Occupational Safety and Health Standards Board

Public Meeting and Business Meeting

October 15, 2020

Via teleconference / videoconference

Board Meeting Packet

OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD
1017 L Street, PMB 254
Sacramento, CA 95814-3805
(916) 274-5721
FAX (916) 274-5743
Website address: www.dir.ca.gov/oshsb

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.

October 15, 2020 at 10:00 a.m.
TELECONFERENCE AGENDA

PUBLIC MEETING 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 PHYSICAL meeting location has been cancelled for October.

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. ADJOURNMENT OF THE PUBLIC MEETING

III. **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. Pamela S.
Petition File No. 579

Petitioner requests to amend various sections of Title 8 (presumably in the GISO and CSO) to address water damaged building (WDB) mold investigation and remediation methodologies that will prevent chronic respiratory illness syndrome attributable to mold.

B. PROPOSED VARIANCE DECISIONS FOR ADOPTION

1. Consent Calendar

C. OTHER

1. Emergency Regulation Process - Overview

2. Legislative Update

3. Executive Officer's Report

4. Board Member Comments and 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).).

D. 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; and

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

3. Personnel

E. RETURN TO OPEN SESSION

1. Report from Closed Session

F. ADJOURNMENT OF THE BUSINESS MEETING

Next Meeting: November 19, 2020
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.

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AND HEALTH STANDARDS BOARD
1017 L Street, PMB #254
Sacramento, CA 95814-3805
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NOTICE OF PUBLIC MEETING AND BUSINESS MEETING
OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Pursuant to Government Code Section 11346.4 and the provisions of Labor Code Sections 142.1, 142.2, 142.3, 142.4, and 144.6, the Occupational Safety and Health Standards Board of the State of California has set the time and place for a Public Meeting and Business Meeting:

PLEASE NOTE: In accordance with Executive Order N-29-20, and Executive Order N-33-20, the PHYSICAL meeting location has been cancelled for October.

PUBLIC MEETING: On **October 15, 2020,** at 10:00 a.m.
via Video-conference at www.webex.com (meeting ID 268 984 996) and
Teleconference at (844) 992-4726 using access code 268 984 996

At the Public Meeting, the Board will make time available to receive comments or proposals from interested persons on any item concerning occupational safety and health.

BUSINESS MEETING: On **October 15, 2020,** at 10:00 a.m.
via Video-conference at www.webex.com (meeting ID 268 984 996) and
Teleconference at (844) 992-4726 using access code 268 984 996

At the Business Meeting, the Board will conduct its monthly business.

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).

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OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

DAVE THOMAS, Chairman

Occupational Safety and Health Standards Board

Business Meeting

Occupational Safety and Health Standards Board

Business Meeting

Petition 579 Decision

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. 579
Pamela Saling	)	DECISION
[redacted]	)	
	)	
	)	
	)	
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

DAVE HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

By: _____
Christina Shupe, Executive Officer

DATE: October 15, 2020
Attachments

OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD
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Sacramento, CA 95814-3805
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PROPOSED PETITION DECISION OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD (PETITION FILE NO. 579)

INTRODUCTION

The Occupational Safety and Health Standards Board (Board) received a petition on January 10, 2020, from Pam Saling (Petitioner). The petition seeks changes in existing standards concerning the presence of mold in employee-occupied buildings.

Labor Code Section 142.2 permits interested persons to propose new or revised regulations concerning occupational safety and health and requires the Board to consider such proposals, and render a decision no later than six months following receipt. Further, as required by Labor Code Section 147, any proposed occupational safety or health standard received by the Board from a source other than the Division of Occupational Safety and Health (Division) must be referred to the Division for evaluation, and the Division has 60 days after receipt to submit an evaluation regarding the proposal. California Governor Gavin Newsom, in recognition of the State of Emergency that exists in California due to the COVID-19 pandemic, extended the six month timeline by 120 days in Executive Order N-71-20 (modifying the previous 60-day extension provided in Executive Order N-63-20).

SUMMARY

The Petitioner requests the Board incorporate guidelines from a document entitled "Indoor Environmental Professionals Panel of Surviving Mold – Consensus Statement" (Statement) into a new regulation within Title 8 to aid in the investigation of a water-damaged building (WDB) whose occupants exhibit symptoms of potential illness from mold exposure.

The Petitioner asserts that existing Title 8 requirements addressing mold "fall short" and do not require employers and building owners to sufficiently address employee complaints of mold exposure. The Petitioner writes that mold exposure is an "epidemic [that affects] all ages, races and economic classes" and provides a web address where one can obtain information on "the latest scientific studies, laws and regulations, articles and further mold information resources." The Petitioner hopes that California will be the first state in the nation to adopt the principles explained in the Statement and that other states will follow.

The Statement recommended by the Petitioner for adoption into Title 8 is written by a panel of doctors who specialize in resolving concerns of mold exposure to the segment of the population most affected by the presence of mold in WDBs. The panel labels these individuals as having chronic inflammatory response syndrome, which is acquired following exposure to the interior of water-damaged buildings (CIRS-WDB). Table 1 in the document contains a list of 30 "toxins,

inflammagens, and microbes found in WDBs", which the Petitioner asserts, can contribute to CIRS-WDB.

The Statement describes an in-depth procedure for 1) finding causes of and preventing water damage, 2) investigating and remediating WDBs, 3) maintaining indoor environmental quality after remediation, and 4) verifying that a damp indoor environment has been remediated so mold-sensitive individuals can safely reoccupy the space. The document is specifically written to alleviate complaints of mold exposure from those identified as having CIRS-WDB.

According to the document, the Statement's "primary objective is to establish modified standards for the evaluation and management of WDBs to be applied to all buildings, not just those where occupants meet diagnostic criteria for CIRS-WDB." Continuing, it says, "Such standards will necessarily also correct indoor conditions that are encountered by less adversely affected occupants."

DIVISION'S EVALUATION

The Division's evaluation report dated July 30, 2020, states the Division agrees with the Petitioner that water intrusion, leakage from interior water sources or other accumulation of water inside a building, if not corrected, can cause the growth of mold. Similarly, the Division concurs that the presence in buildings of visible water damage, damp building materials, visible mold, or mold odor is unhealthy and can increase the risk of workers suffering a respiratory illness, particularly if exposure to the damp building is not recognized and corrected and the exposure continues indefinitely.

The Division also agrees with the Petitioner that Title 8, subsection 3362(g) is insufficient in addressing mold hazards for the following reasons:

- Subsection 3362(g) is unnecessarily limited in scope. The subsection limits water sources to exterior water intrusion, leakage from interior water sources, or other uncontrolled accumulation where water occurs. Uncontrolled is irrelevant to mold and microbial growth. Whether controlled or not, if water intrusion or excessive moisture inside a building is continuously present, mold will grow.

- Subsection 3362(g) does not address high humidity environments that lead to mold growth as recognized by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the United States Environmental Protection Agency (U.S. EPA).

- Subsection 3362(g) contains no requirements for removing mold growth from buildings, only controlling certain water intrusion. Once mold growth is present, it will continue to present a hazard to building occupants even after the removal of moisture.

The Division does not agree with the Petitioner that quantitative methods be required or used to determine mold or other microbial levels in buildings. The Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health, World Health

Organization (WHO), and California Department of Public Health (CDPH) recommend against measuring indoor microorganisms or using the presence of specific microorganisms to determine the level of health hazards. Conventional quantitative measurements of fungi or other microbiologic exposures, such as counts of culturable airborne fungi, have shown less consistent associations with health effects than have qualitative assessments of visible dampness or water damage, visible mold, or mold odor. Additionally, there are no set standards to determine the different kinds of mold that could be present.

The WHO guidelines state the most important means for avoiding adverse health effects is the prevention (or minimization) of persistent dampness and microbial growth on interior surfaces and in building structures. Therefore, indoor dampness, high humidity, water intrusion, and fungal growth should be always eliminated in a safe and efficient manner, by (a) identifying and correcting the source of water, moisture, and/or humidity, (b) drying or removing damp materials, and (c) cleaning or removing the mold and moldy materials.

The Division recognizes that the presence of water damage, damp materials, and excessive mold growth inside buildings is unhealthy, and the best method to protect workers in buildings is by ensuring water intrusion, excessive moisture, and excessive humidity be corrected and mold be cleaned and removed promptly.

The Division recommends the petition be granted to the limited extent that an advisory committee be convened to consider appropriate changes to subsection 3362(g) to address deficiencies in the subsection as noted in the analysis of the Division's evaluation.

BOARD STAFF'S EVALUATION

Board staff prepared an evaluation dated August 10, 2020. According to a "Frequently Asked Questions" (FAQ) sheet from the CDC, "mold is found both indoors and outdoors… [and] is very common in buildings and homes." Additionally, it says mold enters indoor spaces "through open doorways, windows, vents, and heating and air conditioning systems," as well as, on clothing and shoes.

Although exposure to mold increases the risk of mold-related health effects, the FAQ sheet also explains that "exposure to damp and moldy environments may cause a variety of health effects, or none at all," depending on a person's individual sensitivities to a particular mold. According to the sheet, people with allergies, immune suppression illness, or chronic respiratory diseases are at the highest risk of the most serious complications resulting from mold exposure.

The Petitioner's request aims to require employers to remediate a WDB until the symptoms of CIRS-WDB are abated for all employees. Because of the differences in employees' individual sensitivity to mold and other contaminants listed in Table 1 of the petition, the extent and cost of the remediation efforts can vary greatly. Furthermore, many of the contaminants listed in Table 1 can be found in buildings that do not show signs of water damage (e.g. cell fragments, bacteria, protozoa, volatile organic compounds, and airborne particulates), potentially adding confusion to a requirement to abate the contaminants as recommended in the Statement.

Adding to the potential for excessive costs to a business, the Statement recommends the use of "a moisture meter, an infrared imaging system, a meter to measure relative humidity, and a laser particle counter" to perform an interior inspection of a WDB. The Statement states "Both moisture meters and laser counters require professional knowledge and training for accurate use."

The Statement also contains recommendations for destructive exploratory testing, removal of occupants during remediation, and confirmatory conditions for post-remediation success that could be problematic to enforce. For example, the Statement reads:

> *Although laboratory testing is needed, for many persons with CIRS-WDB the optimal level of cleanliness to reach and show with post-remediation testing will (i) have no odors including fragrances or strong smelling chemicals; and (ii) have no visible dust seen with a bright light. The surfaces should be generally white glove clean. Blue painter's tape can be pressed onto smooth surfaces to show if residues and dust have not been removed with cleaning. These are test methods that can be used by workers, customers, and consultants and are not medically conclusive.*

In contrast to the Statement's requirements to confirm that mold and other contaminants have been sufficiently removed from a work area, the CDPH provides the following on its FAQ page in response to the question, "How do I know if the remediation was good enough and solved the problem?"

> *The best known indicator that the dampness-related health risks have been reduced is if the source of the moisture is remedied, all damaged materials have been cleaned or removed appropriately, and all remaining materials are dry and free of visible mold and mold odor. As of now, no mold tests or measurements can show when remediation efforts have been successful.*

The CDPH recommendations do not require special tools or training to implement and are arguably as protective with respect to the removal of mold from the workplace.

Labor Code Section 6400(a) requires those who suffer from hypersensitivity to mold be provided with a workplace "that is safe and healthful to the employees therein." However, the consensus of the mold information, including the Statement, is that controlling the presence of water in an area is the most effective means of preventing mold growth, as required by existing Section 3362. Board staff does not see the need to add the requirements of the Statement to Title 8 regulations.

Board staff asserts that Section 3362, regarding the uncontrolled accumulation of water and the requirement to provide work areas that are clean, orderly, and sanitary, sufficiently requires employers to abate the conditions that could lead to mold exposure in the workplace. Additionally, the performance based standards of Section 3203, "Injury and Illness Prevention Program" and Section 5141, "Control of Harmful Exposure to Employees" require employers to take steps to protect employees from onsite hazards. When properly implemented, existing Title

8 requirements for the prevention and control of mold in the workplace reasonably address the risks to employees.

Consistent with the foregoing discussion, Board staff does not believe the Petitioner's request is necessary and recommends that Petition File No. 579 be DENIED.

BOARD DISCUSSION

The Division agrees with the Petitioner that Title 8, subsection 3362(g) is insufficient in addressing mold hazards, but does not agree with the Petitioner's proposed remediation. The Division notes:

"The Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health, World Health Organization (WHO), and California Department of Public Health (CDPH) recommend against measuring indoor microorganisms or using the presence of specific microorganisms to determine the level of health hazards. Conventional quantitative measurements of fungi or other microbiologic exposures, such as counts of culturable airborne fungi, have shown less consistent associations with health effects than have qualitative assessments of visible dampness or water damage, visible mold, or mold odor. Additionally, there are no set standards to determine the different kinds of mold that could be present."

Board staff point to Labor Code section 6400(a), which already provides protections for sensitive workers, while existing Title 8 Sections 3362 and the performance based standards of Section 3203, "Injury and Illness Prevention Program" and Section 5141, "Control of Harmful Exposure to Employees" require employers to take steps to protect employees from onsite hazards, including those introduced by water and/or mold.

Division's concurrence with some of Petitioner's assertions is not sufficient basis alone for a grant, in-whole or in-part, of the subject petition which seeks specific, prescriptive amendments to Title 8. The Division is provided with wide latitude to propose health standards to the Board, independent of a petition grant. The Board encourages the Division to utilize its resources to advance those projects, as it sees fit, for future consideration through established rulemaking process.

CONCLUSION AND ORDER

The Occupational Safety and Health Standards Board has considered the petition of Pam Saling, to make recommended changes to existing standards concerning the presence of mold in employee-occupied buildings. The Board has also considered the recommendations of the Division and Board staff. For reasons stated in the preceding discussion, the petition is hereby DENIED.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

(Board)

PETITION FILE NO. 579

BOARD STAFF EVALUATION

Submitted by: David Kernazitskas, MSPH, CIH, CSP

Senior Safety Engineer

August 10, 2020

INTRODUCTION

Petition File No. 579 (Petition) was submitted by Pamela Saling (Petitioner) on January 10, 2020. The Petition seeks changes in existing standards concerning the presence of mold in employee-occupied buildings.

REQUESTED ACTION

The Petitioner requests the Board incorporate guidelines from a document entitled "Indoor Environmental Professionals Panel of Surviving Mold – Consensus Statement" (Consensus Statement) into Title 8 to aid in the investigation of a water-damaged building (WDB) whose occupants exhibit symptoms of potential illness from mold exposure.

PETITIONER'S ASSERTIONS

The Petitioner asserts that existing Title 8 requirements addressing mold "fall short" and do not require employers and building owners to sufficiently address employee complaints of mold exposure. She writes that mold exposure is an "epidemic [that affects] all ages, races and economic classes" and provides a web address where she claims one can obtain information on "the latest scientific studies, laws and regulations, articles and further mold information resources." She hopes that California will be the first state in the nation to adopt the principles explained in the Consensus Statement and that other states will follow.

The Consensus Statement recommended by the Petitioner for adoption into Title 8 is written by a panel of doctors who specialize in resolving concerns of mold exposure to the segment of the population most affected by the presence of mold in WDBs. The panel labels these individuals as having chronic inflammatory response syndrome, which is acquired following exposure to the interior of water-damaged buildings (CIRS-WDB). Table 1 in the document contains a list of 30 "toxins, inflammagens, and microbes found in WDBs", which the Petitioner asserts, can contribute to CIRS-WDB.

The Consensus Statement describes an in-depth procedure for 1) finding causes of and preventing water damage, 2) investigating and remediating WDB, 3) maintaining indoor environmental quality after remediation, and 4) verifying that a damp indoor environment has been remediated so that mold-sensitive individuals can safely reoccupy the space. The document is specifically written to alleviate complaints of mold exposure from those identified as having CIRS-WDB.

According to the document, its "primary objective is to establish modified standards for the evaluation and management of WDBs to be applied to all buildings, not just those where occupants meet diagnostic criteria for CIRS-WDB." Continuing, it says "Such standards will necessarily also correct indoor conditions that are encountered by less adversely affected occupants."

STAFF EVALUATION

On February 5, 2020, Board staff spoke with the Petitioner to discuss the Petition. She explained that she formerly worked in an office with mold and rodent infestations and that, in her opinion, her employer only half-heartedly tried to address her concerns. She said that she discovered the Consensus Statement information and felt that it could protect employees in her situation from having to leave a job due to insufficient remediation of mold and other unsanitary conditions.

Although mold is present virtually everywhere, visible mold is a recognized hazard that should be addressed to prevent a variety of health effects ranging in seriousness from mild allergies to asthma and acute bronchitis. Several sources exist which provide guidelines for preventing and removing mold from occupied spaces[1,2,3]. In general, such sources agree that controlling the presence of water (or moisture) is the most effective way to control the appearance of mold.

Relevant Standards

Federal Standards

Federal OSHA regulations do not specifically address mold. The General Duty Clause, which requires employers to furnish employees a workplace free from recognized hazards that cause or are likely to cause death or serious physical harm, applies to the presence of mold in the workplace. Subparts 1910.141 and 1926.51 "Sanitation" can loosely apply to mold as far as the mold presents an unsanitary or toxic condition in General Industry or Construction, respectively.

California Standards

California regulates the presence of mold in the workplace primarily through Section 3362 "General Requirements" within Article 9 "Sanitation" which states:

> *(a) To the extent that the nature of the work allows, workplaces, storerooms, personal service rooms and passageways* ***shall be kept clean, orderly and in a sanitary condition****. The interiors, exteriors and environs of buildings that contribute to a hazard to which these orders apply* ***shall be cleaned and maintained in such conditions as will not give rise to harmful exposure****, as defined in Section 5140.*
>
> *(b) Cleaning and sweeping shall be done in such a manner as to minimize the contamination of the air and, insofar as is practicable, shall be performed at such time and in such a manner that will avoid harmful exposures as defined in Section 5140.*

[1] https://www.cdc.gov/niosh/topics/indoorenv/moldresources.html. Accessed 2/19/20.

[2] https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/Mold.aspx. Accessed 2/19/20.

[3] https://www1.nyc.gov/assets/doh/downloads/pdf/epi/epi-mold-guidelines.pdf. Accessed 2/19/20.

> *(c) To facilitate cleaning, every floor, workroom, personal service room and passageway shall be kept free from protruding nails, splinters, loose boards and unnecessary holes and openings.*
>
> *(d) All putrescible waste or refuse shall be stored in a receptacle so constructed that it does not leak and may be conveniently and thoroughly cleaned. Such a receptacle shall be maintained in a sanitary condition and shall be equipped with a tight fitting cover if it cannot be maintained in a sanitary condition without one. (This provision does not prohibit the use of receptacles which are designed to permit the maintenance of a sanitary condition without regard to the above requirements.)*
>
> *(e) All sweepings, putrescible wastes, refuse and garbage shall be removed in such a manner as to avoid creating a nuisance and shall be removed as often as necessary to avoid creating a menace to health through the development of unsanitary conditions.*
>
> *(f) Every enclosed workplace and personal service room shall be equipped and maintained, insofar as is practicable, to prevent the entrance or harborage of insects, rodents or other vermin. An effective program of extermination and control shall be instituted whenever their presence is detected.*
>
> *(g)* ***When exterior water intrusion, leakage from interior water sources, or other uncontrolled accumulation of water occurs, the intrusion, leakage or accumulation shall be corrected because of the potential for these conditions to cause the growth of mold****. (Emphasis added).*

General Cal/OSHA regulations, such as Section 3203 "Injury and Illness Prevention Program" and Section 5141 "Control of Harmful Exposure to Employees", may also apply to mold exposure in the workplace. Section 3362(g) requires employers to address uncontrolled water accumulation in the workplace to prevent mold growth; whereas Sections 3203 and 5141 require employers to address existing and potential hazards of mold in the workplace.

Consensus Standards

A variety of consensus standards exist, which provide information on the anticipation, recognition, control, and elimination of mold in the workplace. (See Footnote 1 above). As mentioned previously, a common theme in the consensus standards is that the most effective way to control mold growth is by eliminating moisture and water sources from the mold's environment. Only after the water source is eliminated do the standards provide recommendations for mold abatement—whether by cleaning or replacement of the mold-affected materials.

Position of Division

The July 30, 2020, Division evaluation recommends granting the Petition to the limited extent that an advisory committee be convened to consider appropriate changes to subsection 3362(g). The Division recommends that advisory committee discussions include means for the

control of water intrusion, excessive moisture, and excessive humidity as well as a requirement for mold to be cleaned and removed promptly.

