti Living Trust("Applicant") has applied for a permanent variance from provisions of Title 8 of the California Code of Regulations regarding vertical platform (wheelchair) lifts, with respect to one vertical platform (wheelchair) lift proposed to be located at:

   1807 Saratoga Avenue
   San Jose, CA

2. The safety orders at issue are stated in the prefatory part of the Decision and Order. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

3. This hearing was held on February 24, 2021, in Sacramento, California and via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

4. Appearing at hearing were Craig Fiore with McKinley Elevator Corporation appearing on behalf of the Applicant; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"); and Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

5. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: subject Application for Permanent Variance as Exhibit PD-1, Notice of Hearing in this matter as PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review-Draft-1 Proposed Decision as PD-5; and official notice taken of the Board's rulemaking records and variance decisions concerning the safety order requirements from which variance has been requested. On February 24, 2021, at close of hearing, the record closed and the matter was taken under submission on behalf of the Board.

B. Findings of Fact

Based on the record of this proceeding, and officially noticed Board records per (above Section A.5) stipulation of Applicant and Division—inclusive of permanent variance file records of sworn testimony, findings and decisions in OSHSB File No. 15-V-297, the Board finds the following:

1. The Applicant proposes to install one vertical platform (wheelchair) lift at a location having the address of:

   1807 Saratoga Avenue
   San Jose, CA

2. Applicant requests variance solely from Title 8, Section 3142(a) and Section 3142.1.

3. The subject vertical lift is proposed to be a Garaventa Lift, Model GVL-EN-168, with a vertical travel range of approximately 168 inches. That range of travel exceeds the 12-foot maximum vertical rise allowed by ASME A18.1-2003, Section 2.7.1—the State of California standard in force at the time of this Decision.

4. The Division's evaluation in this Matter, states that the more recent consensus code, ASME A18.1-2005, allows for vertical platform lifts to have a travel not exceeding 14 feet (168 in.).

5. Permanent variances regarding the extended travel of vertical platform lifts, of similar configuration to that of the subject proposed model, have been previously granted, without subsequent safety problems attributable to such variance being reported. (e.g. OSHSB File Nos. 13-V-260, 15-V-097, 15-V-297, 18-V-069)

6. It is the well informed professional opinion of Board staff and Division (per Exhibits PD-3, and PD-4, respectively) that equivalent safety will be achieved upon grant of presently requested permanent variance, subject to conditions materially equivalent to those imposed by Board adopted Decision and Order, In Matters of Application for Permanent Variance Nos. 15-V-297, and 18-V-069. Board Staff concurs with Division (per Exhibit PD-3) in recommending such conditional grant.

7. With respect to the equivalence or superior of safety, conditions and limitations of the below Decision and Order are in material conformity with those of previously issued Permanent Variance Nos. 15-V-297, and 18-V-069.

C. Conclusive Findings

On the basis of the above procedural matters, legal authority, and findings of fact, the Board finds that Applicant has complied with the statutory and regulatory requirements that must be met before an application for a permanent variance may be granted and that a preponderance of the evidence establishes that the Applicant's proposal, subject to all limiting conditions set forth in the below Decision and Order, will provide both conveyance safety, and employment and a place of employment that are as safe and healthful as those that would prevail if the Applicant complied with the safety orders at issue.

D. Decision and Order

The Application for Permanent Variance of Leo. J. Cacitti Living Trust, OSHSB File No. 20-V-546, is conditionally GRANTED to the limited extent, upon the Board's adoption of this Proposed Decision, Leo. J. Cacitti Living Trust, shall have permanent variance from California Code of Regulations, Title 8, Sections 3142(a) and 3142.1 incorporated ASME A18.1-2003, Section 2.7.1, inasmuch as each restricts the vertical rise of a wheelchair lift to a maximum of 12 feet, with respect to one (1) Garaventa Lift, Model GVL-EN-168 Vertical Platform Lift, to be located at:

1807 Saratoga Avenue
San Jose, CA

The above referenced vertical platform lift shall be subject to the following further conditions and limitations:

1. This lift may travel up to 168 inches, unless the manufacturer's instructions provide for a lesser vertical travel limit, or lesser total elevation change, in which case, travel shall be limited to the lesser limit or elevation change.

2. The wheelchair lift shall be installed and operated in accordance with the manufacturer's instructions, unless the provisions of this variance or applicable provisions of the law provide or require otherwise.

3. Durable signs with lettering not less than 5/16 inch on a contrasting background shall be permanently and conspicuously posted inside the car and at all landings indicating that the lift is for the exclusive use of persons with physical impairments and that the lift is not to be used to transport material or equipment. The use of the lift shall be limited in accordance with these signs.

4. A maintenance contract shall be executed between the owner/operator and a Certified Qualified Conveyance Company (CQCC). The contract shall stipulate that the routine preventive maintenance required by Section 3094.5(a)(1) shall be performed at least quarterly and shall include but not be limited to:

   (a) Platform driving means examination;

   (b) Platform examination;

   (c) Suspension means examination;

   (d) Platform alignment;

   (e) Vibration examination;

   (f) Door/gate electrical; and

   (g) Mechanical lock examination.