Analysis

According to a "Frequently Asked Questions" (FAQ) sheet from the Centers for Disease Control and Prevention[4] "mold is found both indoors and outdoors… [and] is very common in buildings and homes." Additionally, it says mold enters indoor spaces "through open doorways, windows, vents, and heating and air conditioning systems," as well as on clothing and shoes.

Although exposure to mold increases the risk of mold-related health effects, the FAQ sheet also explains that "exposure to damp and moldy environments may cause a variety of health effects, or none at all," depending on a person's individual sensitivities to a particular mold. People with allergies, immune suppression illness, or chronic respiratory diseases are at the highest risk of the most serious complications resulting from mold exposure, according to the sheet.

The Petitioner's request aims to require employers to remediate a WDB until the symptoms of CIRS-WDB are abated for all employees. Because of the differences in employees' individual sensitivity to mold and other contaminants listed in Table 1 of the Petition, the extent and cost of the remediation efforts can vary greatly. Furthermore, many of the contaminants listed in Table 1 can be found in buildings that do not show signs of water damage (e.g. cell fragments, bacteria, protozoa, volatile organic compounds, and airborne particulates), potentially adding confusion to a requirement to abate the contaminants as recommended in the Consensus Statement.

Adding to the potential for excessive costs to a business, the document recommends the use of "a moisture meter, an infrared imaging system, a meter to measure relative humidity, and a laser particle counter" to perform an interior inspection of a WDB. The document states "Both moisture meters and laser counters require professional knowledge and training for accurate use."

The Consensus Statement also contains recommendations for destructive exploratory testing, removal of occupants during remediation, and confirmatory conditions for post-remediation success that could be problematic to enforce. For example, the document states:

> *Although laboratory testing is needed, for many persons with CIRS-WDB the optimal level of cleanliness to reach and show with post-remediation testing will (i) have no odors including fragrances or strong smelling chemicals; and (ii) have no visible dust seen with a bright light. The surfaces should be generally white glove clean. Blue painter's tape can be pressed onto smooth surfaces to show if residues and dust have not been removed with cleaning. These are test methods that can be used by workers, customers, and consultants and are not medically conclusive.*

[4] https://www.cdc.gov/mold/faqs.htm. Accessed 2/19/20.

In contrast to the Consensus Statement's requirements to confirm that mold and other contaminants have been sufficiently removed from a work area, the California Department of Public Health (CDPH) provides the following on its FAQ page[5] in response to the question, "How do I know if the remediation was good enough and solved the problem?"

> *The best known indicator that the dampness-related health risks have been reduced is if the source of the moisture is remedied, all damaged materials have been cleaned or removed appropriately, and all remaining materials are dry and free of visible mold and mold odor. As of now, no mold tests or measurements can show when remediation efforts have been successful.*

The CDPH recommendations do not require special tools or training to implement and are arguably as protective with respect to the removal of mold from the workplace.

Labor Code Section 6400(a) requires that the Petitioner and others who suffer from hypersensitivity to mold be provided with a workplace "that is safe and healthful to the employees therein." However, the consensus of the mold information, including the Consensus Statement, is that controlling the presence of water in an area is the most effective means of preventing mold growth, as required by existing Section 3362. Staff does not see the need to add the additional requirements of the Consensus Statement to Title 8 regulations.

Staff asserts that Section 3362, regarding the uncontrolled accumulation of water and the requirement to provide work areas that are clean, orderly, and sanitary, sufficiently requires employers to abate the conditions that could lead to mold exposure in the workplace. Additionally, the performance based standards of Section 3203 "Injury and Illness Prevention Program" and Section 5141 "Control of Harmful Exposure to Employees" require employers to take steps to protect employees from onsite hazards. When properly implemented, existing Title 8 requirements for the prevention and control of mold in the workplace reasonably address the risks to employees.

STAFF RECOMMENDATION

Consistent with the foregoing discussion, Board staff does not believe that the Petitioner's request is necessary and recommends that Petition File No. 579 be DENIED.

[5] https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/Mold-FAQs.aspx. Accessed 2/27/2020.

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

Memorandum

Date: July 30, 2020

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

Re: Evaluation of Petition 579 to Amend Title 8 Regulations to Address Water Damaged Buildings and Exposure to Mold.

1.0 INTRODUCTION

On January 15, 2020, the Division of Occupational Safety and Health (Cal/OSHA) received a petition from Pamela Saling (Petitioner). The Petitioner requests a new title 8 regulation be established to prevent, assess, and remediate water damaged buildings to prevent mold and other microbial growth and to maintain indoor environmental quality.

Labor Code section 142.2 permits interested persons to propose new or revised standards concerning occupational safety and health, and requires the Board to consider such proposals and render a decision no later than six months following receipt. California Governor Gavin Newsom, in recognition of the State of Emergency that exists in California due to the COVID-19 pandemic, extended the six month timeline by 120 days in Executive Order N-71-20 (modifying the extension in Executive Order N-63-20).

Further, as required by Labor Code Section 147, any proposed occupational safety or health standard received by the Board from a source other than Cal/OSHA must be referred to Cal/OSHA for evaluation, and Cal/OSHA has 60 days after receipt to submit a report on the proposal. The Governor has also extended this timeline an additional 120 days.

2.0 REGULATORY CHANGES REQUESTED BY THE PETITIONER

The petitioner proposes that Cal/OSHA adopt a new regulation to protect workers from respiratory illness from mold and other microbial exposure by requiring inspection of water damaged buildings and immediate remediation of mold contamination and water sources.

The petitioner requests the regulation be based on a document included with the petition entitled *Medically Sound Investigation and Remediation of Water-Damaged Buildings in Cases of CIRS-WDB* (hereafter referred to as "petitioner's document")[1].

The petitioner's document contains procedures for:

2.1 Finding causes of and preventing water damage to built environments using instruments such as a moisture meter, an infrared imaging system, relative humidity meter, and a particle counter to identify abnormal moisture and airborne dust levels.

2.2 Investigating and remediating water damaged buildings when occupants suffer from chronic inflammatory response syndrome (CIRS) including taking samples of settled dust to identify microorganisms using quantitative polymerase chain reaction (species identification by DNA).

2.3 Determining when a damp indoor environment has been remediated successfully such that occupants with CIRS-WDB may safely re-occupy the space; and

2.4 Maintaining indoor environmental quality (IEQ) over the long-term.

3.0 BACKGROUND ON MOLD

Molds are microbial fungi present virtually everywhere, indoors and outdoors. Although they are microscopic, they can form large colonies that are visible. There are thousands of known species of mold; all require moisture for growth and most feed on decaying organic matter. Molds reproduce by producing large numbers of small spores that can be airborne for long periods of time. Many molds also produce mycotoxins to inhibit the growth of competing microorganisms.[2]

4.0 HAZARDS ASSOCIATED WITH WATER DAMAGED BUILDINGS AND EXPOSURE TO MOLD

Water intrusion, leakage from interior water sources, or other accumulation of water or excessive moisture inside a building, if not corrected, can cause the mold growth[3,4,5]. In addition to mold, wet materials or damped surfaces can lead to the growth of other fungi and bacteria; the release of volatile organic compounds; and the breakdown of building materials[6].

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[1] CIRS is an acronym for chronic inflammatory response syndrome. WDB is an acronym for water damaged buildings.

[2] Indoor Air Quality (IAQ) Section. CDPH Webpage on Mold and Dampness (August 20, 2019). https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/Mold.aspx

[3] DHHS (NIOSH) Publication No. 2013-102 (November 2012)] NIOSH Alert: Preventing Occupational Respiratory Disease from Exposures Caused by Dampness in Office Buildings, Schools, and Other Nonindustrial Buildings. https://www.cdc.gov/niosh/docs/2013-102/pdfs/2013-102.pdf

[4] Environmental Health Laboratory Branch (EHLB) CDPH Statement on Building Dampness, Mold, and Health (2016).www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/CDPH%20Document%20Library/MoldDampStatement2017_ENG.pdf

[5] 8 CCR 3362, General Sanitation Requirements. https://www.dir.ca.gov/Title8/3362.html

[6] DHHS (NIOSH) Publication No. 2013-102 (November 2012)] NIOSH Alert: Preventing Occupational Respiratory Disease from Exposures Caused by Dampness in Office Buildings, Schools, and Other Nonindustrial Buildings. https://www.cdc.gov/niosh/docs/2013-102/pdfs/2013-102.pdf

The US Centers for Disease Control and Prevention (CDC), the Institute of Medicine of the US National Academy of Sciences, and the World Health Organization, agree that living or working in a building with water damage and mold growth increases the risk of respiratory disease.[7] Adverse health effects are primarily due to allergic reactions, irritation, and mycotoxins.

4.1 Allergic Reactions to Mold

Mold, mold spores, and mold fragments can cause allergic reactions in certain persons. Allergic reactions are common and can be immediate or delayed. A single exposure or repeated exposures may cause non-sensitive individuals to become sensitive and allergic to mold, and repeated exposures have the potential to increase sensitivity. Mold can cause allergic reactions whether it is dead or alive. Symptoms of allergic reaction to mold include: asthma, hypersensitivity pneumonitis, rhinosinusitis, bronchitis, difficulty breathing, headache, sneezing, red eyes, and dermatitis. Individuals with asthma or hypersensitivity pneumonitis may be at risk for progression to more severe disease if exposures continue.[8,9,10,14,16]

4.2 Irritation from Mold

In addition, molds, mold spores, and mold fragments can cause eye, skin, nose, throat, and lung irritation and inflammation regardless of whether an individual is allergic to mold.

4.3 Mycotoxins

As molds grow, some produce potentially toxic byproducts called mycotoxins under certain conditions. More than 200 mycotoxins from common molds have been identified, and many more remain unidentified. The amount and types of mycotoxins produced by a particular mold depends on many environmental and genetic factors. Mycotoxin production from molds is not visible.

Some mycotoxins are known to cause adverse health effects, but for many mycotoxins little health information is available. Exposure to mycotoxins can occur from inhalation, ingestion and skin contact.

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[7] Environmental Health Laboratory Branch (EHLB) CDPH Statement on Building Dampness, Mold, and Health (2016).www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/CDPH%20Document%20Library/MoldDampStatement2017_ENG.pdf
Centers for Disease Control and Prevention. Basic Facts about Mold and Dampness. December 16, 2019. https://www.cdc.gov/mold/faqs.htm.

[8] DHS Report to the California Legislature. April 2005. Implementation of the Toxic Mold Protection Act of 2001. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/CDPH%20Document%20Library/SB732-Implemtn-LegReport-Final-2005_ADA.pdf

[9] DHHS (NIOSH) Publication No. 2013-102 (November 2012)] NIOSH Alert: Preventing Occupational Respiratory Disease from Exposures Caused by Dampness in Office Buildings, Schools, and Other Nonindustrial Buildings. https://www.cdc.gov/niosh/docs/2013-102/pdfs/2013-102.pdf

[10] CDC Webpage on Mold (December 16, 2019). https://www.cdc.gov/mold/default.htm

5.0 CAUSES OF MOLD GROWTH IN BUILDINGS

Water intrusion is a major cause of mold growth. Common sources of water intrusion in buildings include the following:

- Leaking roofs.
- Leaking or condensing water pipes, especially pipes inside wall cavities or pipe chases.
- Leaking fire-protection sprinkler systems.
- Landscaping, gutters and down spouts that direct water into or under a building.
- Condensation occurring on cold surfaces in buildings such as windows and walls in enclosed unventilated rooms and areas.
- Unvented appliances.
- Poorly draining condensate drain pains inside air handling units.
- Porous thermal or acoustic liners inside duct work.

Humidity in the air can also supply enough moisture for mold growth even without any water intrusion. To prevent mold growth, the American Society of Heating, Refrigerating and Air-Conditioning Engineers recommends that indoor relative humidity be maintained at or below 65 percent.[11] The U.S Environmental Protection Agency recommends maintaining indoor relative humidity below 60 percent.[12]

6.0 RECOMMENDATIONS FOR TESTING MOLD IN BUILDINGS

6.1 American Conference of Governmental Industrial Hygienists (ACGIH)

ACGIH states that an airborne exposure limit for culturable or countable bioaerosol concentrations is not scientifically supportable because:

- Culturable microorganisms and countable biological particles do not comprise a single entity;
- Human responses to bioaerosols range from innocuous effects to serious, even fatal, diseases, so, an appropriate exposure limit for one bioaerosol may be entirely inappropriate for another;
- It is not possible to collect and evaluate all bioaerosol components using a single sampling method; and
- information relating culturable or countable bioaerosol concentrations to health effects is generally insufficient to describe exposure-response relationships[13].

The ACGIH recommended approach to assessing and controlling bioaerosol exposures relies on

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[11] ASHRAE 62.1-2016 Standard 62.1-2016 -- Ventilation for Acceptable Indoor Air Quality

[12] U.S. Environmental Protection Agency. Mold Course Chapter 2: Why and Where Mold Grows. FEBRUARY 21, 2017 https://www.epa.gov/mold/mold-course-chapter-2.

[13] ACGIH [2018 Bioaerosols Committee]. Introduction to the Biologically Derived Airborne Contaminants. By Offermann F, Vance P. Cincinnati, OH: American Conference of Governmental Industrial Hygienists. http://www.acgih.org.

visually inspecting buildings, assessing occupant symptoms, evaluating building performance, identifying potential environmental sources, and applying professional judgment.

6.2 New York City Department of Health

The New York City Department of Health Guidelines state that environmental sampling is not usually necessary to proceed with remediation of visually identified mold growth or water-damaged materials[14]. They note that currently there are no United States Federal, New York State, or New York City regulations for the assessment or remediation of mold growth and that removing mold growth and correcting the underlying cause of water accumulation can help to reduce mold exposures and related health symptoms. Decisions about appropriate remediation strategies can generally be made on the basis of a thorough visual inspection. Thus, prompt remediation of mold-damaged materials and infrastructure repair should be the primary response to mold growth in buildings.

In their December 2010 State Toxic Mold Task Force report to their Legislature, the New York State Department of Health noted that air sampling results often report concentrations for Penicillium or Aspergillus without identifying the species detected[15]. There are approximately 100 Penicillium species and 200 Aspergillus species. Not all species within a genus are the same in terms of their allergens or harmful effects, so grouping these species together as total counts for each genus does not adequately characterize relevant harmful exposure either qualitatively or quantitatively. Furthermore, individual species can have different strains that vary substantially in their allergen production, and allergen production can vary depending on the growth conditions. Thus, having more precise species identifications would not significantly change remediation best practices.

7.0 APPLICABLE TITLE 8 REGULATIONS TO MOLD IN BUILDINGS - SECTION 3362. GENERAL SANITATION REQUIREMENTS.

Title 8 section 3362 applies to all worksites to ensure that employers provide and maintain places of employment in a clean, orderly and sanitary condition. Subsection 3362(g) requires certain sources of water be corrected to prevent mold growth. The subsection does not require existing mold growth be cleaned or removed. Section 3362 does not mandate mold sampling nor prescribe how to prevent or remediate water intrusion. Subsection 3362(g) states the following:

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[14] New York City Department of Health: Guidelines on Assessment and Remediation of Fungi in Indoor Environments (2008) https://www1.nyc.gov/assets/doh/downloads/pdf/epi/epi-mold-guidelines.pdf

[15] New York State Department of Health: New York State Toxic Mold Task Force Final Report to the Governor and Legislature (December 2010) https://www.health.ny.gov/environmental/indoors/air/mold/task_force/docs/final_toxic_mold_task_force_report.pdf

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§ 3362. General Requirements.
*****
(g) When exterior water intrusion, leakage from interior water sources, or other
uncontrolled accumulation of water occurs, the intrusion, leakage or accumulation shall
be corrected because of the potential for these conditions to cause the growth of mold.
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8.0 BRIEF HISTORY OF MOLD REGULATION IN CALIFORNIA

In 2001, Cal/OSHA submitted to the Standards Board a proposal to amend title 8 section 3362 subsection (g) to address the adverse health effects caused by unwanted mold growth through prevention, by requiring that water intrusion, leaks, and other sources of uncontrolled water accumulation inside a building be corrected[16]. These amendments were adopted on June 20, 2002 and became effective on September 4, 2002.[17]

In 2001, the California Legislature directed the California Department of Health Services (now the California Department of Public Health or CDPH) through the 2001 Toxic Mold Protection Act to determine the feasibility of establishing health-based permissible exposure limits (PELs) for indoor mold[18]. If a PEL was possible, CDPH was also directed to create programs to develop guidelines for mold assessment, clean-up, and disclosure in residences.

In their 2005 report to the California Legislature on Implementation of the Toxic Mold Protection Act of 2001, CDPH responded that available evidence did not support the establishment of science-based PELs for indoor molds. Additionally, CDPH noted that while samples can provide evidence of mold presence, samples are only indirect indicators of exposure or possible levels of exposure. Thus, CDPH concluded that the presence of water intrusion, water damage, and dampness should be corrected promptly and any mold growth removed safely[3,19]. This view remains the CDPH position to date[20,3].

9.0 FEDERAL OSHA REGULATIONS

Code of Federal Regulations, title 29, section 1910.141(a)(3), Sanitation, is in part, the corresponding federal OSHA regulation to California Code of Regulations, title 8, section 3362.[20]

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[16]Final Statement of Reasons General Sanitation Requirements Title 8 General Industry Safety Orders section 3362

[17] Title 8 General Industry Safety Orders Section 3362. General Sanitation Requirements for Mold Approved Regulation Text.

[18] 2001 California Legislative Senate Bill No. 732, Ortiz. Toxic Mold. www.leginfo.ca.gov/pub/01-02/bill/sen/sb_0701-0750/sb_732_bill_20011007_chaptered.pdf

[19] CDPH Report to the California Legislature on the Implementation of the Toxic Protection Mold Act of 2001 (2005).www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/CDPH%20Document%20Library/SB732-Implemtn-LegReport-Final-2005_ADA.pdf

[20] Title 29 Code of Federal Regulations, section 1910.141 https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STAnDARDS&p_id=9790

However, unlike the California regulation, the federal regulation does not contain requirements to address water intrusion.

Federal OSHA can also enforce the General Duty Clause of the OSH Act and require employers to implement feasible abatement measures to protect workers from serious and recognized workplace hazards where there is no specific federal OHSA regulation. The relevant part of the OSH Act is the following:

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Section 5. Duties
(a) Each employer
(1) Shall furnish to each of his [sic] employees employment and a place of employment
which are free from recognized hazards that are causing or are likely to cause death or
serious physical harm to his employees
* * * *
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In its guide for Preventing Mold-Related Problems in the Indoor Workplace, OSHA states that sampling for mold where visible mold is present, is not usually necessary and that cleanup can proceed on the basis of the visual inspection.[21]

10.0 PETITIONER'S BASIS FOR THE NEED FOR A REGULATION FOR WATER DAMAGED BUILDINGS AND PROTECTION FROM MOLD.

According to the petitioner, a regulation is needed to address deficiencies in title 8 as follows:

> Title 8 is missing quite clearly mold regulations and standards via acceptable air quality standards and conditions from damp sick building syndrome, which once a building has the bacterial growth from poor historical Title 8 measures and upkeep, it becomes that the only way to remedy the situation/building is with hygienists and professional remediation services.[22]

The Petitioner states that up to 50% of homes and workplaces in the U.S. have past or current water damage. Indoor water damage supports the growth of toxic-producing fungi and a host of other microorganisms and contaminants found in WDBs. The petitioner claims that approximately one in four people are genetically susceptible to develop CIRS-WDB following exposure to the interior environment of a water damaged building. They assert that if WDBs provide conditions conducive for the growth of harmful microbes and other contaminants capable of triggering systemic inflammation in persons with CIRS-WDB, then the number of CIRS-WDB cases could number up to 40 million people.

The Petitioner asserts that none of the existing remediation guidelines and standards are sufficient to protect people's health, including but not limited to the Assessment and Remediation

[21] OSHA. Preventing Mold-Related Problems in the Indoor Workplace. A Guide for Building Owners, Managers and Occupants. OSHA 3304-04N 2006. https://www.osha.gov/Publications/preventing_mold.pdf

[22] Email communications from petitioner with E. Berg Deputy Chief of Health and C. Shupe Standards Board Executive Officer.

of Fungi in Indoor Environments from the New York City Department of Health and Mental Hygiene, the Mold Remediation in Schools and Commercial Buildings Guide from the U.S. EPA, and the S520/ R520 Standard and Reference Guide for Professional Mold Remediation from ANSI/ Institute of Inspection, Cleaning and Restoration Certification. The petitioner proposes that quantitative mold detection methods be used rather than qualitative measures (such as visual detection) found in most public health guidelines.

11.0 ANALYSIS OF THE PROPOSAL

Cal/OSHA agrees with the petitioner that water intrusion, leakage from interior water sources or other accumulation of water inside a building, if not corrected, can cause the growth of mold. Similarly, Cal/OSHA concurs that the presence in buildings of visible water damage, damp building materials, visible mold, or mold odor is unhealthy and can increase the risk of workers suffering a respiratory illness, particularly if exposure to the damp building is not recognized and corrected and the exposures continues indefinitely.

Cal/OSHA also agrees with the petitioner that title 8 subsection 3362(g) is insufficient in addressing mold hazards for the following reasons:

- Subsection 3362(g) is unnecessarily limited in scope. The subsection limits water sources to exterior water intrusion, leakage from interior water sources, or other **uncontrolled** accumulation of water occurs. Uncontrolled is irrelevant to mold and microbial growth. Whether controlled or not, if water intrusion or excessive moisture inside a building is continuously present, mold will grow.

- Subsection 3362(g) does not address high humidity environments that lead to mold growth as recognized by ASHRAE and the U.S. EPA.

- Subsection 3362(g) contains no requirements for removing mold growth from buildings, only controlling certain water intrusion. Once mold growth is present, it will continue to present a hazard to building occupants even after the removal of moisture.

Cal/OSHA does not agree with the petitioner that quantitative methods be required or used to determine mold or other microbial levels in buildings. CDC, NIOSH, WHO, and CDPH recommend against measuring indoor microorganisms or using the presence of specific microorganisms to determine the level of health hazards.[23,24,25] Conventional quantitative measurements of fungi or other microbiologic exposures, such as counts of culturable airborne fungi, have shown less consistent associations with health effects than have qualitative

[23] Same as EHLB-CDPH source #3.
[24] NIOSH webpage Source # 2. Plus CDC Mold webpage #9.
[25] CDC Webpage on Mold. Basic Facts about Mold and Dampness. (December 16, 2019). https://www.cdc.gov/mold/faqs.htm

assessments of visible dampness or water damage, visible mold, or mold odor.[26,15,16] Additionally, there are no set standards to determine the different kinds of mold that could be present.[27]

The World Health Organization (WHO) guidelines state the most important means for avoiding adverse health effects is the prevention (or minimization) of persistent dampness and microbial growth on interior surfaces and in building structures[28]. Therefore, indoor dampness, high humidity, water intrusion, and fungal growth should be always eliminated in a safe and efficient manner, by (a) identifying and correcting the source of water, moisture, and/or humidity, (b) drying or removing damp materials, and (c) cleaning or removing the mold and moldy materials.

12.0 CONCLUSION

Cal/OSHA recognizes that the presence of water damage, damp materials, and excessive mold growth inside buildings is unhealthy, and that the best method to protect workers in buildings is by ensuring that water intrusion, excessive moisture, and excessive humidity be corrected and that mold be cleaned and removed promptly.

Cal/OSHA recommends the petition be granted to the limited extent that an advisory committee be convened to consider appropriate changes to subsection 3362(g) to address deficiencies in the subsection as noted in the analysis by Cal/OSHA in part 11 of this evaluation. The Petitioner should be included in the advisory committee.

cc: Amalia Neidhardt
Grace Delizo
Kevin Graulich
Chris Kirkham

[26] Mendell MJ, Mirer AG, Cheung K, Tong M, Douwes J. 2011. Respiratory and Allergic Health Effects of Dampness, Mold, and Dampness-Related Agents: A Review of the Epidemiologic Evidence. Environ Health Perspect 119:748–756 (2011). doi:10.1289/ehp.1002410

[27] CDC Webpage on Natural Disasters and Severe Weather. Information for Clinicians Helping Patients with Asthma, Other Respiratory Conditions, and/or Allergies to Mold after a Hurricane or Other Tropical Storm. (November 14, 2017). https://www.cdc.gov/disasters/clinicians_asthma.html

[28] W.H.O. (World Health Organization) Europe. 2009. WHO Guidelines for Indoor Air Quality: Dampness and Mould. Copenhagen: World Health Organization. www.euro.who.int/__data/assets/pdf_file/0017/43325/E92645.pdf

Pam Saling
[redacted]

January 6, 2020

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

Dear OSHA Standards Board Executive Committee,

I present you with the attached document titled,

'Indoor Environmental Professionals Panel of Surviving Mold
CONSENSUS STATEMENT'

I ask you to review and use the enclosed document as a means to safely address mold regulation when Section 7 measures fall short and OSHA needs to inspect a water damaged building (WDB) when an occupant claims to be ill of mold exposure symptoms.

There are currently many mold support groups online via social channels were occupants or residents of building owners and institutions have failed to keep up their end of their bargain on maintaining safe place to habitat.

This epidemic effects all ages, races and economic classes.

Any further information you want to obtain on the latest scientific studies, laws and regulations, articles and further mold information resources can be found at:

https://www.survivingmold.com/legal-resources

I have a OSHA mold regulation petition to support this new regulation cause with as of today 1170 signed supporters since November 2019.

http://chng.it/cFVx76gd

Dr. Richie Shoemaker's enclosed regulation remediation proposed protocol is to address the national mold hazard (WDB) problem, especially for occupants that are prone to (CIRS) such as myself which makes up a huge number of the overall global population. If we can get this new Shoemaker regulation passed in California, then we can set the stage for all 50 states to follow suit.

Sincerely
Pamela Saling

Indoor Environmental Professionals Panel of Surviving Mold CONSENSUS STATEMENT

Medically sound investigation and remediation of water-damaged Buildings in cases of CIRS-WDB

Larry Schwartz CIEC, BSME, MBA, Greg Weatherman CMC, Michael Schrantz CIEC, CMI, BPI-BA/EP, Will Spates CIAQP, CIEC, Jeff Charlton, ACIEC, AACIEH, Keith Berndtson MD, Ritchie Shoemaker MD

Internal review performed by The Professionals Panel of www.survivingmold.com

ABSTRACT

This consensus statement on the prevention, assessment, and remediation of water damaged buildings and the maintenance of indoor environmental quality follows a companion medical consensus statement written by physician colleagues ("SM Certified Physicians") of the Professionals Panel of www.survivingmold.com. The prior consensus focuses on medical issues found in patients who have a chronic inflammatory illness syndrome acquired following exposure to the interior environment of water-damaged buildings (CIRS-WDB). In cases of CIRS-WDB, we recommend methods for (i) finding causes of and preventing water damage to built environments; (ii) investigating and remediating WDBs when occupants suffer from CIRS-WDB; (iii) maintaining indoor environmental quality (IEQ) over the long-term; and (iv) determining that a damp indoor environment has been remediated and treated successfully such that occupants with CIRS-WDB may safely re-occupy the remediated space.

INTRODUCTION

We discuss qualitative and quantitative information on environmental variables that impact both the medical treatment of CIRS-WDB as well as the long-term maintenance of IEQ. We also address the various microbial sources of damp building contaminants able to initiate the persistent innate immune system inflammatory response seen in cases of CIRS-WDB. We conclude that there is compelling evidence to (i) support additional steps in the investigation and remediation of WDBs; and (ii) support the maintenance of IEQ to meet the special needs of persons with CIRS-WDB. If remediation is adequate to protect the "eggshell patients," then those same remediation techniques will also be sufficient to protect less affected people. Use of the reverse of this approach – protecting less affected patients without protecting the most affected, is no longer tenable.

To the best of our knowledge, of all the remediation guidelines, suggestions, and attempts at standards, including but not limited to the 2008 NYC Department of Health and Mental Hygiene for Assessment of Fungi in Indoor Environments; the 2008 Version of Guidelines on Assessment and Remediation of Fungi in Indoor Environments; the 2001 EPA publication-Mold in Schools and Commercial Buildings; the 2015 ANSI/IICRCS520 newly revised mold remediation standards; is that none of these documents link the remediation methods to the effects of exposure(s) on human health. These position statements are designed for populations with either unknown or low medical risk as stated in each document. In the absence of any definition of "low medical risk," however, the disclaimers are hardly robust.

Our consensus is the first publication that links the success of remediation methods to human health effects. Our consensus is supported by peer reviewed references as well as anecdotal studies performed by SM Certified Physicians in conjunction with the Professionals Panel of Indoor Environmental Professionals.

The indoor environmental professionals (IEPs) of the Professionals Panel of the SM organization all have extensive experience in mold investigations and remediation. Each member of this group is aware of the steps necessary to accomplish the level of cleaning that our CIRS clients require to safely re-enter their home, office or school. This document is designed to educate stakeholders to accomplish the tasks required to (i) assess a structure prior to remediation; (ii) describe environmental cleaning efforts; (iii) perform a post-remediation verification (PRV) test using the methods described below. Key to the overall success of our approach is a working relationship with CIRS Certified Physicians who rely on accurate field data to help guide treatment of CIRS-WDB patients.

To succeed at remediation that meets the special needs of CIRS-WDB occupants an IEP must first identify and address the sources of water or moisture intrusion. Second, an IEP must follow proven remediation techniques, including those cited in the ANSI/IICRCS520 Standard and Reference Guide for Professional Mold Remediation for past and/or current water damage, noting the prominent exceptions noted in Appendix A of this document.

Based on an assessment by an IEP of the structure and specialized test results, they may also call for Small Particle Remediation (SPR) and the use of specialized fogging or misting air treatment in the building, as described below.

OBJECTIVES

Our primary objective is to establish modified standards for the evaluation and management of WDBs to be applied to all buildings, not just those where occupants meet diagnostic criteria for CIRS-WDB. The purpose of these modified standards is to help IEPs in their efforts to assess and establish a safe indoor environment for occupants with CIRS-WDB. Such standards will necessarily also correct indoor conditions that are encountered by less adversely affected occupants. We believe that medically sound methods of diagnosis and treatment should be accompanied by medically sound methods of WDB investigation and remediation. As more information is learned and more quantitative data are developed, we will update and improve the techniques required to serve the special needs of CIRS-WDB patients. We believe that advancements in IEQ methods will help occupants of damp buildings who also suffer from allergies, asthma, respiratory infections, chronic obstructive pulmonary disease, restrictive lung disease, congestive heart failure, chronic rhinosinusitis, other conditions including Th17/T reg cell imbalances, fibromyalgia, autoimmune conditions and chronic fatiguing conditions, among others. The benefits of more thorough remediation and cleaning methods are not limited to occupants with CIRS-WDB. We acknowledge that many patients with the above diagnoses have been shown to actually have CIRS-WDB.

IEPs and remediators must be aware that CIRS-WDB patients show a pattern of abnormality based on NeuroQuant volumetric analysis of brain MRI studies. These include microscopic interstitial edema in forebrain parenchyma, cortical gray matter and pallidum, as well atrophy of the caudate nucleus [1].

An additional objective is to support the need to monitor and maintain corrected conditions in remediated WDBs to protect present and future occupants with CIRS-WDB. We also note an urgent and growing need to upgrade the quality of education, training, and certification of IEPs to include (i) the evidence for the special needs of occupants with CIRS-WDB; and (ii) the investigation and remediation steps that currently best serve those needs.

POTENTIAL SCOPE OF THE CIRS-WDB PROBLEM

Up to 50% of homes and workplaces in the US have past or current water damage [2, 3]. Approximately one in four people are genetically susceptible to develop CIRS-WDB following exposure to the interior environment of a WDB [4]. We cannot extend the epidemiological concept of relative risk to any one component of the mixture of antigens and particulates found in WDB [2].

If we assume that *all* of the 50 percent of WDBs in the U.S. have provided conditions conducive for the growth of toxigenic microbes and other contaminants capable of triggering systemic inflammation in persons with CIRS-

WDB, then the number of CIRS-WDB cases could number 40 million people. If only 20 percent of WDBs support this type of growth of toxigenic organisms and inflammagenic contaminants, then the prevalence of CIRS-WDB could exceed 16 million people. Without large-scale population studies to demonstrate a census of CIRS patients, we can only conclude that reasonable estimates suggest that the number of CIRS-WDB patients is large.

BACKGROUND

Indoor water damage supports the growth of toxin-producing fungi and a host of other contaminants that are invariably found in WDBs in a variety of permutations [5-25]. See Table 1 below:

Table 1

Range of toxins, inflammagens, and microbes found in WDBs		
Mycotoxins[5]	Gram-negative bacteria[11,13,14]	Hemolysins[7,11]
Bioaerosols[6]	Gram-positive bacteria[11,13-15]	Proteinases[7,11]
Cell fragments[7]	Actinomycetes[16]	Chitinases[7,11]
Cell wall components[7]	Nocardia[11]	Siderophores[7]
Hyphal fragments[8]	Mycobacteria[17]	Microbial VOCs[20-21]
Conidia[8]	Protozoa[18]	Building material VOCs[20]
Beta Glucans[7,9]	Chlamydia[18]	Coarse particulates[11]
Mannans[10,11]	Mycoplasma[18]	Fine particulates[11]
Spirocyclic drimanes[7]	Endotoxins[11,13]	Ultrafine particulates[24-25]
Inorganic xenobiotics[12]	Lipopolysaccharides[13]	Nano-sized particulates[24,25]

Microbial metabolites and fragments present to the innate immune system as pathogen associated molecular patterns (PAMPs) [22]. In those genetically susceptible to poor clearance of these contaminants, the resultant ongoing inflammation can lead to the production of danger associated molecular patterns (DAMPs). This uncontrolled inflammation involves multiple bodily systems in a well-described sequence that can lead to multiple symptoms in a matter of hours [26-29].

In addition to their symptoms seen with re-exposure to WDB, patients with CIRS-WDB often react adversely to multiple chemicals. While no mechanism to understand this common observation is confirmed, a possible mechanism has been described [27].

The methods of evaluation recommended by the IEP should be based on knowledge or suspicion of the presence of CIRS-WDB in one or more of the building occupants plus inspection and test results. If CIRS-WDB has already been diagnosed, then with the occupant's approval, results of indoor environmental evaluation should be shared with the occupant's physician.

If CIRS-WDB is suspected, the occupant should be informed of a list of physicians who are certified to evaluate and manage CIRS-WDB. In documented cases of CIRS-WDB we recommend that with the occupant's permission, the IEP share the results of the inspection and test results with the patient's physician.

Several factors that impact on safety of WDB safety in CIRS-WDB

1. The CIRS-WDB patient's degree of inflammation, as reflected by laboratory studies, including genetic markers, levels of inflammatory compounds and levels of the regulatory neuropeptide hormones.

2. The CIRS-WDB patient's roster and severity of symptoms.

3. Scores for the Environmental Relative Moldiness Index (ERMI) [30,31] and the Health Effects Roster of Type Specific (Formers) of Mycotoxins and Inflammagens-2 (HERTSMI-2) [32]. Research on CIRS-WDB has found them to be the best current predictors as to whether or not a given WDB is safe enough or has been made safe enough to make clinical progress using a published, peer-reviewed protocol for the treatment of CIRS-WDB [33]. A new study in 2016 correlates ERMI and HERTSMI-2 scores with relapse and building types that incorporate data where N=618. (See Appendix B)

4. Measurement of VOCs, particle counts, and identification of bacterial species may provide needed information in determining safety for a given CIRS-WDB patient. In some cases testing may be warranted for other contaminants, such as actinomycetes, bacterial endotoxins and other extracellular products of secondary microbial metabolism as a way to clarify particular environmental risks. This determination is made by the collaboration of the occupant, IEP, and the SM certified physician.

General Considerations in WDB Evaluation and Management

A number of considerations apply when considering the scope of remediation in the face of CIRS-WDB. The complexity of decision-making involves both environmental and medical perspectives.

1. Air is a fluid, which takes materials into solution. Because the molecules of air are much farther apart than molecules of water, air can hold a much greater amount of materials in solution or suspension, especially in humid indoor environments. In such cases, particles tend to suspend in the air for longer periods of time, though some settling of dust will occur. Air can also hold a large volume of gases and chemicals, both organic and inorganic.

2. Microbes and spores can be airborne or settled. If they settle onto damp or wet surfaces that contain wood or cellulose, the fungi and bacteria may grow based on the unique water activity [A(w)] required by each microbial species.

3. Contaminants may also settle into microscopic surfaces below the apparent smooth "solid" material surfaces. It may take higher energy disturbances to force these contaminants to become bioaerosols.

4. During microbial growth, metabolic byproducts and contaminants are dispersed into the air and eventually aggregate with dust particles as well as on structure and contents.

5. The inflammation seen in CIRS-WDB in each case may be caused by the totality of contaminants listed in table 1.

6. Because of spore settling rates, variable airflow and pressure patterns in the sampled environment, and the results provided only from the time of testing, the use of spore trap air cassettes (short term "grab samples") alone, to determine the IEQ will fail to meet the needs of patients with CIRS-WDB and does not fit the protocols set within the Surviving Mold Professionals Panel (SMPP)

7. Sampling the indoor "living spaces" does not necessarily tell the IEP or client if a hidden contaminant may be present in a nearby floor cavity, wall cavity, ceiling cavity, attic space, crawl space, or basement.

8. Some types of sample collection methods (i.e. swab, bulk, tape lift, cavity samples) are used to locate a "mold source" rather than indicate a level of contamination throughout the living spaces.

9. The specialized testing preferred in cases of CIRS-WDB uses qPCR testing of carefully collected dust samples. The qPCR method (surface sampling) captures a history over a potentially long period of time versus what is presently done with spore trap cassettes (laboratory analysis method: direct examination), which captures only a truncated snapshot in time (5-10 minutes).

10. During mold assessments, an IEP may recommend collecting long-term qPCR air samples. Not all mold spores/fragments behave the same in an indoor environment due to variations in airflow/pressure patterns, as well as indoor activity created by the occupants/pets. As a result, some mold spores/fragments can easily become and stay airborne while other spores/fragments will remain settled. Smaller and lighter particles will stay suspended for longer periods of time. Human activity will "kick-up" contaminants into the air.

More research is needed into each of these general considerations. Since each of a broad range of contaminants could play an inflammatory role in any given water

damaged building, treatments to remove all types of contaminants may be required to make indoor spaces safe for persons with CIRS-WDB.

How Medically Sound Remediation Differs from Traditional Remediation

1. Use of DNA analysis of systematically collected dust samples to obtain mold speciation data that confirms presence of specific non-toxigenic and toxigenic fungi (ERMI and HERTSMI-2 testing).

2. Greater reliance on small particle cleaning.

3. Systematic calculation of a WDBs propensity for growth and control of mold and bacteria.[43]

4. Assessment of organization within the living space. Extraneous possessions (clutter) can dramatically increase the exposed surface area in a living, work, or school space that has suffered water damage. All surfaces collect and hold dust containing toxins, antigens, inflammagens, and other micro, ultrafine, and nanoparticulate contaminants. We arbitrarily and qualitatively describe clutter on a scale of none, little, moderate and heavy (hoarding).

5. The contractor must not deviate from the IEP's plan unless authorized by the IEP. Medically sound remediation does not allow some of the common current practices; for example, such as fogging disinfectants and HEPA vacuuming surfaces followed by wiping and HEPA vacuuming a second time, known as a "HEPA Sandwich."

The Three Phases of Work Flow to Make a Building Safe

There are three major phases of planning and execution required to make a built environment safe for occupation

Phase 1. Inspect and investigate to detect water intrusions, leaks, and/or condensation problems. Also investigate the HVAC system for potential cross contamination issues. A plan for correcting problems and preventing recurrences follows, including a plan for remediation of water damaged structures. In cases of CIRS-WDB, detection, correction, and prevention should begin with an interview of the occupant(s) that includes a symptom-based assessment of risk for CIRS-WDB, followed by specific methods for inspecting and investigating the home, depending on the presence or index of suspicion for CIRS-WDB in one or more occupants.

Phase 2. Perform the planned corrections required to achieve moisture control and remediate water damaged building materials. In cases where occupants suffer from CIRS-WDB or other medical conditions affected by WDB

contaminants, remediation should include in-depth cleaning of all reservoirs of bioactive particulates inside the affected building.