5. The lift shall be tested annually for proper operation under rated load conditions. The Division's Elevator Unit District Office shall be provided written notification in advance of the test, and the test shall include a check of car or platform safety device.

6. The lift shall be shut down immediately if the lift experiences unusual noise and vibration, and the Applicant shall notify the CQCC immediately. The lift shall only be restarted by the CQCC.

7. The Applicant shall notify the CQCC if the lift shuts down for any reason. The lift shall only be restarted by the CQCC.

8. Service logs including, but not limited to, the device shutdown(s) shall be kept in the maintenance office and shall be available to the Division. The shutdown information shall contain the date of the shutdown, cause of the shutdown, and the action taken to correct the shutdown.

9. The Applicant shall provide training on the safe operation of the lift in accordance with Section 3203. Such training shall be conducted annually for all employees using or who will be assisting others in using the lift. The Applicant shall notify the Division in writing that training has been conducted. A copy of the training manual (used for the subject training), and documentation identifying the trainer and attendees shall be maintained for at least 1 year and provided to the Division upon request.

10. Any CQCC performing inspections, maintenance, servicing or testing of the elevators shall be provided a copy of this variance decision.

11. The Division shall be notified when the lift is ready for inspection, and the lift shall be inspected by the Division and a Permit to Operate shall be issued before the lift is put into service.

12. The Applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2 and 411.3.

13. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division, or by the Board on its own motion, in the procedural manner prescribed per Title 8, Division 1, Chapter 3.5.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 25, 2021

Christina Shupe, Hearing Officer

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, California 95833
(916) 274-5721

In the Matter of Application for Permanent Variance Regarding: Schindler Model 3300 Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: February 24, 2021 DECISION

The Occupational Safety and Health Standards Board hereby adopts the attached PROPOSED DECISION by Christina Shupe, Hearing Officer.

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

KATHLEEN CRAWFORD, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: March 18, 2021

THE FOREGOING VARIANCE DECISION WAS ADOPTED ON THE DATE INDICATED ABOVE. IF YOU ARE DISSATISFIED WITH THE DECISION, A PETITION FOR REHEARING MAY BE FILED BY ANY PARTY WITH THE STANDARDS BOARD WITHIN TWENTY (20) DAYS AFTER SERVICE OF THE DECISION. YOUR PETITION FOR REHEARING MUST FULLY COMPLY WITH THE REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTIONS 427, 427.1 AND 427.2.

Note: A copy of this Decision must be posted for the Applicant's employees to read, and/or a copy thereof must be provided to the employees' Authorized Representatives.

BEFORE THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
DEPARTMENT OF INDUSTRIAL RELATIONS
STATE OF CALIFORNIA

In the Matter of Application for Permanent Variance Regarding: Schindler Model 3300 Elevators (Group IV)	OSHSB File Nos.: Per Section A table, below PROPOSED DECISION Hearing Date: February 24, 2021

A. Subject Matter and Jurisdiction:

1. Each below listed applicant ("Applicant") has applied for permanent variance from certain provisions of the Elevator Safety Orders, found at Title 8, of the California Code of Regulations, with respect to a conveyance, or conveyances, in the listed quantity, at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
21-V-001	Microsoft Corporation	1065 La Avenida Street Mountain View, CA	2

2. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

3. The safety orders at issue are set out in below Section C.1—C.4.

B. Process and Procedure:

1. This hearing was held on February 24, 2021, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Jennifer Linares, with the Schindler Elevator Company, appeared on behalf of each Applicant; Mark Wickens appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Michael Nelmida appeared on behalf of Board staff, in a technical advisory role apart from the Board.

3. Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: each respective permanent variance applications per Section A table as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending

Application Memorandum as PD-3, Division Review of Application as PD-4, Review Draft 1 Proposed Decision as PD-5, and official notice taken of the Board's rulemaking records, and variance decisions concerning the safety order requirements from which variance is requested. At close of hearing on February 24, 2021, the record was closed, and the matter taken under submission by the Hearing Officer.

C. Findings of Fact—Based upon the record of this proceeding, the Board finds the following:

Requested Suspension Means Related Variance:

1. As each pertains to the non-circular elastomeric coated suspension means characteristic of the Schindler Model 3300 elevator, each Applicant presently seeks permanent variance from the following Title 8, Elevator Safety Order incorporated ASME Safety Code for Elevators and Escalators (ASME Code) A17.1-2004, sections and subsections:

    Section 2.20.1—Wire rope suspension means
    Section 2.20.2.1—Crosshead data plate
    Subsection 2.20.2.2(a)—Wire rope data tag
    Subsection 2.20.2.2(f)—ID of steel wire rope as preformed or nonpreformed
    Section 2.20.3—Wire rope safety factor
    Section 2.20.4—Number and diameter of wire ropes
    Section 2.20.9.3.4—Wire rope end connections
    Section 2.20.9.5.4—Wire rope sockets

Requested Car Top Railing Inset Variance:

2. As it pertains to top of car railing placement requiring space occupied by upper hoistway mounted elevator machinery characteristic of the Schindler Model 3300 elevator, each Applicant presently seeks permanent variance from the following Title 8, Elevator Safety Order incorporated ASME Code A17.1-2004, section:

    Section 2.14.1.7.1—Top of Car Perimeter Railing Placement

Requested Seismic Reset Switch Placement Variance:

3. As it pertains to installation of the requisite seismic reset switch within a "machine room" location incompatible with machine-room-less design of the Schindler Model 3300 elevator, each Applicant presently seeks permanent variance from the following Title 8, Elevator Safety Order incorporated ASME Code subsection:

Subsection 8.4.10.1.1(a)(2)(b)--Seismic Reset Switch Placement in Machine Room

Requested Transfer Switch Placement Variance:

4. As it pertains to installation of the requisite transfer switch within a "machine room" location incompatible with machine-room-less design of the Schindler Model 3300 elevator, each Applicant presently seeks permanent variance from the following Title 8, Elevator Safety Order incorporated ASME Code A17.1-2004, subsection:

Subsection 2.26.1.4.4(a)--Transfer Switch Placement in Machine Room

Official Notice and Incorporation by Reference—OSHSB File No. 15-V-349:

5. Per hereby entered stipulation offered at hearing by Applicant, Division, and Board staff, concerning preexisting Board records, including decisions in matters of permanent variance from Elevator Safety Order requirements, the Board takes Official Notice and expressly incorporates herein by reference, OSHSB File No. 15-V-349, Decision and Order adopted November 17, 2016, Section D.1—D.75 findings, and therein entered record upon which it was based.

Positions of Division, and Board Staff:

6. Having fully reviewed each Applicant's request for variance from the above identified Elevator Safety Order requirements, it is the concurrent opinion of Division and Board staff, that conditionally limited grant to each Applicant of permanent variance as specified per the below Decision and Order, will provide for elevator safety, and occupational safety and health, equivalent or superior to that of the Elevator Safety Order requirements from which variance is being sought. The present opinion of Division and Board staff, to any extent it may vary from those previously held with respect to the previously heard matter in OSHSB File No. 15-V-349, reflects further scrutiny of the subject matter, consultation between the Division, Board staff, Applicant representatives, and refinement of recommended conditions and limitations.

D. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted, and (2) a preponderance of the

evidence establishes that each Applicant's proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent safety and health to that which would prevail upon full compliance with the requirements of California Code of Regulation, Title 8, Elevator Safety Orders from which variance is being sought.

E. Decision and Order:

Each Section A table identified Applicant is hereby conditionally GRANTED Permanent Variance as specified below, and to the limited extent, as of the date the Board adopts this Proposed Decision, with respect to the Section A specified number of Schindler Model 3300 elevator(s), at the specified location, each shall conditionally hold permanent variance from the following subparts of ASME A17.1-2004, currently incorporated by reference into California Code of Regulations, Title 8, Section 3141.

Suspension Members: Each Applicant shall conditionally hold permanent variance from the following Title 8, Section 3141, incorporated sections and subsections of ASME A17.12004, to the limited extent variance is necessary to provide for use of noncircular elastomeric-coated steel suspension members and concomitant components, and configurations—Section 2.20.1; Section 2.20.2.1; Subsection 2.20.2.2(a); Subsection 2.20.2.2(f); Section 2.20.3; Section 2.20.4: Section 2.20.9.3.4; and Section 2.20.9.5.4.

Inspection Transfer Switch: Each Applicant shall conditionally hold permanent variance from certain requirements of the following Title 8, Section 3141 incorporated section of ASME A17.1-2004, to the extent variance is necessary to having the requisite inspection transfer switch located elsewhere than a machine room, within a Security Group I enclosure built into an upper floor landing door jam, or within other readily accessible and secure space shared with the motion controller outside the hoistway: Section 2.26.1.4.4.

Seismic Safety Switch Placement: Each Applicant shall conditionally hold permanent variance from certain requirements of the following Title 8, Section 3141, incorporated section of ASME A17.1-2004, to the limited extent variance is necessary to having the requisite seismic reset switch located elsewhere than a machine room, within a Security Group I enclosure built into an upper floor landing door jam, or within other readily accessible and secure space shared with the motion controller outside the hoistway: Section 8.4.10.1.1.

Car Top Railing: Each Applicant shall conditionally hold permanent variance from certain requirements of the following Title 8, Section 3141, incorporated section of ASME A17.1-2004, to the limited extent variance is necessary to provide for the below specified insetting of the subject elevator's top of car railing: Section 2.14.1.7.1.

Further Conditions and Limitations:

1. The elevator suspension system shall comply to the following:

    1.1. The suspension traction media (STM) members and their associated fastenings shall conform to the applicable requirements of ASME A17.1-2013, sections:

    - 2.20.4.3 – Minimum Number of Suspension Members
    - 2.20.3 – Factor of Safety
    - 2.20.9 – Suspension Member Fastening

    1.1.1 Additionally, STMs shall meet or exceed all requirements of ASME 17.6-2010, Standard for Elevator Suspension, Compensation, and Governor Systems, Part 3 Noncircular Elastomeric Coated Steel Suspension Members for Elevators.

    1.2. The Applicant shall not utilize the elevator unless the manufacturer has written procedures for the installation, maintenance, inspection and testing of the STM members and fastenings and related monitoring and detection systems and criteria for STM replacement, and the Applicant shall make those procedures and criteria available to the Certified Competent Conveyance Mechanic (CCCM) at the location of the elevator, and to the Division of Occupational Safety and Health (Division) upon request.