Phase 3. Perform maintenance procedures to sustain high-quality indoor air over the long-term. In cases of CIRS-WDB or other medical conditions affected by WDB contaminants, maintenance protocols should involve more frequent and intensive monitoring of water damage risks. In addition, pro-active measures can be considered for the structure to help improve on the overall IEQ in the home. Examples of this are, but not limited to: optimal air filtration, ventilation and pressurization of the structure. The Surviving Mold Professional Panel (SMPP) can help provide support/direction regarding this recommendation.

CIRS-WDB HOME INSPECTION AND INVESTIGATION METHODS

The Interview

This interview is to be conducted by the IEP with the client/patient to obtain a history of WDB events that are known as well as any relation between symptoms and the home. See Appendix C for additional suggested questions

Explain how you are going to conduct your assessment and with what type of instruments and sampling methods you plan to use and why. ERMI and HERTSMI-2 dust sampling currently offer the best predictive value for CIRS certified physicians in cases of CIRS-WDB. (See Appendix B)

The IEP should speak with the client about contaminants produced by molds and bacteria growing on damp building materials that can cause systemic inflammation. A symptom survey can help determine whether or not building occupants are at risk. We recommend that the IEP point out that the scope of work focuses on diagnosis of WDBs, not people.

The Inspection Protocol

1. *Exterior Inspection.*
Walk around the entire exterior of the home and examine from both close-up and from afar. When close-up, examine flashing and caulk around windows, doors and other exterior penetrations. From a distance, carefully and thoroughly examine the overall structure (using binoculars to assist in roof assessment, for example), roofing, pitch gutters, roof valleys, attic ventilation, topography, pitch of soils at the foundation and more. Note recommendations for corrective actions, and include observational data collection for input into the MPI (Mold Propensity Index) assessment.[43].

2. *Interior Inspection.*
Inspect all levels using visual and non-destructive instruments, a moisture meter, an infrared imaging system, a meter to measure relative humidity and a laser

particle counter. Both moisture meters and laser counters require professional knowledge and training for accurate use. There may be situations requiring additional types of non-destructive instruments.

Start at one level and work toward the other levels of the home; for example, start with the attic, then the next floor down, and the next floor down until the basement and/or crawlspaces. Note: take care to consider whether you the IEP, are entering a contaminated environment such as a moldy attic, and may be cross contaminating other areas of the home. Take protective action to prevent such contamination.

In the living spaces, use an infrared imaging system to examine exterior walls from the interior as well as the ceiling of the highest level to see if there are any hidden or trapped moisture anomalies; and check for under-insulated areas which may lead to condensation. Sunlight in windows may impact the accuracy of infrared and thermal imaging technologies. Sun-heated bricks can hold temperatures much higher than the outdoor temperature which for example will raise the surface temperatures and be seen as an anomaly on the infrared device. IEPs should be certified to use these methods of inspection. Abnormal infrared or thermal imaging anomalies should then be verified using a moisture meter that reads not only measurement by pins placed into the material, but also by non-destructive surface moisture readings. Anomalies should be noted and recorded.

In the living spaces use a moisture meter on floors around the base of all plumbing fixtures such as toilets, baths, bath/shower surrounds, underneath windows, on floors around dishwashers, clothes washers or any other water using appliances. Any anomalies should be reported and recorded into the report with recommendations for corrections.

Because persons with CIRS-WDB may be highly sensitive to airborne materials, we recommend measuring particle densities in the air of a particle size of 0.5 microns and smaller followed by use of condensation particle counters for smaller sizes 0.1 micrometers and smaller. This method of investigation can help pinpoint problem areas within a WDB.

We recommend taking particle density readings in each room and area of the home as well as an outdoor reading. We recommend comparing (i) indoor levels to outdoor levels; (ii) indoor levels to usual and customary indoor levels for that geography and climate; (iii) looking for substantial spikes in any particular rooms or areas of the home, which then need to be reconciled. The types of particulates measured are characteristic of dust, pollen, dander and mold spores. Keep in mind that indoor living conditions such as air filtration, ventilation, pressurization, and indoor activities may influence these readings.

In some cases an area may warrant destructive testing. We do not recommend performing destructive testing in homes of patients without proper containment

and control of air in the contained area. Such testing should be done in conjunction with a mold remediation contractor for containment and prompt cleanup of exploratory work.

We recommend that the IEP inspect the underside of a carpet; however, if a contractor is available, we recommend they perform this for you. Gently lift carpeting at the perimeter areas to see conditions on the tack strips, the underside of carpeting, padding and the subflooring. This method is minimally invasive. A flat bar can be used to look behind baseboards. Inspected areas should then be cleaned using a HEPA vacuum.

The Outcomes of WDB Inspection and their Indicated Protocols

1. No evidence of excessive moisture or microbial growth: No action required.

2. Evidence of past excessive moisture and microbial growth: Medically sound correction of a past remediation if warranted, including small particle cleaning as warranted.

3. Evidence of only current, or past and current excessive moisture and microbial growth: Medically sound correction of a past remediation if warranted, correct the cause(s) and remediate the effect(s) of current moisture problems, including in-depth cleaning of all reservoirs and small particle cleaning as warranted.

Pre-Remediation Testing

Dust collection is the primary source of information regarding mold and mycotoxin production in the building, when laboratory processed by qPCR methods at licensed laboratories meeting required methods. These methods offer the highest correlation with CIRS patient outcomes. qPCR testing will not identify mycotoxins, but do identify selected mold species, some of which have a higher propensity to produce mycotoxins.

How and where dust is collected is critical to obtain results realistically representative in the home or building. Dust contains variable ranges of aggregated particulates. There are areas in a home where the dust has been settled for longer periods of time. These areas might be on the top of doorframes, cabinets or shelving areas that are not normally dusted in the routine of usual housekeeping. The dust found on surfaces of tables and furniture, for example, is more likely newer dust.

All IEP practitioners must collect dust samples in a thoughtful, organized, and meaningful protocol to achieve results reflecting the true conditions in the home

or building. They must be guided by their own experience, but also taking into account issues associated with the building and the health symptoms provided by the client.

Depending on the client concerns and site conditions, the IEP may choose to collect dust samples from specific areas or sources in the structure. It is common practice to collect dust samples in areas where the client(s) spend the majority of time or where the client reports greater health concerns. It may be useful for the IEP to collect samples for analysis on each level of the home to help assist in determining where small particle remediation may be needed.

Post Remediation Testing

In the post-remediation setting, the IEP must also consider and determine the quantity and types of testing to be performed. If possible, the IEP should be communicating with their client's physician to find out any known medical CIRS sensitivities that the client may have. Based on this information and the general scope of work (regarding the inspection and testing), the IEP should develop a testing regimen that helps answer any related questions or concerns. This regimen will be coupled with an understanding of any limitations established by the client such as budget or agreed-upon scope of remedial work. For example, given Remediation & Environmental-Cleaning (REC) projects may only include a portion of the entire structure. Other RECs may include addressing the entire home.

Many clients with CIRS-WDB may also be sensitive to mVOCs, building material VOCs, bacteria or their exometabolites and other contaminants; and PAMPS such as those described in Table 1. If testing beyond qPCR for mold DNA is used, the IEP should suggest additional treatment options based on those results and contaminants of concern. Some of these treatment options may involve air treatment devices as well as surface treatments.

There are a variety of tests available to measure these contaminants. For example, mVOCs usually use a method of thermal desorption/gas chromatography. Swabs, Andersen impactors, biocells, and other collection devices may detect bacteria. Glucans are typically analyzed in samples of sedimented floor dust or airborne dust collected on filters. One method of analysis uses antibodies formed by rabbits injected with glucans; another uses a derivative of the Limulus amoebocyte lysate preparation.

Although laboratory testing is needed, for many persons with CIRS-WDB the optimal level of cleanliness to reach and show with post-remediation testing will (i) have no odors including fragrances or strong smelling chemicals; and (ii) have no visible dust seen with a bright light. The surfaces should be generally white glove clean. Blue painter's tape can be pressed onto smooth surfaces to show if residues and dust have not been removed with cleaning. These are test methods that can be used by workers, customers, and consultants and are not medically conclusive.

One method of collecting "new" dust for a HERSTMI-2 or ERMI test is to tape large black or green garbage bags on horizontal and vertical surface to attract new dust on them for a sample. This may take 3-5 weeks.

At the end of a small particle remediation, remove the furnace filter on a forced air system, replacing it with a new one after duct cleaning has been performed following the guidelines of National Association of Duct Cleaners. The filter should be at least a rating of MERV 6 to MERV 8 (Minimum Efficiency Reporting Volume). This rating system was developed by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) as standard 52.5 in 1987, which is included in the 2013 ASHRAE Handbook.

METHODS OF MEDICALLY SOUND REMEDIATION

Also see Appendix D

Habitibility During Remediation

Based on the IEPs judgment considering qPCR test results and other factors of the building and investigation, the IEP may recommend that the family move out of the home during the remediation process.

Personal Protective Gear

The IEP will give a recommendation to the remediator for workers' personal protective gear. In severe cases, full-face respirators of NIOSH rated P100, also protecting against organic vapors, is recommended. A standardized fitting and testing procedure of respirators with their workers must be performed to ensure that there are no leaks from surrounding air into the respirator system.

Use of disposable, protective suits with head and shoe covers, and nitrile gloves, should be determined and specified by the IEP based on the unique variables of each case. When workers go in and out of the contained area, they should "don and doff" the personal protective equipment in the entry chamber of the contained area before going into the home or back into the entry chamber.

We recommend that either a tacky plastic or a vinyl carpet floor runner be laid down from the contained entry chamber to the chosen entrances and exits of the home.

Important Safety Measures

All workers and occupants should be protected with engineering controls and personal protective equipment as necessary and required by occupational safety, environmental and building code regulations or laws.

Workers should address safety issues such as electrical, falls, slips, trips and heat exposure in worksites. Knowledge of construction is required to avoid costly (and sometimes dangerous) mistakes.

Negative Air Pressure Differentials and Filtration

These are the most common techniques used for containments by creating a minimum negative pressure differential measuring 0.02 inches of water column, or more (negative 5 Pascals) as measured by a differential pressure gauge (manometer) [34]. The measurement might not be uniform along the perimeter of the containment due to other pressure sources and the proximity of the negative air machines (NAMs).

Decontamination chambers or vestibules are used when workers can't enter and leave with exterior doors in cases where the contractor is not addressing the whole structure. They generally need to be large enough for two workers to HEPA vacuum each other as they remove protective suits that may have high levels of construction dust. This is the point where waste material is double-bagged and equipment cleaned/sealed before leaving the work area.

Positive air pressure differentials may be necessary for airlocks separating occupied areas from demolition areas or when working with building envelope areas such as crawlspaces, exterior walls, windows, doors, attics and roofing. In a crawlspace for example, typically a positive air pressure would be used inside of the structure so that any contaminants from the crawlspace will not enter the structure via any available pathways (gaps/cracks/opening/etc.)

Another example could be a bedroom, contained off from the rest of the house, with an exterior window that is left open while a positive pressure is being utilized inside of the bedroom containment. The opening of the window can provide a pathway of least resistance for contaminants to exit without risking cross-contamination concerns to the rest of the containment or other areas

outside of the containment. This is a particularly efficient design when the areas being abated run the same exterior wall as the window.

Other uses of positive air pressures inside of the defined space include areas where microbial growth hidden on the exterior side of the sheathing may be present and could gain access to the interior when removing a window. Air infiltration around the window will create air currents that may cause pollutants to be pulled into the interior from the exterior. This situation is also an example in which creating negative air pressure differentials inside of the defined space would *increase* pollutant particles in the work area making it (i) harder to clean; and (ii) harder to protect against cross-contamination. See Appendix A for additional discussion.

A room contained with positive air pressure differentials can usually be brought to negative air pressure differentials after hidden concern areas are addressed if indoor demolition is necessary. Care should be taken to consider whether or not a negative or positive pressure containment plan might cause cross-contamination concerns.

Air cleaning with filtration is the most common method used to clean the air by removing particles with HEPA filters before discharging the cleaner air. Negative air machines (NAMs) and air scrubbers are generally rated as HEPA filtered to capture 99.997% of particles measuring 0.3 micrometers or greater in diameter. These devices are critical equipment for mold remediation projects when used correctly.

HEPA filtered air scrubbers and NAMs, however have limited capture zones due to a lack of air velocity on the intake side where the HEPA filter is located. This is due to Bernoulli's Principle [35], where the intake side of the fan has high pressure and low air velocity while the exhaust side has low pressure and high air velocity. If the capture zone is limited, use slow speed air mover fans in addition to the HEPA filtered air scrubbers and NAMs to move the air in a circular pattern to help make the particulates more homogeneous and also reduce "dead" zones thereby increasing particulate removal.

Fan equipment must be cleaned from prior use before bringing them into the work areas. When possible, HEPA filters are most effective with unidirectional or laminar air flow with a minimum of 60 feet per minute air velocity moving in one direction without obstructions if all the air in the work chamber is involved [36].

In 1961, Willis Whitfield (37) found that 90 feet per minute to be the minimum air velocity in cleanrooms with obstructions to effectively control particles measuring 0.5 micrometers and smaller.

Air scrubbers and NAMs should be used primarily for localized exhaust where dust and possible contamination is created into the air during demolition

Microbial Cleaning

In some situations, the IEP may recommend the personal contents to be cleaned be moved out of the home for that process and then moved back into the home after the home has been treated. Specific treatment methods for various items of porous and nonporous items will be provided by the IEP.

In all applicable sections we describe methods that will achieve maximum cleaning of surfaces and air including references to methods used in clean room applications. These methods may not be feasible in all situations due to constraints of workspaces and finances. The IEP should take all factors in consideration to achieve the maximum effect and benefit.

Microbial remediation is the effort needed to clean and correct a structure to a normal microbial ecology. Past efforts have been focused on mold spores or conidia that settle with gravity. Microbial contaminants may consist of any or all of the items in Table 1.

Clients of IEPs are individuals who range from hardly impacted to greatly impacted. With the client's permission, the IEP consultant should communicate with the client's CIRS certified physician to obtain a better understanding of the client's condition on the CIRS-WDB severity spectrum.

Certified consultants and contractors can then learn whether their remediation efforts are falling short by following the changes in the clients' medical data. Only physicians can diagnose who is at risk, which makes it hard to confirm what each person may need to tolerate a remediated indoor environment. While it is not practical to set up any home typical mold remediation project to "clean room standards" it should be the focus of the mold professional to follow the best practices mentioned in this document (i) to minimize any cross-contamination concerns; and (ii) maximize the effectiveness of the remediation in the environmental-cleaning efforts.

Removal is the best option for all materials impacted by microbial growth and water staining, as well as porous items. These include paper-faced gypsum board, ceiling tiles, carpeting and upholstered material. Some customers may

attempt to save these materials. In those cases, consultants will warn those customers that attempts to save possessions must be balanced against the real risk of preventing an adequate remediation.

Killing or suppressing mold growth will not address the adverse health effects caused by other microbial components such as endotoxins, exotoxins, beta glucans and mannans, among others. It is folly to advocate use of antimicrobial compounds as the "remedial solution" when the inflammagens, toxins and antigens are still present even if the mold itself is "dead." Removing all toxigens and inflammagens, not simply focusing on killing what is or isn't alive, is the only route to successful remediation.

Cleaning agents that don't leave residues are better than cleaning agents that leave residues and particles. Using products with strong odors or fragrances may offend the chemically sensitive while masking hidden problems that are part of the problem. Some people may not know they are chemically sensitive until they have been exposed to the products used by a contractor. It is better to assume chemical sensitivity to avoid costly surprises.

Replace inexpensive flexible ducting or fiberboard junction boxes rather than attempt to clean. Flexible ducting may have folds or wrinkled plastic that makes cleaning impossible. Fiberboard can be damaged by abrasive cleaning methods. Fiberboard should never be used in close proximity to the cooling coils, since the moisture will lead to microbial growth on and in the porous material.

Duct cleaning according to the National Air Duct Cleaner's Association (NADCA) will fail to remove particles measuring 0.5 micrometers and smaller due to a lack of air velocity using the recommendation of their 2013 standard. This problem is also due to Bernoulli's Principle (described earlier). IEP can address a correction by pumping HEPA filtered air in the end of each duct run simultaneously after the surface cleaning has been performed and the ducting is under a negative air pressure differential.

Air Cleaning by Fogging/Misting

After a remediation and/or small particle remediation, there will be contaminants in the air that are smaller and lighter than what HEPA filters can control which will not settle quickly due to their light weight. Fogging (droplets below 50 micrometers or misting over 50 micrometers) to clean the air (US Patent #9,149,754) will address the suspect areas that are not adequately addressed by HEPA filtration. This method can also address the area immediately outside containment for a smaller remediation job when the whole structure is not cleaned.

Water fog droplets alone cannot do the job since beta glucans are water repellent. Surfactants are used to lower the surface tension in order for particles to attach to them. Slow evaporating compounds increase working time for surface cleaning once attached to particles in the air to settle to surfaces.

Fogged water droplets with surfactants and other constituents will go through evaporation when the fogging stops. Any condensation nuclei remaining will potentially cause trouble unless a second fogging occurs with water only. The second fogging allows the condensation nuclei from the fogged product to grow to droplet sizes settling with gravity (40 micrometers or larger). Therefore, the air is essentially rinsed, leaving air and water vapors with much lower levels of particulates and chemicals.

Capture efficiency is enhanced with a slow, sweeping motion, which creates a complex form of "gradient or shear" coagulation. Filling a room with a fog without moving the plume around the room will take much longer and have poor performance with submicron particles with kinematic coagulation [40].

Temperature will also impact fogging to clean the air. Dehumidification may be necessary due to water damage or fogging in high humidity climates. The air conditioning system can remove some moisture. Locations with high humidity may need portable dehumidifiers after fogging/misting. Professional dehumidifiers should be cleaned prior to placement in work areas.

All HEPA vacuuming should occur before fogging or misting. Only damp wiping, using dry Swiffer cloths on dry and smooth surfaces, or encapsulation should occur after the fogging/misting method to clean the surfaces. Bare drywall should be sealed to prevent mold DNA in the paper backing from causing confusion on post testing efforts.

To minimize encapsulation kicking up particulate, consider using a pump-up garden sprayer following up with brushes and rollers to even the coat. Airless sprayers may cause problems and are expensive to maintain. They may create "paintballs" in the air that may be inhaled.

Achieving a Safe, Long Term Post CIRS-WDB Remediation

Consider that once a remediation and cleaning has been performed, and the client and/or their family have moved back into the home, changes will occur. For example, doors and windows will be opened, and family members will come and go into the home. Pets will move inside and out of the home; external environmental events will occur. The home will rapidly change its indoor

environmental condition to a point of steady state equilibrium based on the lifestyles of the family.

It is a goal of this consensus to ensure that at the point that steady state equilibrium is achieved that the home has indoor air quality that is safe for occupants with CIRS-WDB. Remediation plans, use of available assets of the clients, consultation with the IEP and the physician are each required bringing the building to equilibrium after maximum cleaning levels.

Limitations on Creating Optimally Safe Indoor Environments for WDBs

Not all building owners or occupants are able to or willing to carry out the methods that are recommended by CIRS-aware IEPs. The IEPs must consider the resources required to attempt to create an optimally safe indoor environment. If an ideal indoor environment is not attainable, the patient with CIRS-WDB must discuss with the IEP and the health professional alternative (if any exist) pathways for reducing innate immune inflammation.

Because of unique variables in homes, offices and schools, the IEP must be willing to modify an ideal work plan. Such situations tend to require innovative thought and preparation. Removal of clutter and the performance of basic small particle cleaning require only assistance from family and friends. In some cases the client will need IEP input on the merits of different alternatives for treating the indoor air by means of negative and/or positive ventilation, filtration or other suitable air treatment methods.

If the CIRS-WDB occupant is also the building owner, the IEP must provide education about remediation and testing on the building before deciding to sell the property. If the occupant is renting, relocation is usually an easier solution. The testing and reporting of the water damage and microbial growth may be sufficient for tenants to terminate their current lease. Minimizing the health, financial, and emotional damages caused by CIRS-WDB must not occur. Trivializing the consequences of CIRS-WDB by medical or environmental professionals, especially in the absence of peer-reviewed, published data, is unacceptable.

Challenges for IEPs in Cases of CIRS-WDB

If medically sound remediation is performed, then a report of inspection results, test results and other evaluated variables should be presented to the patient. A signed permission from the client/patient should be given to the IEP and their physician so that their needed medical and environmental information may be

shared. We recommend that the IEP's report will review all findings and make a recommendation regarding the readiness of the IAQ of the home.