    1.3. STM member mandatory replacement criteria shall include:

    1.3.1 Any exposed wire, strand or cord;

    1.3.2 Any wire, strand or cord breaks through the elastomeric coating;

    1.3.3 Any evidence of rouging (steel tension element corrosion) on any part of the elastomeric coated steel suspension member;

    1.3.4 Any deformation in the elastomeric suspension member such as, but not limited to, kinks or bends.

    1.4. Traction drive sheaves must have a minimum diameter of 72 mm. The maximum speed of STM members running on 72 mm, 87 mm and 125 mm drive sheaves shall be no greater than 2.5 m/s, 6.0 m/s and 8.0 m/s respectively.

    1.5. If any one STM member needs replacement, the complete set of suspension members on the elevator shall be replaced. Exception: If a new suspension member is damaged during installation, and prior to any contemporaneously installed STM having been placed into service, it is permissible to replace the

individual damaged suspension member. STM members that have been installed on another installation shall not be re-used.

1.6. A traction loss detection means shall be provided that conforms to the requirements of ASME A17.1-2013, Section 2.20.8.1. The means shall be tested for correct function annually in accordance with ASME A17.1-2013, section 8.6.4.19.12.

1.7. A broken suspension member detection means shall be provided that conforms to the requirements of ASME A17.1-2013, Section 2.20.8.2. The means shall be tested for correct function annually in accordance with ASME A17.1-2013, section 8.6.4.19.13(a).

1.8. An elevator controller integrated bend cycle monitoring system shall monitor actual STM bend cycles, by means of continuously counting, and storing in nonvolatile memory, the number of trips that the STM makes traveling, and thereby being bent, over the elevator sheaves. The bend cycle limit monitoring means shall automatically stop the car normally at the next available landing before the bend cycle correlated residual strength of any single STM member drops below 80 percent of full rated strength. The monitoring means shall prevent the car from restarting. Notwithstanding any less frequent periodic testing requirement per Addendum 1 (Division Circular Letter), the bend cycle monitoring system shall be tested semi-annually in accordance with the procedures required per above Conditions 1.2, and 1.3.

1.9. Each elevator shall be provided with a device that electronically detects a reduction in residual strength of each STM member. The device shall be in compliance with Division Circular Letter E-10-04, a copy of which is attached hereto as Addendum 1, and incorporated herein by reference.

1.10. The elevator crosshead data plate shall comply with the requirements of ASME A17.1-2013, Section 2.20.2.1.

1.11. A suspension means data tag shall be provided that complies with the requirements of ASME A17.1-2013, Section 2.20.2.2.

1.12. Comprehensive visual inspections of the entire length of each and all installed suspension members, in conformity with above Conditions 1.2 and 1.3 specified criteria, shall be conducted and documented every six months by a CCCM.

1.13. The Applicant shall be subject to the requirements per hereto attached, and inhere incorporated, Addendum 2, "Suspension Means Replacement Reporting Condition."

1.14. Records of all tests and inspections shall be maintenance records subject to ASME A17.1-2004, Sections 8.6.1.2, and 8.6.1.4, respectively.

2. Inspection Transfer switch and Seismic Reset switch placement and enclosure shall comply with the following:

2.1. If the inspection transfer switch required by ASME A17.1-2004, Rule 2.26.1.4.4, does not reside in a machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the control/machinery room/space containing the elevator's control equipment in an enclosure secured by a lock openable by a Group 1 security key. The enclosure is to remain locked at all times when not in use.

2.2. If the seismic reset switch does not reside in the machine room, that switch shall not reside in the elevator hoistway. The switch shall reside in the control/machinery room/space containing the elevator's control equipment in an enclosure secured by a lock openable by a Group 1 security key. The enclosure is to remain locked at all times when not in use.

3. Any and all inset car top railing shall comply with the following:

3.1. Serviceable equipment shall be positioned so that mechanics and inspectors do not have to stand on or climb over the railings to perform adjustments, maintenance, repairs or inspections. The Applicant shall not permit anyone to stand or climb over the car top railing.

3.2. The distance that the railing can be inset shall be limited to not more than 6 inches.

3.3. All exposed areas of the car top outside the car top railing where the distance from the railing to the edge of the car top exceeds 2 inches, shall be beveled with metal, at an angle of not less than 75 degrees with the horizontal, from the mid or top rail to the outside of the car top, such that no person or object can stand, sit, kneel, rest, or be placed in the exposed areas.

3.4. The top surface of the beveled area and/or car top outside the railing, shall be clearly marked. The markings shall consist of alternating 4 inch diagonal red and white stripes.

3.5. The applicant shall provide durable signs with lettering not less than 1/2 inch on a contrasting background on each inset railing; each sign shall state:

CAUTION
STAY INSIDE RAILING
NO LEANING BEYOND RAILING
NO STEPPING ON, OR BEYOND, RAILING

3.6. The Group IV requirements for car top clearances shall be maintained (car top clearances outside the railing will be measured from the car top and not from the required bevel).

4. The elevator shall be serviced, maintained, adjusted, tested, and inspected only by CCCM having been trained, and competent, to perform those tasks on the Schindler Model 3300 elevator system in accordance with written procedures and criteria, including as required per above Conditions 1.2, and 1.3.

5. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division, and all applicable requirements met, including conditions of this permanent variance, prior to a Permit to Operate the elevator being issued. The elevator shall not be placed in service prior to the Permit to Operate being issued by Division.

6. The Applicant shall notify its employees or their authorized representative(s), or both, of this order in the same way and to the same extent that employees and authorized representatives are to be notified of docketed permanent variance applications pursuant to California Code of Regulations, Title 8, Sections 411.2, and 411.3.

7. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division, or by the Board on its own motion, in the manner prescribed for its issuance.

Pursuant to California Code of Regulations, Title 8, Section 426(b), the above, duly completed Proposed Decision, is hereby submitted to the Occupational Safety and Health Standards Board for consideration of adoption.

Dated: February 24, 2021

Christina Shupe, Hearing Officer

ADDENDUM 1

October 6, 2010

CIRCULAR LETTER E-10-04

TO: Installers, Manufacturers of Conveyances and Related Equipment and, Other Interested Parties

SUBJECT: Coated Steel Belt Monitoring

The Elevator Safety Orders require routine inspection of the suspension means of an elevator to assure its safe operation.

The California Labor Code Section 7318 allows the Division to promulgate special safety orders in the absence of regulation.

As it is not possible to see the steel cable suspension means of a Coated Steel Belt, a monitoring device which has been accepted by the Division is required on all Coated Steel Belts which will automatically stop the car if the residual strength of any belt drops below 60%. The Device shall prevent the elevator from restarting after a normal stop at a landing.

The monitoring device must be properly installed and functional. A functioning device may be removed only after a determination has been made that the residual strength of each belt exceeds 60%. These findings and the date of removal are to be conspicuously documented in the elevator machine room. The removed device must be replaced or returned to proper service within 30 days.

If upon routine inspection, the monitoring device is found to be in a non-functional state, the date and findings are to be conspicuously documented in the elevator machine room.

If upon inspection by the Division, the monitoring device is found to be non-functional or removed, and the required documentation is not in place, the elevator will be removed from service.

If the device is removed to facilitate belt replacement, it must be properly installed and functional before the elevator is returned to service.

A successful test of the device's functionality shall be conducted once a year.

This circular does not preempt the Division from adopting regulations in the future, which may address the monitoring of Coated Steel Belts or any other suspension means.

This circular does not create an obligation on the part of the Division to permit new conveyances utilizing Coated Steel Belts.

Debra Tudor
Principal Engineer
DOSH-Elevator Unit HQS

ADDENDUM 2

Suspension Means – Replacement Reporting Condition

Beginning on the date the Board adopts this Proposed Decision and continuing for a period of two years, the Applicant shall report to the Division within 30 days any and all replacement activity performed on the elevator(s) pursuant to the requirements of ASME A17.1-2004, Section 8.6.3 involving the suspension means or suspension means fastenings.

Further:

1. A separate report for each elevator shall be submitted, in a manner acceptable to the Division, to the following address (or to such other address as the Division might specify in the future): DOSH Elevator Unit, 2 MacArthur Place, Suite 700, Santa Ana, CA 92707, Attn: Engineering Section.

2. Each such report shall contain, but not necessarily be limited to, the following information:

    a. The State-issued conveyance number, complete address, and OSHSB file number that identifies the permanent variance.

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

    f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement

and (2) any conditions that existed to cause damage or distress to the suspension components being replaced.

g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in item 2a above.

Occupational Safety and Health Standards Board

Business Meeting

Legislative Update

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

Summary of Changes

AB-2 Regulations: legislative review: regulatory reform .(2021-2022) **No Update**

AB 7 Emergency ambulance employees: subsidized protective gear.(2021-2022) **No Update**

AB 29 – State bodies: meetings. (2021-2022) **NEW. Monitoring for impacts on meeting notice requirements and cost impacts.**

AB 62 Income taxes: credits: costs to comply with COVID-19 regulations.(2021-2022) **No Update**

AB 73 Employment safety: agricultural workers: wildfire smoke.(2021-2022) **No Update**

AB 257. Fast food industry: working standards (2021-2022) **No Update**

AB 339 State and local government: open meetings.(2021-2022) **No Update**

AB 420 Public health: amusement parks and COVID-19.(2021-2022) **Updated and hightlighted new language.**

AB 701 Warehouse distribution centers (2021-2022) **NEW. Monitoring for impacts.**

SB 46 Employment: contact tracing and safety policies: COVID-19.(2021-2022) **No Update**

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

AB 2

AB-2 Regulations: legislative review: regulatory reform .(2021-2022)
(Fong)

Date	Action
01/11/21	Referred to Com. on A. & A.R.

Summary:

AB 2, as introduced, Fong. Regulations: legislative review: regulatory reform.

The Administrative Procedure Act governs the procedure for the adoption, amendment, or repeal of regulations by state agencies and for the review of those regulatory actions by the Office of Administrative Law. That act requires an agency, prior to submitting a proposal to adopt, amend, or repeal an administrative regulation, to determine the economic impact of that regulation, in accordance with certain procedures. The act defines a major regulation as a regulation, as specified, that will have an economic impact on California business enterprises and individuals in an amount exceeding $50,000,000, as estimated by the agency. The act requires the office to transmit a copy of a regulation to the Secretary of State for filing if the office approves the regulation or fails to act on it within 30 days. The act provides that a regulation or an order of repeal of a regulation becomes effective on a quarterly basis, as prescribed, except in specified instances.