All known methods of correcting indoor air quality issues involve one or a combination of the source, filtration, and/or ventilation. These issues may additionally be addressed by specialized and effective filtration and/or ventilation as well as other air treating devices. This category may include specialized filters for particulates, VOCs, use of electrically charged particle generation and more. We feel there is insufficient data to judge the effectiveness of these devices at this time.

Post-Remediation Maintenance Planning

CIRS-WDB occupants are likely to relapse should water damage recur after remediation is completed. A maintenance plan designed to minimize the risk of future water damage must be provided. Since settled dust can contain contaminants, the maintenance plan must address the importance of good housekeeping. CIRS-WDB patients will also need to live in clutter-free homes.

The IEP will give the client a maintenance protocol including suggestions for re-inspections. This maintenance protocol will raise client awareness about (i) the need to monitor moisture control conditions and (ii), the requirement to be observant of water damage risks to the property. A maintenance protocol aimed at establishing a safe, long-term, post-remediation indoor environmental equilibrium for occupants with CIRS-WDB must focus on many factors that affect the mold propensity of a built environment.

Mold and Insurance

Few mold-related property insurance claims were filed before 2000. But when high publicity cases in Texas and California led to multi-million dollar awards, publicity about the dangers of water damage-related indoor mold growth led to a steep rise in mold-related claims [41].

In the U.S. and Canada in 2001, 5,000 toxic mold suits were filed against insurers claiming bad faith, 2,000 cases against homeowner associations for improper maintenance, 2,000 cases against builders for construction defects, and 1,000 cases against former owners of sold homes [42].

The property insurance industry responded by calling the publicity a case of mold hysteria, claiming that most molds are benign and that while some people may experience allergies and asthma, there was no scientific support for claims that "toxic mold" was producing debilitating medical conditions. The CDC supported this position. To be fair, often claims of serious health effects from

toxic mold exposure were not well substantiated at that time. But the CDC defends the same position to this day despite a peer-reviewed prospective study on the pathophysiology, diagnosis, and treatment of CIRS-WDB [32].

To stem the rising tide of mold claims, property insurers put caps on mold-coverage ranging from $1,000 to $10,000 per water-damage claim. To further stem their losses, they ruled out coverage for mold growth related to homeowner negligence and created a separate market for flood insurance. The legal problem migrated to commercial and government buildings and spread beyond property insurance to business, liability and worker's compensation insurance. As a result of this second tide of claims, architects, builders, contractors, and subcontractors, employers and school boards frequently became defendants in legal actions [41].

State insurance departments had little choice but to approve mold exclusions for various types of insurance. Homeowners' insurance rates hit record highs. New home construction rates fell along with construction-related employment. The costs of mold-related water damage had affected multiple markets and business models in ways that raised costs for consumers, but for businesses as well, including risk management costs for remediation contractors and subcontractors. Insurers developed a risk management strategy based on risk avoidance. They now issue over 100 million exclusions annually, shifting mold damage losses elsewhere in the economy [42].

Consumers were told not to hire uninsured contractors, which subjected remediation methods to closer scrutiny. Remediators turned to their professional societies for guidelines that would set remediation method standards for the industry. The EPA, New York City, the American Conference of Governmental Industrial Hygienists (ACGIH), and the Institute of Inspection Cleaning and Restoration Certification (IICRC) issued guidelines for remediation methods.

In one project where ACGIH guidelines were followed, pulmonary functions were tested for personnel before and after remediation of a hospital with a moldy indoor environment []. The post-remediation environmental testing looked good according to the guidelines but hospital personnel showed worse pulmonary functions after remediation. The post-remediation testing for the study involved air samples for culturing and spore traps. This example of the lack of correlation between adverse human health effects and putative objective measures of remediation indicates how adherence to published remediation guidelines can fail. In the field, we have seen this experience repeated multiple times in cases of CIRS-WDB.

We understand the economic impact of WDB remediation on multiple sectors of the economy and the pressures they place on insurers, builders, contractors,

subcontractors, and remediators. We sympathize with those who have incurred higher insurance costs to manage their legal and financial risks when it comes to mold. But it is our duty to raise awareness about the scientific evidence indicating that current post-remediation standards are failing persons with CIRS-WDB, persons whose special health needs require a more aggressive post-remediation standard for establishing safe conditions for habitation after water damage.

It appears to us that the only way to avoid ongoing rounds of cost shifting, which disproportionately affect those with the fewest resources, is for all parties involved to turn their focus toward prevention through better moisture control in building design and construction. In addition, there needs to be better monitoring of mold propensities as a part of building maintenance with better methods of remediation to protect those most vulnerable to the adverse health effects acquired by exposure to the many toxigenic and inflammagenic biocontaminants produced by microbes growing on damp building materials.

CONCLUSIONS

We believe that medically sound methods of medical diagnosis and treatment be accompanied by medically sound methods of WDB investigation and remediation. The number of persons with CIRS-WDB is likely to be large. As a result, the implications for health care professionals, insurers, builders, IEPs and remediators warrant a shift toward medically sound standards for preventing and correcting indoor water damage. Achieving the levels of indoor air quality required by CIRS-WDB treatment protocols will provide benefits for the many who suffer from debilitating forms of chronic illness caused by their WDB exposures.

IEP APPENDIX A
RECOMMENDED DEVIATIONS FROM THE 3rd EDITION OF THE IICRC S520 STANDARD FOR MOLD REMEDIATION

Based on the following reasons and the references cited by the Indoor Environmental Professional (IEP) panel of Surviving Mold in their Consensus document, we offer the following recommendations to achieve greatest results in medically sound remediation:

Negative air pressure versus positive air pressure differentials

In many past and current remediation projects, the remediation company incorporates some engineering controls to help contain the remediation work they perform. The use of negative air pressure (NAP) inside of containments is common. In many applications, one of the concerns by the remediation company and the IEP involves the potential for cross-contamination of areas outside of the containment (and inside of the structure). To minimize any cross-contamination, remediation companies will incorporate negative air pressure (NAP) to produce an area of lower

air pressure inside of the containment. This air pressure relationship helps prevent contaminants that are generated/disturbed inside of the containment from exiting to the areas outside of the containment (i.e. areas of higher air pressure).

NAP controls, however, are not appropriate for every remediation project. There are situations in which a positive air pressure (PAP) is preferred over a NAP. Examples of where PAP is preferred over NAP include, but are not limited to, the following:

i. While working in a crawlspace or basement, putting the living spaces above under a PAP will help prevent contaminants being generated/disturbed from the crawlspace/basement from entering the workplace from below.
ii. While working on an exterior wall with a window, if the exterior wall of the building envelope is the affected area, leaving the window open while under a PAP will help prevent contaminants that are located on the exterior wall from entering further into the containment area.
iii. While removing an affected ceiling tile, consider operating the containment under a PAP to help prevent contaminants that may be located in the unconditioned upper (including attic) space from entering into the containment area. The remediation company should ensure that the upper space/attic is vented before operating the contained area under a PAP.

This deviation from the IICRC S520 Standard 3rd Edition is necessary because a negative air pressure differential containment would only pull higher levels of contamination into the indoor environment from surrounding contiguous areas described in this Appendix. This deviation is also in addition to, but not stated in the uses of negative air pressure in the IICRC S520 (section 12.2.6). The IEP should use professional judgment when designing the proper pressure relationships for each project based on the specific conditions addressed. These design criteria should be stated clearly in the remediation protocol; consultation with the remediation contractor must be included to ensure proper performance.

There will be situations where neither a NAP nor a PAP provides the best engineering control solution for all or a portion of the remediation project (typically during the remediation phase). In this situation, it is up to the remediation company and the IEP to determine the best use of any NAP or PAP in the containment during any phase of the remediation project. The goal is to prevent contamination and cross-contamination.

HEPA air scrubbers

Stand-alone HEPA air scrubbers should only be used in contained workspaces to capture and exhaust aerosols that are created during demolition. HEPA air scrubbers have a small capture zone due to limited air velocity, which decreases their ability to move airborne particles to the HEPA air filter.

As a means of validation of this limitation, one method is to sample the air flow from the farthest location from the HEPA air scrubber using an anemometer. If the airflow is less than 60 feet per minute (fpm), laminar flow is not present. Without laminar flow, there will be (1) reduced capture rate; and (2) ineffective filtration of airborne particles. Another method is to use a smoke pencil to confirm the distance at which smoke no longer goes into the HEPA filter.

The use of HEPA air scrubbers is only part of the larger remediation and environmental-cleaning efforts recommended in this consensus.

Operating HEPA air scrubbers inside of the contained area would help remove some of the particles of greatest health concern. Adding lay-flat hose to the exhaust end of the HEPA air scrubber will help increase air movement inside of the containment, thereby increasing the removal of total airborne particulates (via the HEPA air filter). Lay-flat can be run around the inside perimeter of the containment. This panel recommends sealing the end of the lay-flat as well as adding small slits (~4-8") to the slides of the lay-flat. The number and location of the slits depend on the layout of the containment and size of the HEPA air scrubber. The remediation company must be familiar with the use and operation of lay-flat.

Another method to help increase air movement inside of the containment is to add air movers in areas where "dead (air) spots" are suspected to exist.

HVAC duct cleaning

HVAC ducting should be cleaned according to the National Air Duct Cleaners Association (NADCA) 2013 standard. Please note we recommend one modification. We recommend a HEPA filtered supply of clean air be added to the end of each duct line as cleaning occurs to push the particles to the HEPA filtered device creating negative air pressure differentials at the fan coil unit; without pulling contamination across the coil assembly. There is no need for use of antimicrobials.

We recommend that flex ducting be replaced where accessible since the dust in the plastic wrinkles cannot be cleaned satisfactorily. This deviation from the IICRC S520 3rd Edition is based on having a lack of laminar airflow with enough velocity (60 feet per minute or greater) to control or suspend particles that float with Brownian motion equal to or less than 0.5 microns in diameter.

HEPA vacuums

HEPA vacuums are known to perform poorly with small electrically charged particles; HEPA must not be used to clean surfaces after wiping. Surfaces should only be vacuumed if they have visible dust that can't otherwise be moved with compressed air outdoors (example: furniture) or in a containment area within the capture zone of a HEPA air scrubber vented to the exterior.

Additional considerations regarding HEPA vacuuming

- "Energetic cleaning methods" such as dry sweeping or the use of compressed air should be avoided (or only used with precautions) that assure that particles suspended by the cleaning action are trapped by HEPA air filters. If vacuum cleaning is employed, care should be taken that HEPA filters are installed properly; bags and filters must be changed according to manufacturer's recommendations (http://www.cdc.gov/niosh/docs/2009-125/pdfs/2009-125.pdf)

- While vacuum cleaning may be effective for many applications, the following issues should be considered. (i) Forces of attraction may make it difficult to entrain particles off surfaces with a vacuum cleaner. (ii) The electrostatic charge on particles will cause them to be attracted to oppositely charged surfaces and repelled by similarly charged surfaces. (iii) A similarly charged vacuum brush or tool may repel particles, making it difficult to capture the aerosol or even causing it to be further dispersed. (iv) Vigorous scrubbing with a vacuum brush or tool or even the friction from high flow rates of material or air on the vacuum hose can generate a charge. (v) The vacuum cleaners recommended for cleaning copier and printer toners have electrostatic-charge-neutralization features to address these issues" (http://www.cdc.gov/niosh/docs/2009-125/pdfs/2009-125.pdf).

Fogging

Section 12.1.7 allows fogging to clean the air. The IEP Surviving Mold Professionals Panel (SMPP) recommends the following:

- Negative air pressure differentials with four air changes per hour cannot be operating or the liquid droplets will evaporate 4 times faster to create high moisture on surfaces without cleaning the air.
- Droplets need to be 40 micrometers or larger to settle with gravity. (Note: A 36 micrometer droplet will evaporate in 6 seconds at room temperature and 50% relative humidity. Further, four air changes would accelerate that evaporation time to a little more than 1 second. This accelerated evaporation would leave the condensation nuclei with much higher concentrations of surfactants, fragrances and any antimicrobial chemicals if someone chooses to fog disinfectants. This may lead to higher concentrations of the chemicals than recommended and tested for toxicology and reviewed by the US EPA.)

IEP APPENDIX B

HERTSMI-2 and ERMI: Correlating Human Health Risk with Mold Specific qPCR in Water-Damaged Buildings

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SUMMARY

In this large study of fungal DNA testing by MSQPCR, we present the findings that support use of low cost HERTSMI-2 testing to inform objectively interested parties

- **If WDB conditions exist; and**
- **Where the problems are likely to be found; as well as**
- **Whether the remediated building is likely to be safe for re-occupancy by previously affected patients with CIRS-WDB who meet the GAO case definition.**

PRACTICAL IMPLICATIONS

While high scores of both ERMI and HERTSMI-2 accurately predicted markedly increased risk of recrudescence, only low HERTSMI-2 predicted safety from re-exposure for patients who had prior CIRS-WDB. Use of HERTSMI-2 is inexpensive, reproducibly reliable and predictive of mold associated re-exposure from water damaged buildings (WDB), especially for sub-optimally remediated buildings.

KEYWORDS

WDB Water Damaged Buildings
CIRS-WDB Chronic inflammatory response syndrome acquired following exposure to the interior environment of water-damaged buildings (WDB)
ERMI Environmental Relative Moldiness Index
HERTSMI-2 Health Effects Roster of Type Specific (Formers) of Mycotoxins and Inflammagens, Version 2
MSQPCR Mold Specific Quantitative Polymerase Chain Reaction

1. INTRODUCTION

In the absence of published governmental guidelines setting criteria for safety in buildings with a history of water intrusion and microbial growth (WDB), clinicians caring for patients sickened by chronic inflammatory response syndrome (CIRS-WDB) have used a variety of building parameters to predict safety of re-exposure, without acceptable predictive success.

Previously, no single building index has consistently shown reliability to predict absence of recrudescence with re-exposure. Therefore, patients with a history of CIRS-WDB have often needlessly experienced recurrence of symptoms following re-exposure to WDB, even with exposures as short as 30 minutes.

Previous studies have shown that the Environmental Relative Moldiness Index (ERMI) has use in predicting re-acquisition of abnormal inflammatory markers of CIRS-WDB with re-exposure to buildings with an ERMI equal to or greater than 2.01 but no assessment of ERMI to predict absence of relapse with re-exposure has been forthcoming. Moreover, ERMI has been criticized as having methodological and mycological problems. In an attempt to improve predictive value of fungal MSQPCR data as the basis for an accurate building safety index, a derivative of ERMI, called HERTSMI-2, was developed.

HERTSMI-2 uses a weighted scale applied to the concentration in Spore Equivalents/mg of each target mold's DNA, detected by MSQPCR, present in collected dust for just five species of fungi. This index was developed following statistical assessment of 1010 ERMI results from the homes of treated patients (Shoemaker, 2011). Prospectively, HERTSMI-2 was compared to ERMI in the assessment of 807 consecutive patients for whom health effects of re-exposure to buildings were known. These data showing the relevant predictive value of each index is now presented. 618 buildings had ERMI done, from which HERTSMI-2 is calculated; these data were compared to those from buildings where HERTMI-2 alone was performed (N=189).

Published data has confirmed that the diagnosis, through blood tests of patients sickened following exposure to the interior environment of a water-damaged building (WDB), is readily achievable (Shoemaker, 2013). Use of a standardized treatment protocol, confirmed by double blinded, placebo controlled clinical trial (Shoemaker, 2006), has not only provided resolution of the chronic inflammatory response syndrome (CIRS-WDB) but also provided an opportunity to employ re-exposure trials to determine if the gold standard of remediation, confirmation of absence of recrudescence of illness with re-exposure following thorough remediation, has been met. With increasing use of MSQPCR testing by physicians treating CIRS-WDB patients, we sought to determine a method of measuring successful remediation based on maintenance of resolution of symptoms and laboratory measures in previously affected, but treated CIRS-WDB patients, after re-entry. This method focuses on patient health parameters as a measure of safety of occupation of a building.

The search for a new, objective method to assess safety of remediation for previously affected patients was spurred by failure to see objective, patient-driven data that showed benefit from measures derived from air sampling. Problems with air sampling with spore traps have been reported (GAO, 2008 & WHO, 2009). Low sample volumes and the absence of the ability to microscopically determine the species of spores collected by spore trapping have been amongst the reported causes. While spores of *Chaetomium* and *Stachybotrys* are obvious to skilled microscopists reviewing spore trap material, separation of *Penicillium* from *Aspergillus* is not possible, nor is there a routine mechanism to similarly identify *Wallemia sebi* in spore trapping by microscopy. However, methods to overcome these issues have been evolving.

BACKGROUND to PCR

PCR was invented in 1985 by Kary B. Mullis; use of PCR has become widely applied in almost every field of biological endeavour, truly revolutionizing molecular biology. Its specificity, efficiency and fidelity have turned it into a key technology that has made molecular assays globally accessible. It underpins most of the spectacular advances that are now commonplace in every biological disciplines, ranging from microbial detection and microbiological quality assurance, through the detection of genetically-manipulated organisms in crops and foods, to molecular and veterinary medicine.

Conventional PCR is a qualitative assay, giving a binary presence/absence result, while quantitative, real-time PCR (qPCR or MSQPCR) is a powerful technique that enables both qualitative, as well as quantitative, measurements of specific sequences in a nucleic acid sample. Since various experimental parameters can have a significant impact on the quality of results (in some cases erroneous), it is particularly important to employ standardized best practices. Those include the use of rigorous controls, validation and non-subjective data interpretation.

ERMI INTERPRETATION OF MSQPCR DATA

To interpret the data offered by MSQPCR in a WDB context, the Environmental Relative Moldiness Index (ERMI) has been developed and validated as a means of interpreting results from MSQPCR of house dust. ERMI was developed by the *U.S. Environmental Protection Agency* (Haugland & Vesper, 2002; Vesper, 2007). The method employs Mold Specific Quantitative Polymerase Chain Reaction (MSQPCR) methods to detect and quantify species of fungi found in WDB compared to those found in buildings without a history of water intrusion.

The MSQPCR method follows defined steps. During the annealing step, the primers and probe hybridize to the complementary DNA strand in a sequence-dependent manner. Because the probe is intact, the fluorescent reporter and quencher are in close proximity and the quencher absorbs fluorescence emitted. In the extension step, the polymerase begins DNA synthesis, extending from the 3' ends of the primers. When the polymerase reaches the probe, the exonuclease activity of the polymerase cleaves the hybridized probe. As a result of cleavage, the fluorescent dye is separated from the quencher and the quencher no longer absorbs the fluorescence emitted by the dye. This fluorescence is detected by the real-time PCR instrument. Meanwhile, the polymerase continues extension of the primers to finish synthesis of the DNA strand.

CLINICAL APPLICATION OF ERMI & EMERGENCE OF HERTSMI-2

Use of ERMI was clearly helpful clinically as elevated ERMI scores indicated absence of safety of homes for those patients with CIRS-WDB. For ERMI scores less than 2.1, the value of ERMI was less likely to correlate with safety.

In order to address this, HERTSMI-2 was initially presented (Shoemaker, 2011), based on a review of over 1000 ERMI test results. Patients were stratified by total ERMI score finding that scores over 2.0 were associated with illness for those with levels of melanocyte stimulating hormone (MSH) < 35 pg/ml or those with HLA DR from one of six genetically predisposing haplotypes (Shoemaker, 2005).

In an effort to find significance of differences between high versus low ERMI, ratios of Spore Equivalents/mg dust derived by MSQPCR were compared for each species listed in Group I of ERMI. The goal was to isolate the minimum number of filamentous fungal species routinely associated with damp buildings that made susceptible patients ill with re-exposure.

Any ratio less than 10/1 for a given species was not considered to be strong enough to be an indicator of worsening building health. Nine species with ratios of greater than 10

where identified. Of these, the five with the highest ratios were (in order) *Wallemia sebi*; *Aspergillus versicolor*; *Aspergillus penicillioides*; *Stachybotrys chartarum* and *Chaetomium globosum*.

Of interest, these organisms stratify water activity ($A_{w,}$), with A_w, ranging from near xerophilic (*Wallemia*) to approaching saturated (*Stachybotrys* and *Chaetomium*).

HERTSMI-2 IS MORE PRACTICAL

In theory, HERTSMI-2 values could provide an inexpensive, objective measure of organisms routinely found in WDB, known to be associated with adverse human health effects. These data could also serve as indicators for remediators as to what conditions and locations were present that were consistent with the A_w of the identified organism. If no conditions were identified that suggested the presence of excessive levels of *Wallemia*, for example, then additional searching for such conditions must be enjoined.