This bill would require the office to submit to each house of the Legislature for review a copy of each major regulation that it submits to the Secretary of State. The bill would add another exception to those currently provided that specifies that a regulation does not become effective if the Legislature enacts a statute to override the regulation.

The Administrative Procedure Act requires the Office of Administrative Law and a state agency proposing to adopt, amend, or repeal a regulation to review the proposed changes for, among other things, consistency with existing state regulations.

This bill would require each state agency to, on or before January 1, 2023, review that agency's regulations, identify any regulations that are duplicative, overlapping, inconsistent, or out of date, to revise those identified regulations, as provided, and report to the Legislature and Governor, as specified. The bill would repeal these provisions on January 1, 2024.

Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

AB 7

AB-7 Emergency ambulance employees: subsidized protective gear. (2021-2022) (Rodriguez)

Date	Action
01/11/21	Referred to Com. on L. & E

Summary:

Existing law establishes a statewide system for emergency medical services and establishes the Emergency Medical Services Authority, which is responsible for establishing training, scope of practice, and continuing education for emergency medical technicians and other prehospital personnel. Existing law, the California Occupational Safety and Health Act of 1973, imposes safety responsibilities on employers and employees, including requirements that every employer furnish and use safety devices and safeguards, and adopt and use practices that are reasonably adequate to render the employment and place of employment safe and healthful. Existing law makes a violation of those requirements a crime.

This bill would require an emergency ambulance provider to establish a voluntary personal protective equipment (PPE) program that allows for the purchase of subsidized multithreat body protective gear that is bullet, strike, slash, and stab resistant by an emergency ambulance employee pursuant to an employer-funded stipend, and authorize an employee to voluntarily participate in a PPE program and to wear the PPE while on duty. The bill would require a provider to inform an employee of the opportunity to purchase subsidized multithreat body protective gear through a PPE program. By creating new duties for emergency ambulance providers, a violation of which would be a crime, the bill would impose a state-mandated local program. The bill would not apply to the state or a political subdivision of the state.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

AB 29

AB-29 State bodies: meetings. (2021-2022)

(Cooper/Rubio)

Date	Action
01/11/21	Referred to Com. on REV. & TAX
12/08/20	From printer. May be heard in committee January 7.
12/07/20	Read first time. To print.

Summary:

AB 29, as introduced, Cooper. State bodies: meetings.

Existing law, the Bagley-Keene Open Meeting Act, requires that all meetings of a state body, as defined, be open and public, and that all persons be permitted to attend any meeting of a state body, except as otherwise provided in that act. Existing law requires the state body to provide notice of its meeting, including specified information and a specific agenda of the meeting, as provided, to any person who requests that notice in writing and to make that notice available on the internet at least 10 days in advance of the meeting.

This bill would require that notice to include all writings or materials provided for the noticed meeting to a member of the state body by the staff of a state agency, board, or commission, or another member of the state body that are in connection with a matter subject to discussion or consideration at the meeting. The bill would require those writings or materials to be made available on the state body's internet website, and to any person who requests the writings or materials in writing, on the same day as the dissemination of the writings and materials to members of the state body or at least 72 hours in advance of the meeting, whichever is earlier. The bill would prohibit a state body from discussing those writings or materials, or from taking action on an item to which those writings or materials pertain, at a meeting of the state body unless the state body has complied with these provisions.

Board staff are monitoring this legislation for cost and impacts to its meeting requirments.

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

AB 62

AB-62 Income taxes: credits: costs to comply with COVID-19 regulations.(2021-2022)
(Gray)

Date	Action
01/11/21	Referred to Com. on REV. & TAX

Summary:

AB 62, as introduced, Gray. Income taxes: credits: costs to comply with COVID-19 regulations.

The Personal Income Tax Law and the Corporation Tax Law allow various credits against the taxes imposed by those laws. Existing law requires any bill authorizing a new tax credit to contain, among other things, specific goals, purposes, and objectives that the tax credit will achieve, detailed performance indicators, and data collection requirements.

This bill would allow a credit against those taxes for each taxable year beginning on or after January 1, 2021, to a qualified taxpayer, as defined, in an amount equal to the total amount paid or incurred during the taxable year by the qualified taxpayer to comply with the regulations adopted by the Occupational Safety and Health Standards Board on November 19, 2020, relating to COVID-19 prevention and approved by the Office of Administrative Law. The bill also would state the intent of the Legislature to comply with the additional information requirement for any bill authorizing a new income tax credit.

This bill would take effect immediately as a tax levy.

Board staff are monitoring this legislation for any potential impacts to its COVID-19 Emergency Temporary Standards.

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

AB 73

AB-73 Employment safety: agricultural workers: wildfire smoke.(2021-2022)
(Rivas, Garcia, Gonzalez, and Kalra)

Date	Action
02/03/21	Referred to Com. on L. & E.
02/02/21	From committee chair, with author's amendments: Amend, and re-refer to Com. on L. & E. Read second time and amended.
01/11/21	Referred to Com. on L. & E.

Summary:

AB 73, as introduced, Robert Rivas. Employment safety: agricultural workers: wildfire smoke.

Existing law establishes the Division of Occupational Safety and Health within the Department of Industrial Relations and requires the division to, among other things, monitor, analyze, and propose health and safety standards for workers. Existing law authorizes the division to adopt regulations to implement health and safety standards. Under existing law, certain violations of a standard, order, or special order pursuant to these provisions are crimes.

Existing regulations require, under certain circumstances, an employer to provide respirators to employees for voluntary use when the air quality index for small particulate matter exceeds certain thresholds, and to encourage employees to use the respirators.

This bill would, among other things, require the division to designate a wildfire smoke strike team within each regional office for purposes of enforcing regulations regarding air quality safety for agricultural workers, as defined. The bill would require the department, by January 1, 2023, in coordination with other state agencies to establish a stockpile of N95 filtering facepiece respirators, as defined, of sufficient size to adequately equip all agricultural workers during wildfire smoke emergencies. The bill would require the department to establish guidelines for procurement, management, and distribution of the N95 respirators.

The bill would require agricultural employers to furnish regional offices of the division with employee totals, by month, to ensure that adequate amounts of N95 respirators are stockpiled. The bill would grant these agricultural employers access to the regional stockpiles during wildfire smoke emergencies, unless the agricultural employer failed to register their employee totals.

The bill would require the division, by January 1, 2023, to develop and distribute related training and information, and would require employers to periodically conduct the training.

	The bill would, in addition, commencing January 1, 2023, require refresher training during wildfire smoke emergencies and prior to distribution of the respirators. Because a violation of certain safety and health standards or orders constitute a crime, this bill would impose a state-mandated local program. The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement. This bill would provide that no reimbursement is required by this act for a specified reason. Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.

AB 257

AB 257. Fast food industry: working standards (2021-2022)
(Gonzalez)

Date	Action
01/16/21	From printer. May be heard in committee February 15.
01/15/21	Read first time. To print.

Summary:

AB 257, as introduced, Lorena Gonzalez. Fast food industry: working standards.

Existing law prescribes various protections for employees and generally charges the Labor Commissioner with the enforcement of labor laws. Existing law creates the California Retail Food Code, the purpose of which is to safeguard public health and provide to consumers food that is safe, unadulterated, and honestly presented through adoption of science-based standards.

This bill would enact the FAST Recovery Act. The bill would make a statement of findings regarding the fast food industry, particularly with respect to the COVID-19 pandemic, and state the intent of the Legislature to enact legislation relating to the fast food industry.

Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

AB 339

AB-339 State and local government: open meetings.(2021-2022)
(Lee and Garcia)

Date	Action
01/29/21	From printer. May be heard in committee February 28.
01/28/21	Read first time. To print.

Summary:

AB 339, as introduced, Lee. State and local government: open meetings.

Existing law requires all meetings, as defined, of a house of the Legislature or a committee thereof to be open and public, and requires all persons to be permitted to attend the meetings, except as specified.

This bill would require all meetings, including gatherings using teleconference technology, to include an opportunity for all persons to attend via a call-in option or an internet-based service option that provides closed captioning services and requires both a call-in and an internet-based service option to be provided to the public. The bill would require all meetings to provide the public with an opportunity to comment on proposed legislation, as provided, and requires translation services to be provided for the 10 most-spoken languages, other than English, in California, and would require those persons commenting in a language other than English to have double the amount of time as those giving a comment in English, if time restrictions on public comment are utilized, except as specified. The bill would require instructions on how to attend the meeting to be posted at the time notice of the meeting is publicized, as specified.

Existing law, the Ralph M. Brown Act, requires, with specified exceptions, that all meetings of a legislative body of a local agency, as those terms are defined, be open and public and that all persons be permitted to attend and participate.

This bill would require all meetings to include an opportunity for all persons to attend via a call-in option or an internet-based service option that provides closed captioning services and requires both a call-in and an internet-based service option to be provided to the public. The bill would require, even in the case of a declared state or local emergency, teleconferenced meetings to include an in-person public comment opportunity. The bill would require all meetings to provide the public with an opportunity to address the legislative body remotely via call-in or internet-based service, as provided, and would require instructions on how to