A further concern is that residences were solely included in the development and validation of ERMI, while other buildings, such as workplaces and schools are no less affected by water intrusion. These have been rarely studied, so there is no data published on any patients re-exposed to workplaces and schools that would contradict the hypothesis presented in early CIRS studies (Shoemaker, 2005) that "wet buildings are wet buildings".

HERTSMI-2 IN CONTEXT

In "Consensus of Medical Professionals' Panel" (2015), accessed on **www.survivingmold.com,** Table 2 shows a fully referenced list of the toxins, inflammagens and microbial products found in WDB. Many of those bio-markers are analyzable but have not been supported by published validation for the purposes of developing a building index. In addition, they are expensive and not widely in demand.

HERTSMI-2 –PROSPECTIVE DATA COLLECTION

Alternatively, here we present a study showing results of fungal DNA testing by MSQPCR and our findings that support use of readily available and low cost HERTSMI-2 testing to inform objectively all interested parties (i) if WDB conditions exist; and (ii) where the problems are likely to be found; as well as (iii) whether the remediated building is likely to be safe for re-occupancy by patients who meet the case definition (GAO, 2008).

2. MATERIALS/METHODS

A total of 807 consecutive MSQPCR studies were collated from charts of patients evaluated in one clinic specializing in diagnosis and treatment of patients affected by WDB. Written informed consent was provided by all participants. Dust samples were collected according to established criteria (Haugland & Vesper, 2002). The MSQPCR analyses were performed by Mycometrics, Inc, Monmouth Junction, NJ. ERMI scoring was supplied by Mycometrics. HERTSMI-2 scoring performed using

2011 algorithm (www.survivingmold.com; HERTSMI-2 scoring table). Patients were admitted to the study only when diagnosed as CIRS-WDB, having met the case criteria established by the US GAO.

The criteria include:

(1) confirmation of exposure;
(2) presence of symptoms seen in patients in peer reviewed papers;
(3) presence of relevant laboratory abnormalities seen in patients, as published in peer reviewed papers; and
(4) response to treatment, previously present before treatment with the standard protocol, but absent after treatment.

The study was double-blinded; neither patients nor investigators were aware of MSQPCR scores before building re-entry.

Patients were treated with initial steps of a standard protocol (Shoemaker, 2013) including removal from exposure; use of anion binding resins for at least one month and treatment of commensal, biofilm-forming, multiply antibiotic resistant coagulase negative staphylococci (MARCoNS) if found in deep aerobic nasal space. Patients were considered to have relapsed with re-exposure within four hours if they noted reappearance of at least four symptoms.

3. RESULTS

Table 1 provides data representing 618 ERMI scores were identified. No ERMI result was listed for 186 qPCR results as these were resulted using HERTSMI-2 only. Comparison of data obtained with HERTSMI-2 calculated from ERMI is compared to data from HERTSMI-2 without performance of ERMI (Table 2).

Table 1 Grouped ERMI Scores, correlated with Relapse & Building Type

ERMI	N=	Relapse	No Relapse	Relapse %	Building Type 1 N=	Building Type 2 N=	Building Type 3 N=
-8.39-0	49	5	44	10.2	44	2	3
0.01-2.00	40	7	33	17.5	33	3	4
2.01-5.00	87	21	66	24.1	82	3	2
5.01-8.00	89	35	54	39.3	75	3	11
8.01-11.00	77	52	25	67.5	67	4	6
11.01-14.00	82	74	8	90.2	68	8	6
14.01-17.00	65	59	6	92.3	54	5	6
> 17.01	129	127	2	98.4	118	3	8
	618	380	238		541	31	46

Of the ERMI patients < 2.01, 77 did not relapse and 12 did. For ERMI ≥ 2.01, 368 relapsed and 161 did not.

Table 2 Grouped HERTSMI Scores, correlated with Relapse

HERTSMI-2	From ERMI N=	Relapse N=	% Relapse	From HERTSMI-2 only N=	Relapse N=	% Relapse
0-10	181	5	2.7	60	1	1.7
11-15	98	47	48	28	12	42
>15	339	339	100	101	99	99
TOTAL	618	391		189	112	
Total relapse = 503. No relapse = 304						

807 HERTSMI-2 scores are presented, with 618 in ERMI and 189 without ERMI. Low scores (≤ 10) correlated with absence of relapse in 235; relapse was seen in 6 (Table 2). For indeterminate HERTSMI-2 scores (11-15), 59 relapsed and 67 did not. For high HERTSMI-2 (>15), all but 2 of 438 patients relapsed. There were no differences between HERTSMI-2 calculated with or without performance of ERMI. There were no differences between building types 1, 2, 3 (data not shown but similar to Table 1).

The distribution of building types strongly favored residences, with 705 buildings being residences (Building Type 1). 52 workplaces (Building Type 2) and 40

schools (Building Type 3) are also represented in the data set. Relapse and absence of relapse was not significantly different for any building type ($p<0.01$). Mean ERMI and HERTSMI-2 scores were not significantly different for any building type ($p< 0.01$) (see Table 3).

Table 3 Mean ERMI Scores, correlated with Building Type

Building Type	1	2	3
Mean ERMI	7.3	8.4	10.2
Mean HERTSMI-2	17.6	15.5	17.8

4. DISCUSSION

Indoor Air Quality professionals and health care providers alike continue to search for definitive criteria that can identify a building as safe for human use, or not. Understanding that only 24% of the population at large carries the HLA DR haplotypes associated with increased relative risk for illness following exposure to the interior of WDB (Shoemaker, 2005), it is difficult to apply a specific health effects criterion to all individuals. Further, we cannot use any one single element of those found inside WDB as specifically causing human illness, given the multiple possible sources of antigens, toxins and inflammagens that can each lead to CIRS-WDB. Against the seemingly impossible task required to assign criteria to patients and also to buildings, each for their own reasons, we studied previously affected patients who voluntarily re-entered buildings during medical supervision.

Both ERMI and HERTSMI-2 do not provide information regarding bacteria, actinomycetes and microbial volatile organic compounds (mVOCs). ERMI has a high percentage of errors when predicting absence of relapse (12/89 incorrect) and prediction of relapse (161/529 were incorrect). Total errors were 173/618 (28%). For HERTSMI-2 below 10, there were far less errors when predicting absence of relapse found (6/241); and errors predicting definite relapse at 2/438. However, HERTSMI-2 scores between 11 and 15 were shown to be unreliable for prediction, as such scores showed 59 relapsers and 67 non-relapsers. Such values deserve the appellation of indeterminate.

5. CONCLUSIONS

The evidence presented confirms that data from MSQPCR testing can alert patients with CIRS-WDB and their health care providers to possible problems with re-entry to previously affected WDB. Use of HERTSMI-2 is confirmed to show predictive accuracy of over 97% for patients with low or high scores. Indeterminate values demand additional building evaluation and remediation before permitting re-entry of patients with previously confirmed CIRS-WDB. Given the low cost (~US $150) and rapid turnaround provided by mycology labs that satisfy all MSQPCR testing requirements, HERTSMI-2 testing can avoid dangerous exacerbation of health effects for buildings with high HERTSMI-2 scores and provide reasonable

expectations for safety with cautious re-entry when the HERTSMI-2 scores are low (<10).

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IEP APPENDIX C
SUGGESTED CLIENT INTERVIEW QUESTIONS

ABOUT THE PROPERTY:

What is the age of the property?

What is the construction? (brick, frame, finished or unfinished basement, crawlspace)

Are you the original owner/s?

How long have you lived in the property?

If you are not the original owners, did you have a home inspection performed when you purchased it?

If so, was there any water damage, intrusion, or mold found or suggested from that inspection?

Were there any comments on the seller's property disclosure regarding water events (roof leaks, plumbing leaks, flooding, toilet problems, other)? And if so what were they?

If so, was professional water removal performed, and if so by whom and how as you remember? Are any reports available regarding these efforts?

Was mold remediation performed, and if so, where, how and by whom? Any reports available regarding these efforts (if applicable)?

If mold remediation was performed, was there any follow-up (clearance testing) mold testing performed? Are any reports available regarding these efforts?

Have you witnessed or had any water intrusions, flooding or condensation on windows, walls or air conditioning (AC) vents while you have lived here? If so, please describe what and when.

Do you know what the humidity is in your home and if so, how do you measure it?

Do you have your AC system serviced annually?

What type of filtration does your HVAC system have and how often is it inspected and changed?

ABOUT THE CLIENT/S:

If we had not been recommended by your physician, how did you hear of us?

Have you been examined by a CIRS certified physician?

Have you been diagnosed as having CIRS-WDB syndrome and or Lyme disease by any physician? If so who was the physician?

If you have been diagnosed with either of those conditions, have you been prescribed medication and are currently taking those medications, and if so for how long? What medications are they?

Are other family members suffering the same symptoms, and if so who are they and their ages?

If so, what medications are they taking?

Do you experience any positive results from the medications, and have you had CIRS blood tests performed since you have been on the medications. If so did the results improve or not?

If you have not been examined, tested and diagnosed, can you share with us the most prevalent symptoms you experience?

Do you recall how long ago the symptoms may have started? Do you recall a sensitizing event that resulted in the onset of symptoms?

Do you ever experience any symptoms when you enter buildings other than your home?

Do the symptoms ease when away from the home and increase when you return or are in the home for periods of time?

Are there parts of the home where symptoms are more pronounced?

In what room or area of the home do you feel better than others?

Are symptoms worse when heat or air conditioning is running?

Are symptoms worse during certain weather or seasons?

Did you previously live in a residence you know was water damaged? And if so, did you bring furniture and property (contents) from there to this residence?

Were the contents professionally cleaned prior to moving into this home?

If so, what kind of furniture and property was it?

Can you think of any other condition or event that may have impacted the operation of your home such as remodeling or other changes?

IEP APPENDIX D
GENERAL IEPSs DOs and DONTs

DOs:

Always consider the following when collecting samples (air or surface):

- Predominant airflow patterns
- Areas of higher and lower pressures
- Sample location in reference to any identified microbial sources
- Complaint areas versus non-complaint areas
- HVAC system and the layout (strong drivinf force in structure)
- outside influences that could affect an indoor sample (i.e. high winds, rain, humidity, etc.)

When possible, forward the client questionnaire in advance to the client prior to the investigation.

Perform a thorough evaluation of the exterior building envelope based on the areas of concern determined during the initial interview. Also perform a site drainage evaluation and other items questioned on the mold propensity index assessment, (MPI) [42]

Perform a thorough inspection of the home using necessary meters, cameras and infrared, and other diagnostic testing.

Identify and document sources of water or moisture challenges within the building. Be thorough. Consider documenting information on the interior portions of the MPI uptake questionnaire.

After inspection and interview with the clients, perform a dust collection based on the results of those for surface ERMI testing or HERTSMI-2 testing.

Provide a copy of the testing along with an interpretation and opinion of what the client should or should not do as a result.

Provide the client with a report that outlines observations, opinions, recommendations, and specific treatments or cleanup plans along with a list of qualified contractors, at arms length, that would be able to perform the necessary corrections. Follow up with the phone consultation as part of your responsibility.

If the client has a physician, with the client's permission, forward a copy of the report and laboratory results to the physician along with an opinion regarding the environmental safety of the home.

If remediation is been performed, offer a plan for post testing primarily based on a HERTSMI-2 test on new dust and report the results to the client and their physician with your opinion.

DONTs:

We diagnose buildings, not people. Limit your recommendations to the building and direct any health questions the client may have to a qualified physician or practitioner especially one certified in CIRS-WDB evaluations.

Don't underestimate the potential for water or moisture intrusion through the exterior building envelope in any climate. Water or moisture intrusion may be seasonal and not active during your inspection; however, the evidence will be there. It is your job to find it. This may require multiple site visits. Developing a scope of work is important during initial communication with the client.

Don't miss the opportunity to gather as much information as your professional judgment requires for a thorough inspection.

Don't assume anything without a thorough investigation. From basement/crawlspace to attic and wall cavities, exterior building envelope, roof and chimney flashings; the sources may be present and need to be investigated.

It is better to under promise and over deliver them provide information that will be very difficult for a client to accomplish. Always provide information that is useful and specific to the project. Don't provide cookie-cutter recommendations that don't fit with this line of investigation. Try and think outside the box.

Competing Interests:

LS: Mold Propensity Index, testimony for plaintiffs in mold litigation. GW: patent, Aerosolver Pure. MS: none. WS: testimony for plaintiffs and defendants in mold litigation. KB: none. RS: testimony for plaintiffs in mold litigation.

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Occupational Safety and Health Standards Board

Business Meeting

Variance Consent Calendar

CONSENT CALENDAR—PROPOSED VARIANCE DECISIONS
OCTOBER 15, 2020, MONTHLY BUSINESS MEETING
OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

A. ANTON MILPITAS 750, LLC —HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
17-V-433M1	Anton Milpitas 750, LLC	Elevator	GRANT

B. BMR-1000 GATEWAY LP —HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
18-V-200M1	BMR-1000 Gateway LP	Elevator	GRANT

C. 333 VALENCIA OWNER, L.L.C. —HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
19-V-134M1	333 Valencia Owner, L.L.C.	Elevator	GRANT

D. SCHINDLER MODEL 3300 ELEVATORS with Variant Gov. Ropes & Sheaves (Group IV) — HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-175	Amazon.com Services, Inc.	Elevator	GRANT
20-V-228	MS Portfolio LLC	Elevator	GRANT
20-V-243	Magnolia Broadway Holdco, LLC	Elevator	GRANT
20-V-294	2401 Broadway Development Group, LLC	Elevator	GRANT
20-V-295	2401 Broadway Development Group, LLC	Elevator	GRANT
20-V-304	Alameda Block 9 LP	Elevator	GRANT

E. SCHINDLER MODEL 3300 ELEVATORS (GROUP IV) —HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-194	Crestview HC LLC	Elevator	GRANT
20-V-196	Protea National City, LLC	Elevator	GRANT
20-V-209	Fancy Land LLC	Elevator	GRANT
20-V-244	GGP Northridge Fashion Center, LP, A Delaware Limited Partnership	Elevator	GRANT
20-V-245	Residences on Main, L.P.	Elevator	GRANT
20-V-266	MS Portfolio LLC	Elevator	GRANT
20-V-296	2401 Broadway Development Group, LLC	Elevator	GRANT
20-V-297	2401 Broadway Development Group, LLC	Elevator	GRANT
20-V-298	Petaluma JL Land LLC	Elevator	GRANT

F. OTIS RADAR SLEEP MODE ESCALATORS —HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-255	Los Angeles World Airports	Elevator	GRANT

G. OTIS GEN2(O) AND/OR GEN2L ELEVATORS (GROUP IV) — HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-263	Ocotillo LA Pico, LLC	Elevator	GRANT

H. OTIS GEN2S ELEVATORS (GROUP IV) —HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-265	Intuit Inc.	Elevator	GRANT
20-V-267	970 Fedora LP	Elevator	GRANT
20-V-268	1180 LaBrea LLC	Elevator	GRANT
20-V-269	Aragon (Toluca/Colton) Properties Corp.	Elevator	GRANT
20-V-270	CG-AQ 477 South Market LLC	Elevator	GRANT
20-V-271	Carlsbad Village, LLC	Elevator	GRANT
20-V-272	City of South San Francisco	Elevator	GRANT
20-V-273	Fairfield 150 Airport LP	Elevator	GRANT
20-V-274	Grafton Pacific Dev. LLC	Elevator	GRANT
20-V-275	Horizon Property, LLC	Elevator	GRANT
20-V-276	Horizon Property, LLC	Elevator	GRANT
20-V-277	Horizon Property, LLC	Elevator	GRANT
20-V-278	Horizon Property, LLC	Elevator	GRANT
20-V-279	MacArthur PSH, L.P.	Elevator	GRANT
20-V-280	The Arden, LLC	Elevator	GRANT
20-V-281	Washington View LP	Elevator	GRANT
20-V-282	Windy Hill PV Five CM LLC	Elevator	GRANT
20-V-283	Jefferson La Mesa, LLC	Elevator	GRANT
20-V-287	MCREF Selma & Highland LLC	Elevator	GRANT
20-V-288	Barranca Studios LP	Elevator	GRANT
20-V-289	Yogesh Patel	Elevator	GRANT

20-V-306	NASH - Holland 24th and Harrison Investors, LLC	Elevator	GRANT
20-V-307	Smoky Hollow Industries, LLC	Elevator	GRANT

I. OTIS E2 CONTROLLER with Variant Railing and Gov (GROUP IV) — HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-284	CORE/Related Grande Ave Owner LLC	Elevator	GRANT
20-V-285	CORE/Related Grande Ave Owner LLC	Elevator	GRANT

J. OTIS GEN2(O) AND/OR GEN2L ELEVATORS with Variant Gov. Rope/Sheave (GROUP IV) — HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-290	Los Angeles World Airports	Elevator	GRANT
20-V-305	NASH - Holland 24th and Harrison Investors, LLC	Elevator	GRANT

K. KONE MONOSPACE 500 ELEVATORS (Group IV) —HEARD SEPTEMBER 23, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-291	Pacific Landing Santa Monica, L.P.	Elevator	GRANT
20-V-292	Vista Ballona, L.P.	Elevator	GRANT
20-V-293	Urbana at North Park, LLC	Elevator	GRANT
20-V-308	One De Haro, LLC	Elevator	GRANT
20-V-309	Mineta San Jose International Airport Economy Lot Parking Garage	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 to Modify Permanent Variance by: Anton Milpitas 750, LLC	OSHSB FILE No. 17-V-433M1 Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: Anton Milpitas 750, LLC	OSHSB File No.: 17-V-433M1 PROPOSED DECISION Hearing Date: September 23, 2020

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
17-V-433	Anton Milpitas 750, LLC	750 E. Capitol Avenue Milpitas, 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 September 23, 2020, in Sacramento, California, via teleconference, by 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, Wolter Geesink with Otis Elevator Company, and Dan Leacox of Leacox & Associates, appeared on behalf of the Applicant; David Morris 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 September 23, 2020, 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 17-V-433.

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 17-V-433 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. 17-V-433.

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 17-V-433 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. 17-V-433, to be:

1828 S. Milpitas Blvd.
Milpitas, CA

E. Decision and Order**:**

1. Permanent Variance Application No. 17-V-433M1 is conditionally GRANTED, thereby modifying Board records, such that, without change in variance location, each elevator being the subject of Permanent Variance Nos. 17-V-433, and 17-V-433M1, shall have the following address designation:

1828 S. Milpitas Blvd.
Milpitas, CA

2. Permanent Variance No. 17-V-433, 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. 17-V-433M1.

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: Sept. 30, 2020

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: BMR-1000 Gateway LP	OSHSB FILE No. 18-V-200M1 Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: BMR-1000 Gateway LP	OSHSB File No.: 18-V-200M1 PROPOSED DECISION Hearing Date: September 23, 2020

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
18-V-200	BMR-1000 Gateway LP	Gateway of Pacific 1000 Gateway Blvd. South San Francisco, 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 September 23, 2020, in Sacramento, California, via teleconference, by 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, Wolter Geesink with Otis Elevator Company, and Dan Leacox of Leacox & Associates, appeared on behalf of the Applicant; David Morris 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

September 23 2020, 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 a single elevator, "K", one (1) of eleven (11) elevators that are the subject of previously granted Permanent Variance 18-V-200.

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 18-V-200 is in effect, in fact is more completely, and correctly the different address information specified in below subsection D.5, as regards elevator "K" only.

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. 18-V-200.

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 18-V-200 was, in part, based.

5. The Board finds the correct address by which to designate the location of elevator "K", one (1) of (11) elevators that are the subject of Permanent Variance No. 18-V-200 to be:

Gateway of Pacific
800 Gateway Blvd.
South San Francisco, CA

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

1. Permanent Variance Application No. 18-V-200M1 is conditionally GRANTED, thereby modifying Board records, such that, without change in variance location, elevator "K", a single elevator being the subject of Permanent Variance No. 18-V-200, shall have the following address designation:

Gateway of Pacific
800 Gateway Blvd.
South San Francisco, CA

2. The Board finds the correct address by which to designate the location of the remaining ten (10) of (11) elevators is:

   Gateway of Pacific
   1000 Gateway Blvd.
   South San Francisco, CA

3. Permanent Variance No. 18-V-200, being only modified as to the subject location address for elevator "K" as 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. 18-V-200M1.

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: Sept. 30, 2020

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: 333 Valencia Owner, L.L.C.	OSHSB FILE No. 19-V-134M1 Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: 333 Valencia Owner, L.L.C.	OSHSB File No.: 19-V-134M1 PROPOSED DECISION Hearing Date: September 23, 2020

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-134	333 Valencia Owner, L.L.C.	333 Valencia St San Francisco, CA	1

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 September 23, 2020, in Sacramento, California, via teleconference, by delegation 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, Wolter Geesink with Otis Elevator, and Dan Leacox of Leacox & Associates, appeared on behalf of the Applicants' representative, the Otis Elevator Company; David Morris 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: permanent variance applications per Section A table as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Division evaluation as

PD-3, Review Draft 1 Proposed Decision as PD-4, and official notice taken of the Board's files, records, recordings and decisions concerning Otis elevators. On September 23, 2020, the hearing and record closed, and the matter was taken under submission by the Hearing Panel.

D. Findings and Basis:

1. The Applicant requests modification of the quantity of elevators the subject of previously granted Permanent Variance No. 19-V-134, to increase the quantity of elevators from one (1) to two (2).

2. Application Section 3, declared to be wholly truthful under penalty of perjury by the Applicant signatory, states facts upon which to reasonably find that additional requested subject elevator is to be of the same manufacturer model type and material technical characteristics and specifications, as the existing elevator the subject of Permanent Variance No. 19-V-134.

3. 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-134.

4. The Board finds the Section 2 referenced declaration to be credible, uncontroverted, and consistent with available, sufficient facts, and finds modification of Permanent Variance 19-V-134, increasing the quantity of subject elevators from one (1) to two (2), to be of no bearing upon the finding of equivalent occupational health and safety upon which Grant of preexisting Permanent Variance 19-V-134 was, in part, based.

E. Decision and Order**:**

1. Application for Modification of Permanent Variance, No. 19-V-134M1, is conditionally GRANTED, as specified below, such that a total of two elevators are the subject of Permanent Variance No. 19-V-134, as hereby modified.

2. Permanent Variance No. 19-V-134, being only modified as to the subject 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-134M1.

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: Sept. 30, 2020

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 with variant Gov. Ropes & Sheaves (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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 with variant Gov. Ropes & Sheaves (Group IV)	OSHSB File Nos.: Per Section A table, below PROPOSED DECISION Hearing Date: September 23, 2020

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
20-V-175	Amazon.com Services, Inc.	6971 Otay Mesa Rd. San Diego, CA	2
20-V-228	MS Portfolio LLC	3401 Dale Road, Modesto, CA	1
20-V-243	Magnolia Broadway Holdco, LLC	500 W. Broadway Long Beach, CA	2
20-V-294	2401 Broadway Development Group, LLC	2455 Broadway Oakland, CA	1
20-V-295	2401 Broadway Development Group, LLC	421 25th Street Oakland, CA	1
20-V-304	Alameda Block 9 LP	201 W. Atlantic Ave. Alameda, CA	3

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 September 23, 2020, in Sacramento, California, via teleconference by 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, Jennifer Linares, with the Schindler Elevator Corporation, appeared on behalf of each Applicant; David Morris 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 application 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 September 23, 2020, 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

Requested Governor Sheave to Rope Diameter Ratio Variance:

5. As it pertains to installation of requisite pitch diameter of the governor sheaves and governor tension sheaves, each Applicant presently seeks permanent variance from the following Title 8, Elevator Safety Order incorporated ASME Code A17.1-2004, subsection*:*

    Section 3141 [ASME A17.1-2004, Section 2.18.7.4] states:

    "The pitch diameter of governor sheaves and governor tension sheaves shall be not less than the product of the diameter of the rope and the applicable multiplier listed in Table 2.18.7.4, based on the rated speed and the number of strands in the rope."

Table 2.18.7.4 Multiplier for Determining Governor Sheave Pitch Diameter

Rated Speed, m/s (ft/min)	Number of Strands	Multiplier
1.00 or less (200 or less)	6	42
1.00 or less (200 or less)	8	30
Over 1.00 (over 200)	6	46
Over 1.00 (over 200)	8	32

50 mm (2 in.) when tested in accordance with ASTM E 8. Forged, cast, or welded parts shall be stress relieved. Cast iron shall have a factor of safety of not less than 10.

6. Per the Application, the proposal is stated as follows: "The approved speed governor provided for this elevator has a sheave diameter-to-governor rope diameter ratio [D/d] of 33. This is not compliant with the current Group IV Elevator Safety Orders which require a [D/d] of 42-46. Equivalent safety will be attained by providing a governor rope with a breaking strength that provides a factor of safety greater than that required by the Elevator Safety Orders, and a governor sheave diameter which complies with the requirements of ASME A17.1-2010, Section 2.18.5.1, and Section 2.18.7.4, which, under certain conditions, permits the use of a governor rope and governor sheave ratio [D/d] of not less than 30."

7. Having analyzed the request, as reflected in its Review of Application (Exhibit PD-4) Division is of the well informed professional opinion that the proposal, in as much as it is to use a governor with sheave pitch diameter of not less than the product of the governor rope diameter and a multiplier of 30, in conjunction with a steel governor rope with a diameter of 6 mm (0.25 in.), 6-strand construction, and a factor of safety of 8 or greater, will provide safety, and workplace safety and health equivalent or superior to that of the ASME A17.1-2004, Section 2.18.7.4. Division also correctly notes Applicant's proposed governor sheave pitch diameter, and reduced diameter governor rope installation is similar to installations for which a permanent variance has been previously conditionally granted. (e.g. OSHSB File No. 19-V-076)

<u>Official Notice and Incorporation by Reference—OSHSB File No. 15-V-349:</u>

8. 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:

9. 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 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.

Governor Rope and Sheave: 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 allow for the below specified governor rope and governor sheave parameters: Section 2.18.7.4.

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 speed governor rope and sheaves shall comply with the following:

    5.1. The governor shall be used in conjunction with a steel 6 mm (0.25 in.) diameter governor rope with 6-strand, regular lay construction.

    5.2. The governor rope shall have a factor of safety of 8 or greater as related to the strength necessary to activate the safety.

    5.3. The governor sheaves shall have a pitch diameter of not less than 200 mm (7.87 in.).

6. 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.

7. 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.

8. 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 procedural accordance with Title 8, Sections 411, et. seq.

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: Sept. 30, 2020

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: Schindler Model 3300 Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: September 23, 2020

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
20-V-194	Crestview HC LLC	9825 Glen Center Drive San Diego, CA	2
20-V-196	Protea National City, LLC	800 B Avenue National City, CA	2
20-V-209	Fancy Land LLC	2605 S. Sepulveda Blvd. Los Angeles, CA	1
20-V-244	GGP Northridge Fashion Center, LP, A Delaware Limited Partnership	9135 Tampa Ave. Northridge, CA	1
20-V-245	Residences on Main, L.P.	6901 S. Main St. Los Angeles, CA	1
20-V-266	MS Portfolio LLC	3401 Dale Road Modesto, CA	1
20-V-296	2401 Broadway Development Group, LLC	2455 Broadway Oakland, CA	2
20-V-297	2401 Broadway Development Group, LLC	421 25th Street Oakland, CA	1
20-V-298	Petaluma JL Land LLC	700 Caufield Lane Petaluma, 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 September 23, 2020, in Sacramento, California, and via audio/video conference link, in Monrovia 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, with the Schindler Elevator Company, appeared on behalf of each Applicant; David Morris 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 September 23, 2020, 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:

    <u>CAUTION</u>
    <u>STAY INSIDE RAILING</u>
    <u>NO LEANING BEYOND RAILING</u>
    <u>NO STEPPING ON, OR BEYOND, RAILING</u>

    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: Sept. 30, 2020

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

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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.

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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 Radar Sleep Mode Escalators	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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 Radar Sleep Mode Escalators	OSHSB File Nos. (per Section A.1 table) PROPOSED DECISION Hearing Date: September 23, 2020

A. Procedural Matters

1. Each of the following entities applied for a permanent variance from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, for the listed number of conveyances at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-255	Los Angeles World Airports	LAWA Midfield Satellite Concourse North 384 World Way Los Angeles, CA	34

2. The safety orders at issue are set forth in the prefatory portion of the Decision and Order.

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

4. This hearing was held on September 23, 2020, in Sacramento, California, via teleconference, by 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.

5. At the hearing, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator, appeared on behalf of the Applicants' representative, the Otis Elevator Company; David Morris 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.

6. Documentary and oral evidence were received at the hearing, and by stipulation of all parties, documents were admitted into evidence: modification of permanent variance application per Section A.1 table as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Review of Application 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 provisions from which variance has been requested. On September 23, 2020, the hearing and record closed, and the matter was taken under submission by the Hearing Officer.

B. Findings

Based on the record of this proceeding, the Board makes the following findings of fact:

1. Applicant seeks variance from certain California Code of Regulations, Title 8, Elevator Safety Orders, toward the stated purpose of installing new escalators that include a "sleep mode" capability that will cause the escalator to run at a reduced speed when not in use, thus resulting in conservation of electrical energy.

2. The Applicant's proposed sleep mode feature is not compliant with existing California Code of Regulation Title 8, Elevator Safety Orders, which prohibits the intentional variation of an escalator's speed after start-up.

3. In order to install escalators that include a sleep mode capability, Applicant requires a permanent variance from the provisions of California Code of Regulations, Title 8, Elevator Safety Orders, Group IV, Section 3141.11 [ASME A17.1-2004, Sections 6.1.4.1] regarding the variation of escalator speed.

4. Concerning variance in escalator speed, Code of Regulations, Title 8, Section 3141.11 [ASME A17.1-2004, Section 6.1.4.1] states:

> *"6.1.4.1 Limits of Speed. The rated speed shall be not more than 0.5 m/s (100 ft/min), measured along the centerline of the steps in the direction of travel. The speed attained by an escalator after start-up shall not be intentionally varied."*

5. As quoted above, an intent of Section 3141.11 is to ensure that the speed of the escalator during normal operation is kept constant to prevent passengers from losing their balance.

6. The Applicant contends that equivalent safety is achieved through use of a controller that is capable of varying the escalator drive motor speed in conjunction with dual

redundant sensors strategically placed at each end of the unit to detect passenger traffic. Per the Applicant's proposed design, If one of the paired passenger detection sensors is disconnected from the control system, the control system shall, without intentional delay, generate a fault while causing the escalator to exit the Sleep Mode and remain at the normal run speed until the reconnected sensor begins to function properly. Also per this design, when passenger traffic is detected while the escalator is in "Sleep Mode", a signal would be sent to the controller to "wake up" resulting in the escalator accelerating to normal operating speed within 1.5 seconds at a rate no greater than 1 ft/sec^2.

7. Applicant proposes using passenger traffic sensors capable of detecting passengers at a distance greater than a walking person could travel in 2 seconds, thereby causing the escalator to be running at normal speed prior to passenger boarding.

8. Applicant proposes design features such that if a passenger detected approaching the escalator opposite the motion of the escalator steps on it while it is in "sleep mode", an alarm will sound and the escalator will exit "sleep mode" and accelerate until it reaches normal operating speed at a rate no greater than 1ft/sec^2. Applicant contends this arrangement will safely discourage passengers from entering the escalator opposite the motion of the steps while it is idling at reduced speed.

9. The Applicant proposes sensors used to detect passenger traffic being installed and arranged in a double redundant, fail-safe fashion with 2 sensors installed at each end of the escalator providing the same coverage field.

10. Applicant's proposed sensor arrangement and redundancy can be reasonably expected to provide for passenger traffic detection in the event of any single sensor failure and provide for signal comparison by the controller to detect sensor failure.

11. Applicant proposes a design in which detected failure of any one of the passenger traffic sensors, result in a disabling of "sleep mode" such that the escalator would remain at normal operating speed until all sensors have resumed normal function. In addition the proposed design would have passenger traffic sensors wired to the escalator controller in a fail-safe manner that prevents "sleep mode" activation if the sensor wiring is cut or disconnected.

12. As evidenced by written Review of Application (Exhibit PD-4), as well as statements at hearing, it is the well informed opinion of Division that the Applicant proposed "sleep mode" function meets the requirements of ASME A17.1-2010, Section 6.1.4.1.2 regarding the varying the speed of an escalator after start-up.

13. ASME A17.1-2010, Section 6.1.4.1.2 states:

> "Variation of the escalator speed after start-up shall be permitted provided the *escalator installation conforms to all of the following:*
>
> *a) The acceleration and deceleration rates shall not exceed 0.3 m/s^2 (1.0 ft/sec^2).*
>
> *b) The rated speed is not exceeded.*
>
> *c) The minimum speed shall be not less than 0.05 m/s (10 ft/min).*
>
> *d) The speed shall not automatically vary during inspection operation.*
>
> *e) Passenger detection means shall be provided at both landings of the escalator such that*
>
> *(1) detection of any approaching passenger shall cause the escalator to accelerate to or maintain the full escalator speed conforming to 6.1.4.1.2(a) through (d)*
>
> *(2) detection of any approaching passenger shall occur sufficiently in advance of boarding to cause the escalator to attain full operating speed before a passenger walking at normal speed [1.35 m/s (270 ft/min)] reaches the combplate*
>
> *(3) passenger detection means shall remain active at the egress landing to detect any passenger approaching against the direction of escalator travel and shall cause the escalator to accelerate to full rated speed and sound the alarm (see 6.1.6.3.1) at the approaching landing before the passenger reaches the combplate*
>
> *f) Automatic deceleration shall not occur before a period of time has elapsed since the last passenger detection that is greater than 3 times the amount of time necessary to transfer a passenger between landings.*
>
> *g) Means shall be provided to detect failure of the passenger detection means and shall cause the escalator to operate at full rated speed only."*

14. The Applicant's proposed "sleep mode" function is similar to other installations for which a permanent variance has been granted (OSHSB File No. 14-V-129). In these previous variance decisions it was concluded that a variance was required from

ASME A17.1-2004, section 6.1.6.4 regarding handrail speed monitoring. Conditions set forth in the previous variance decisions allow for the disabling of the handrail speed monitoring device while the escalator is operating in slow speed "sleep mode."

15. Concerning handrail speed monitoring, Section 3141.11 [ASME A17.1-2004, Section 6.1.6.4] states:

> *"6.1.6.4 Handrail Speed Monitoring Device. A handrail speed monitoring device shall be provided that will cause the activation of the alarm required by 6.1.6.3.1(b) without any intentional delay, whenever the speed of either handrail deviates from the step speed by 15% or more. The device shall also cause electric power to be removed from the driving machine motor and brake when the speed deviation of 15% or more is continuous within a 2 s to 6 s range. The device shall be of the manual reset type."*

16. It is the well informed professional opinion of Division (see Exhibit PD-4), and Board staff (See Exhibit PD-3), that that the escalator "sleep mode" function design, as proposed by the Applicant, subject to certain conditions and limitations, will provide occupational safety and health equivalent or superior to the Code of Regulations, Title 8, Elevator Safety Order requirements from which variance is being sought, and recommends that the applied for permanent variance issue subject to conditions and limitations in material conformity with those incorporated into the Decision and Order below.

C. Basis of Decision

The preceding procedural elements, legal authority, and factual findings, supported by hearing testimony, and documents entered into evidence in this case, lead the Board to conclude that the 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 proposals, combined with the conditions set forth in the Decision and Order, will provide 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

Each above Section A.1 table specified Applicant is conditionally GRANTED permanent variance, at the respectively specified location, as to respectively specified number of conveyances, subject to all below enumerated conditions and limitations:

Permanent variance is granted, as conditionally limited below, from the following sections of ASME A17.1-2004 made applicable by CCR Title 8, Section 3141.11:

6.1.4.1, to allow intentionally varied speed; and
6.1.6.4, to allow the disabling of handrail speed monitoring at reduced speeds.

1. The Applicant may intentionally vary the escalator speed and install proximity sensors for traffic detection subject to the following:

   (a) The rate of acceleration and deceleration shall not exceed 0.3 m/s^2 (1 ft/sec^2) when transitioning between speeds.

   (b) Failure of a single proximity sensor including its associated circuitry, shall cause the escalator to revert to its normal operating speed at an acceleration of not more than 0.3 m/s^2 (1 ft/sec^2).

   (c) Automatic deceleration shall not occur before a period of time of not less than three times the time it takes a passenger to ride from one landing to the other at normal speed has elapsed.

   (d) Detection of any passenger shall cause the escalator to reach full speed before a passenger, walking at 4.5 ft/sec, reaches the comb plate.

   (e) The passenger detection means shall detect a person within a sufficient distance along all possible paths to the escalator that do not require climbing over barriers or escalator handrails to assure that the escalator attains full operating speed before a person walking at 4.5 ft/sec reaches the escalator comb plate. The minimum detection distance shall be calculated according to the following formula or alternatively according to Exhibit 1 (Detection Distance Sleep Mode Operation) attached hereto and incorporated herein by this reference:

   $d = (V_f - V_s) \times (V_w / a)$ *where:*

   d = *detection distance (ft)*

   V_f = *normal speed (ft/min) [not to exceed 100 ft/min]*

   V_s = *slow "sleep" speed (ft/min) [not less than 10 ft/min]*

   V_w = *passenger walking speed (4.5 ft/sec)*

   a = *acceleration/deceleration rate (ft/sec^2)[not to exceed 1 ft/sec^2]*

(f) Detection of any passenger approaching against the direction of escalator travel shall cause the escalator to reach full speed before a passenger, walking at 4.5 ft/sec, reaches the comb plate and shall cause the escalator alarm to sound. The sounding of the alarm may include a 3 to 5 second alarm or three 1 second alarm soundings.

(g) The minimum speed of the escalator shall not be less than 0.05 m/s (10 ft/min). The "Sleep Mode" functionality shall not affect the escalator inspection operation. The speed of the escalator shall not vary during Inspection Mode.

(h) There shall be two means of detecting passengers at each end of the escalator for redundancy and for detection of failure in the passenger detection means.

(i) The passenger sensors (detectors) at each end of the escalator must be verified by the control system for proper operation in the following manner:

1. If one of the paired passenger detection sensors is disconnected from the control system, the control system shall, without intentional delay, generate a fault while causing the escalator to exit the Sleep Mode and remain at the normal run speed until the reconnected sensor begins to function properly.

2. If one of the paired sensors at either end of the escalator does not trip while the other paired sensor trips, the control system shall, without intentional delay, generate a fault to indicate which sensor has faulted while causing the escalator to exit the Sleep Mode and remain at the normal run speed until the faulted sensor begins to function properly.

(j) The handrail speed monitoring device required by Section 6.1.6.4 may be disabled while the escalator is operating in the slow speed (Sleep Mode) condition.

2. The Applicant shall have the controller schematic diagrams available in the control space together with a written explanation of the operation of the controller.

3. An annual test shall be conducted by a Certified Competent Conveyance Mechanic (CCCM) employed by a Certified Qualified Conveyance Company (CQCC) which maintains and services the escalators, to demonstrate that the escalator is transitioning between "Normal Mode" and "Sleep Mode" and back in conformance with the terms of this

variance. The instrumentation used shall be capable of allowing the CCCM to determine the acceleration and deceleration rates of the escalator.

4. The results of each annual test required by Condition No. 3 shall be submitted to the appropriate Elevator Unit District Office in tabular and graphic form (speed vs. time).

5. Whenever practicable, as determined by the Applicant and subject to the concurrence of Division, the variable speed system is to be installed without the installation of new bollards or other such new structures, if the bollards or other structures would impede passenger movement at the destination end of the escalator. If new bollards or other such structures of that sort are constructed in connection with the variable speed system, the Applicant will take all practicable steps to minimize the impact of same on the movement of passengers at the destination end of the escalator.

6. Any CQCC performing inspection, maintenance, servicing or testing of the escalators shall be provided a copy of the variance decision.

7. Division shall be notified when each subject conveyance is ready for inspection to determine compliance with the permanent variance pursuant to this Decision and Order. Each subject conveyance shall have been inspected by Division to determine compliance with this Decision and Order, and a Permit to Operate shall have been issued and in effect, before the conveyance is placed in service.

8. 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 docketed application for permanent variance per California Code of Regulations, Title 8, Sections 411.2 and 411.3.

9. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), Division of Occupational Safety and Health, or by the Board on its own motion, in the manner prescribed pursuant to Title 8, Chapter 3.5, Subchapter 1.

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: Sept. 30, 2020

Christina Shupe, Hearing Officer

Detection Distance Sleep Mode Operation

Accurate when applied to escalators with a rated speed of **100** ft./min.