	attend the meeting to be posted at the time notice of the meeting is publicized, as specified. The bill would also require the legislative bodies of the local agency to employ a sufficient amount of qualified bilingual persons to provide translation during the meeting in the language of a non-English-speaking person, in jurisdictions which govern a substantial number of non-English-speaking people, as defined. Existing law, the Bagley-Keene Open Meeting Act, requires, with specified exceptions, that all meetings of a state body be open and public and all persons be permitted to attend any meeting of a state body. The Act requires at least one member of the state body to be physically present at the location specified in the notice of the meeting. This bill would require all meetings, as defined, to include an opportunity for all persons to attend via a call-in option or an internet-based service option that provides closed captioning services and requires both a call-in and an internet-based service option to be provided to the public. The bill would require instructions on how to attend the meeting via call-in or internet-based service to be posted online along with the meeting agenda in an easily accessible location at least 72 hours before all regular meetings and at least 24 hours before all special meetings. The bill would require all meetings to provide the public with an opportunity to address the legislative body remotely via call-in or internet-based service, as provided, and would require those persons commenting in a language other than English to have double the amount of time as those giving a comment in English, if time restrictions on public comment are utilized, except as specified. Existing law, the Dymally-Alatorre Bilingual Services Act, requires any materials explaining services available to the public to be translated into any non-English language spoken by a substantial number of the public, as defined, served by the agency, and requires every state and local agency serving a substantial number of non-English-speaking people, as defined, to employ a sufficient number of qualified bilingual persons in public contact positions or as interpreters to ensure provision of information and services in the language of the non-English-speaking person. This bill would require legislative bodies of local agencies, and state bodies, as defined, to translate agendas and instructions for accessing the meeting to be translated into all languages for which 5% of the population in the area governed by the local agency, or state body's jurisdiction, are speakers. By imposing new duties on local governments with respect to meetings, this bill would impose a state-mandated local program. The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement. This bill would provide that no reimbursement is required by this act for a specified reason.

Legislative Update
Prepared March 5, 2021, for the March 18, 2021
Meeting of the Occupational Safety and Health Standards Board

	The California Constitution requires local agencies, for the purpose of ensuring public access to the meetings of public bodies and the writings of public officials and agencies, to comply with a statutory enactment that amends or enacts laws relating to public records or open meetings and contains findings demonstrating that the enactment furthers the constitutional requirements relating to this purpose. This bill would make legislative findings to that effect. Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.

AB 420

AB-420 Public health: amusement parks and COVID-19.(2021-2022)
(Quirk-Silva and Valladares)

Date	Action
03/01/21	Re-referred to Com. on A.,E.,S.,T., & I.M..
02/25/21	From committee chair, with author's amendments: Amend, and re refer to Com. on A.,E.,S.,T., & I.M. Read second time and amended
02/25/21	Referred to Coms. on A.,E.,S.,T., & I.M. and L. & E.
02/05/21	From printer. May be heard in committee March 7.
02/04/21	Read first time. To print.

Summary:

AB 420, as introduced, Quirk-Silva. Public health: amusement parks and COVID-19.

Existing law, the California Emergency Services Act, authorizes the Governor to declare a state of emergency during conditions of disaster or extreme peril to persons or property, including epidemics. Pursuant to this authority, on March 4, 2020, the Governor declared a state of emergency relating to the novel coronavirus 2019 (COVID-19) pandemic. On August 28, 2020, the executive branch implemented a 4-tier "Blueprint for a Safer Economy," which identifies a county's COVID-19 risk level for business operations on a scale from widespread risk to minimal risk. On October 20, 2020, the State Department of Public Health and the Division of Occupational Safety and Health issued a guidance document, "COVID-19 INDUSTRY GUIDANCE: Amusement Parks and Theme Parks," which authorizes a

small amusement park to operate at limited capacity when its county is in the moderate tier, and authorizes any other amusement park to operate at 25% capacity when its county is in the minimal tier.

This bill would express the intent of the Legislature that the executive branch adjust the "COVID-19 INDUSTRY GUIDANCE: Amusement Parks and Theme Parks" document and place all amusement parks, regardless of size, within the moderate risk tier, rather than the minimal risk tier. If the executive branch takes those actions, the bill would require the Department of Industrial Relations to administer a competitive grant for amusement parks to be used by amusement parks to purchase personal protective equipment for their employees. The bill would appropriate $500,000 from the General Fund for the grant program. The bill would also make related findings and declarations.

Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.

AB 701

AB-701 Warehouse distribution centers.(2021-2022)
(Gonzalez)

Date	Action
02/25/21	Referred to Com. on L. & E.
02/17/21	From printer. May be heard in committee March 19.
02/16/21	Read first time. To print.

Summary:

This bill would require specified employers to provide to each employee, defined as a nonexempt employee who works at a warehouse distribution center, a written description of each quota to which the employee is subject, including the quantified number of tasks to be performed, or materials to be produced or handled, within the defined time period, and any potential adverse employment action that could result from failure to meet the quota. The bill would require, if the quota or the adverse consequences for failure to meet the quota have changed, the employer to provide the employee with a revised written description. The bill would prohibit an employer from taking adverse action against an

	employee for failure to meet a quota that has not been disclosed or for failure to meet a quota that does not allow a worker to comply with health and safety laws. This bill would require the division to propose to the Occupational Safety and Health Standards Board for the board's review and adoption a standard that minimizes the risk of illness and injury among employees working in warehouse distribution centers that employ production quotas, as provided. Because this bill would expand the definition of an existing crime, it would impose a state-mandated local program. Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.
SB 46	**SB-46 Employment: contact tracing and safety policies: COVID-19.**(2021-2022) (Stern) **Date** / **Action** 01/28/21 — Referred to Com. on RLS. Summary: Existing law requires an employer to furnish employment and a place of employment that is safe and healthful for its employees. This bill would state the intent of the Legislature to enact legislation that would require an employer to develop and implement contact tracing and safety policies for its employees, including requiring notice to the employer when an employee receives a positive COVID-19 test. Board staff are monitoring this legislation to determine if regulatory action by the Board is called for.

Occupational Safety and Health Standards Board

Business Meeting

Executive Officer's Report