Acceleration Rate (ft./sec.^{2})	Escalator "Sleep Mode" Speed (ft./min.)																		
	10	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**95**	**100**
1.00	6.76	6.39	6.01	5.64	5.26	4.88	4.51	4.13	3.76	3.38	3.01	2.63	2.25	1.88	1.50	1.13	0.75	0.38	0.00
0.95	7.12	6.72	6.33	5.93	5.54	5.14	4.75	4.35	3.96	3.56	3.16	2.77	2.37	1.98	1.58	1.19	0.79	0.40	0.00
0.90	7.52	7.10	6.68	6.26	5.85	5.43	5.01	4.59	4.18	3.76	3.34	2.92	2.51	2.09	1.67	1.25	0.84	0.42	0.00
0.85	7.96	7.52	7.07	6.63	6.19	5.75	5.30	4.86	4.42	3.98	3.54	3.09	2.65	2.21	1.77	1.33	0.88	0.44	0.00
0.80	8.45	7.98	7.52	7.05	6.58	6.11	5.64	5.17	4.70	4.23	3.76	3.29	2.82	2.35	1.88	1.41	0.94	0.47	0.00
0.75	9.02	8.52	8.02	7.52	7.01	6.51	6.01	5.51	5.01	4.51	4.01	3.51	3.01	2.51	2.00	1.50	1.00	0.50	0.00
0.70	9.66	9.13	8.59	8.05	7.52	6.98	6.44	5.90	5.37	4.83	4.29	3.76	3.22	2.68	2.15	1.61	1.07	0.54	0.00
0.65	10.41	9.83	9.25	8.67	8.09	7.52	6.94	6.36	5.78	5.20	4.62	4.05	3.47	2.89	2.31	1.73	1.16	0.58	0.00
0.60	11.27	10.65	10.02	9.39	8.77	8.14	7.52	6.89	6.26	5.64	5.01	4.38	3.76	3.13	2.51	1.88	1.25	0.63	0.00
0.55	12.30	11.61	10.93	10.25	9.56	8.88	8.20	7.52	6.83	6.15	5.47	4.78	4.10	3.42	2.73	2.05	1.37	0.68	0.00
0.50	13.53	12.78	12.02	11.27	10.52	9.77	9.02	8.27	7.52	6.76	6.01	5.26	4.51	3.76	3.01	2.25	1.50	0.75	0.00
0.45	15.03	14.20	13.36	12.53	11.69	10.86	10.02	9.19	8.35	7.52	6.68	5.85	5.01	4.18	3.34	2.51	1.67	0.84	0.00
0.40	16.91	15.97	15.03	14.09	13.15	12.21	11.27	10.33	9.39	8.45	7.52	6.58	5.64	4.70	3.76	2.82	1.88	0.94	0.00
0.35	19.32	18.25	17.18	16.10	15.03	13.96	12.88	11.81	10.74	9.66	8.59	7.52	6.44	5.37	4.29	3.22	2.15	1.07	0.00
0.30	22.55	21.29	20.04	18.79	17.54	16.28	15.03	13.78	12.53	11.27	10.02	8.77	7.52	6.26	5.01	3.76	2.51	1.25	0.00
0.25	27.05	25.55	24.05	22.55	21.04	19.54	18.04	16.53	15.03	13.53	12.02	10.52	9.02	7.52	6.01	4.51	3.01	1.50	0.00
0.20	33.82	31.94	30.06	28.18	26.30	24.42	22.55	20.67	18.79	16.91	15.03	13.15	11.27	9.39	7.52	5.64	3.76	1.88	0.00
0.15	45.09	42.59	40.08	37.58	35.07	32.57	30.06	27.56	25.05	22.55	20.04	17.54	15.03	12.53	10.02	7.52	5.01	2.51	0.00
0.10	67.64	63.88	60.12	56.36	52.61	48.85	45.09	41.33	37.58	33.82	30.06	26.30	22.55	18.79	15.03	11.27	7.52	3.76	0.00
0.05	135.27	127.76	120.24	112.73	105.21	97.70	90.18	82.67	75.15	67.64	60.12	52.61	45.09	37.58	30.06	22.55	15.03	7.52	0.00

$$d = (V_f - V_s) \times (V_w / a)$$

d = Detection Distance (ft.)
V_f = Escalator Rated Speed (ft./min.)
V_s = Slow Speed ["Sleep Mode" Speed] (ft./min.)
V_w = Passenger Walking Speed (ft./sec.) **4.5**
a = Acceleration/Deceleration Rate (ft./sec.^{2})
1 ft./min. = **0.0167** ft./sec.

EXHIBIT 1

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 Gen2(O) and/or Gen2L (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: September 23, 2020

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-263	Ocotillo LA Pico, LLC	West End 10730 W. Pico Blvd. Los Angeles, CA	3

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 September 23, 2020, in Sacramento, California, via teleconference, by 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, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator Company, appeared on behalf of each Applicant; David Morris 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 recordings and variance decisions concerning the safety order requirements at issue. At close of hearing on September 23, 2020, 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: Sept. 30, 2020

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 Gen2S Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: September 23, 2020

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-265	Intuit Inc.	MTV22 2601 Garcia Avenue Mountain View, CA	4
20-V-267	970 Fedora LP	970 Fedora Street Los Angeles, CA	1
20-V-268	1180 LaBrea LLC	1180 S. LaBrea Avenue Los Angeles, CA	2
20-V-269	Aragon (Toluca/Colton) Properties Corp.	1315 W. Colton St. Los Angeles, CA	1
20-V-270	CG-AQ 477 South Market LLC	477 South Market Street San Jose, CA	3
20-V-271	Carlsbad Village, LLC	1040 Carlsbad Village Drive Carlsbad, CA	2
20-V-272	City of South San Francisco	SSF Police Operations & 911 Dispatch Center 900 Antoinette Lane South San Francisco, CA	2
20-V-273	Fairfield 150 Airport LP	150 Airport Blvd. South San Francisco, CA	2

20-V-274	Grafton Pacific Dev. LLC	1605 W Grafton St. Los Angeles, CA	1
20-V-275	Horizon Property, LLC	9820 Carroll Canyon Rd. San Diego, CA	1
20-V-276	Horizon Property, LLC	9830 Carroll Canyon Rd. San Diego, CA	1
20-V-277	Horizon Property, LLC	9870 Carroll Canyon Rd. San Diego, CA	1
20-V-278	Horizon Property, LLC	9880 Carroll Canyon Rd. San Diego, CA	1
20-V-279	MacArthur PSH, L.P.	657 W. MacArthur Blvd. Oakland, CA	1
20-V-280	The Arden, LLC	3638 S. Motor Ave Los Angeles, CA	1
20-V-281	Washington View LP	1928 S Estella Ave Los Angeles, CA	1
20-V-282	Windy Hill PV Five CM LLC	610 Walnut Street Redwood City, CA	2
20-V-283	Jefferson La Mesa, LLC	4949 Baltimore Dr. La Mesa, CA	4
20-V-287	MCREF Selma & Highland LLC	Modera Hollywood - Bldg A2 6765 W Selma Ave. Los Angeles, CA	1
20-V-288	Barranca Studios LP	2020 N. Barranca St. Los Angeles, CA	3
20-V-289	Yogesh Patel	107 Long Beach Blvd. Long Beach, CA	2
20-V-306	NASH - Holland 24th and Harrison Investors, LLC	24th and Harrison 277 27th Street Oakland, CA	3
20-V-307	Smoky Hollow Industries, LLC	140 Oregon Street El Segundo, CA	2

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 September 23, 2020, in Sacramento, California, via teleconference, by 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, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator, appeared on behalf of each Applicant; David Morris 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 September 23, 2020, 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: Sept. 30, 2020

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 E2 Controller w/variant Railing and Gov. (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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 E2 Controller w/variant Railing and Gov. (Group IV)	OSHSB File Nos.: Per Section A.1 table below PROPOSED DECISION Hearing Date: September 23, 2020

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 a conveyance, or conveyances, in the listed quantity, at the listed location:

Variance No.	Applicant Name	Variance Location Address	No. of Elevators
20-V-284	CORE/Related Grande Ave Owner LLC	100 S. Grand Ave Los Angeles, CA	6
20-V-285	CORE/Related Grande Ave Owner LLC	151 S Olive St Los Angeles, CA	7

2. The subject safety order requirements are specified in the portion of the below Decision and Order, preceding the variance conditions.

3. Jurisdiction: these proceedings are conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

B. Procedural:

1. This hearing was held on September 23, 2020, in Sacramento, California, via teleconference, by 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, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator, appeared on behalf of each Applicant; David Morris 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: permanent variance applications per Section A.1 table as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Board staff Pending Application 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 Otis elevators. At close of hearing on September 23, 2020, the record was closed, and the 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. The installation contracts for elevators, the subject of permanent variance application(s) specified per Section A.1 table, were signed on or after May 1, 2008, making the elevators subject to the Group IV Elevator Safety Orders ("ESO").

2. Each Applicant proposes the use of a Safety Integrity Level (SIL) rated software system and circuits consisting of three computer control boards that communicate on a Control Area Network (CAN) to monitor elevator safety devices and perform certain safety functions. Elevator electrical protective devices (EPDs) and other control devices are connected to these control boards. Software specifically designed for this SIL system continuously monitors these devices and performs certain elevator safety functions. The design of this SIL rated software system and its related circuits includes a required redundant means to remove the power from the driving machine motor and brake under certain conditions. Currently in effect Title 8 ESOs do not allow this redundancy to be solely dependent on a software controlled means as proposed by the Applicant.

3. Use of the SIL rated software system and its related circuits, as proposed by the Applicant, would be compliant with requirements of ASME A17.1-2013, Section 2.26.9.3.2.

4. Section 3141 [referencing ASME A17.1-2004, Section 2.14.1.7.1] states: "A standard railing conforming to 2.10.2 shall be provided on the outside perimeter of the car top on all sides where the perpendicular distance between the edges of the car top and the adjacent hoistway enclosure exceeds 300 mm (12 in.) horizontal clearance."

5. A safety enhancing purpose of this code requirement is to provide fall protection from a potentially hazardous condition. The code requires the handrails to be installed at the perimeter of the car to prevent persons or objects from occupying the area beyond the handrail adjacent to an opening through which a person could fall a distance posing risk of serious injury or death.

6. Each Applicant proposes to inset the car top railings in a manner consistent with previous permanent variances granted to Otis Gen2S products. (e.g. OSHSB File Nos. 14-V-375, 16-V-360)

7. Use of inset car top railings as proposed by the Applicant, subject to conditions per below Section E, Decision and Order, will provide safety equivalent to that of ASME A17.1-2004, Section 2.14.1.7.1, requirements from which permanent variance is sought.

8. Section 3141 [referencing ASME A17.1-2004, Section 2.18.7.4], as well as 8 CCR § 3141.7(a)(10) specify the pitch diameter of governor sheaves and governor tension sheaves relative to the diameter of the governor rope, given certain rope construction and material.

9. A safety enhancing purpose of ASME A17.1-2004, Section 2.18.7.4, is to prevent the bending of the governor rope around a sheave of insufficient diameter, such that it could reduce the rope's life expectancy and working strength.

10. Each Applicant's proposed use of a governor with sheave pitch diameter of not less than the product of the governor rope diameter and a multiplier of 30, in conjunction with a steel governor rope with a diameter of 8 mm (0.315 in.), 8 strand construction, and a factor of safety of 8 or greater, subject to conditions per below Section E, Decision and Order, will provide safety equivalent to that of the subject ESO requirements from which permanent variance is sought.

11. In its evaluation of application for permanent variance, OSHSB 16-V-042, dated February 24, 2016, the Division states that the Occupational Safety and Health Standards Board has granted permanent variances for installations similar to those for which variance is now sought (e.g. OSHSB File No. 15-V-169).

12. Both by way of its written evaluation (Exhibit PD-4), and statements at hearing, Division has taken the position that each Applicant's proposal for permanent variance and means of safety equivalence, subject to Division recommended conditions (in substantial part incorporated into the below Decision and Order), will provide safety equivalent to the Title 8 standards from which permanent variance is sought. Further, at hearing in the matter, Board staff stated full concurrence with the foregoing position of Division.

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 that is the subject of this proceeding, as specified per the Section A.1 table, is conditionally GRANTED as specified below, and to the extent, as of the date the Board adopts this Proposed Decision, each specified Applicant shall have permanent variance from California Code of Regulations, Title 8, Section 3141 [ASME A17.1-2004, Sections 2.26.9.4, 2.14.1.7.1, 2.18.7.4, and 2.18.5.1] of the Elevator Safety Orders, with respect to the means of removing power from driving machine motor and brakes, car top railings, and reduced governor sheave diameter, subject to the following conditions:

1. 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 the car top area 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 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).

2. 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.).

3. The SIL rated software system and its related circuits shall comply with the following:

a. The SIL-rated software system and related circuits shall consist of three circuit board components (SSIB, KSIB, and HSIB), each labeled or marked with the SIL rating (not less than SIL 3), the name or mark of the certifying organization, and the SIL certification number (AEB 012, EU-ESD 012 or both) followed by the applicable revision number (as in AEB 012/2, EU-ESD 012/1).

b. The software system and related circuits shall be certified for compliance with the applicable requirements of ASME A17.1-2013 Section 2.26.4.3.2.

c. The access door or cover of the enclosures containing the SIL rated components shall be clearly labeled or tagged on their exterior with the statement:

Assembly contains SIL rated devices.
Refer to Maintenance Control Program and
wiring diagrams prior to performing work.

d. Unique maintenance procedures or methods required for the inspection, tests and replacement of the SIL rated circuits shall be developed and a copy maintained in the elevator machine room. The procedures or methods shall include clear color photographs of each SIL rated component, with notations indicating part identification and location installed.

e. Wiring diagrams that include part identification, SIL, and certification information, shall be maintained in the elevator machine room.

f. A successful test of the SIL rated software system and its related circuits shall be conducted initially and not less than annually in accordance with the testing procedure. The test shall demonstrate that SIL rated devices, safety functions, and related circuits operate as intended.

g. Alterations to the SIL rated software system and its related circuits shall be made in compliance with the Elevator Safety Orders. If the Elevator Safety Orders do not contain specific provisions for the alteration of SIL rated devices the alterations shall be made in conformance with ASME A17.1-2013, Section 8.7.1.9.

h. Replacement of the SIL rated software system or its related circuits shall be made in compliance with the Elevator Safety Orders. If the Elevator Safety Orders do not contain specific provisions for the replacement of SIL rated devices, the replacement shall be made in conformance with ASME A17.1-2013, Section 8.6.3.14.

i. Repairs to the SIL rated software system and its related circuits shall be made in compliance with the Elevator Safety Orders. If the Elevator Safety Orders do not contain specific provisions for the repair of SIL rated devices, the repairs shall be made in conformance with ASME A17.1-2013, Section 8.6.2.6.

j. Any space containing SIL rated software or circuits shall be maintained within the temperature and humidity range specified by Otis Elevator Company. The temperature and humidity range shall be posted on each enclosure containing SIL rated software or circuits.

k. Field software changes are not permitted. Any changes to the TUV certified SIL rated software will require updated documentation and recertification.

4. 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 elevator system (including SIL 3-rated devices) in accordance with the written procedures and criteria required by Condition No. 3 and in accordance with the terms of this permanent variance.

5. Any Certified Qualified Conveyance Company performing inspections, maintenance, servicing, or testing of the elevators shall be provided a copy of this variance decision.

6. 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.

7. 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.

8. 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 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: Sept. 30, 2020

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: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: September 23, 2020

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-290	Los Angeles World Airports	Los Angeles International Airport Terminal 3 300 World Way Los Angeles, CA	13
20-V-305	NASH - Holland 24th and Harrison Investors, LLC	24th and Harrison 277 27th Street Oakland, CA	5

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 September 23, 2020, in Sacramento, California, via teleconference, by 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, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator Company, appeared on behalf of each Applicant; David Morris 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 recordings and variance decisions concerning the safety order requirements at issue. At close of hearing on September 23, 2020, 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: Sept. 30, 2020

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: KONE Monospace 500 Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: September 30, 2020 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

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: October 15, 2020

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: September 23, 2020

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-291	Pacific Landing Santa Monica, L.P.	2120 Lincoln Boulevard Santa Monica, CA	1
20-V-292	Vista Ballona, L.P.	3960 South Grand View Boulevard Los Angeles, CA	1
20-V-293	Urbana at North Park, LLC	4360 Utah Street San Diego, CA	1
20-V-308	One De Haro, LLC	1 De Haro Street San Francisco, CA	2
20-V-309	Mineta San Jose International Airport Economy Lot Parking Garage	2300 Airport Blvd. Economy Lot 1 San Jose, CA	4

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 September 23, 2020, in Sacramento, California via teleconference, by 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, Daniel May, with KONE, Inc., appeared on behalf of each Applicant; David Morris 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 September 23, 2020, 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:

$$W = (S \times N)/f$$

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: Sept. 30, 2020

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-291	1	8	350	11,706
20-V-292	1	6	350	8,780
20-V-293	1	7	200	11,556
20-V-308	1	8	150	13,977
20-V-308	2	8	150	13,977
20-V-309	E1A	7	150	12,247
20-V-309	E1B	7	150	12,247
20-V-309	E2A	7	150	12,247
20-V-309	E2B	7	150	12,247

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.

Occupational Safety and Health Standards Board

Business Meeting

Legislative Update

No summaries changes for any bill from last month

AB 685, as amended, COVID-19: imminent hazard to employees: exposure: notification: serious violations. (Reyes)

AB-1512 as amended, Security officers: rest periods. (Carrillo/*Durazo*)

AB-2028 - as amended, State agencies: meetings. (Aguiar-Curry) **No changes from last month**

AB-2043 Occupational safety and health: agricultural employers and employees: COVID-19 response. (Rivas-Garcia-Gonzalez/Bonta)

AB 2092 - Emergency ambulance employees: safety devices and safeguards. (Rodriguez)

AB-2537 - Personal protective equipment: health care employees. (Rodriguez)

AB-3056 as amended, Warehouse distribution centers. (Gonzalez) **No changes from last month**

SB-275 Health Care and Essential Workers Protection Act: personal protective equipment. (Pan-Leyva)

SB-1257 as amended, Employment safety standards: household domestic services. (Durazo)

Legislative Update,
October 15, 2020
Meeting of the Occupational Safety and Health Standards Board

AB 685

AB 685, as amended, COVID-19: imminent hazard to employees: exposure: notification: serious violations. (Reyes)

Date	Action
Date	Action
09/17/20	Chaptered by Secretary of State - Chapter 84, Statutes of 2020.
09/17/20	Approved by the Governor.
09/08/20	Enrolled and presented to the Governor at 1:30 p.m.

Summary:

(1) Existing law, the California Occupational Safety and Health Act of 1973 (OSHA), requires the Division of Occupational Safety and Health, when, in its opinion, a place of employment, machine, device, apparatus, or equipment or any part thereof is in a dangerous condition, is not properly guarded, or is dangerously placed so as to constitute an imminent hazard to employees, to prohibit entry or use, as applicable, and to attach a conspicuous notice of that condition, as specified. OSHA requires that this prohibition be limited to the immediate area in which the imminent hazard exists. OSHA prohibits this notice from being removed except by an authorized representative of the division under certain conditions. OSHA makes a violation of this provision regarding dangerous conditions a crime.

This bill would authorize the division, when, in its opinion, a place of employment, operation, or process, or any part thereof, exposes workers to the risk of infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, also known as COVID-19), so as to constitute an imminent hazard to employees, to prohibit the performance of that operation or process, or entry into that place of employment. The bill would require the division to provide a notice thereof to the employer, to be posted in a conspicuous place at the place of employment. The bill would require such a prohibition to be limited to the immediate area in which the imminent hazard exists, as specified. The bill would require such a prohibition to be issued in a manner so as not to materially interrupt the performance of critical governmental functions essential to ensuring public health and safety functions or the delivery of electrical

power or water. By expanding the scope of a crime, the bill would impose a state-mandated local program.

This COVID-19 imminent hazard provision would be repealed on January 1, 2023.

(2) Existing law requires an employer to file a report of every occupational injury or occupational illness, as defined, of each employee that results in lost time beyond the date of the injury or illness, and that requires medical treatment beyond first aid, with the Department of Industrial Relations, on a form prescribed by the department. Existing law requires an employer to immediately report a serious occupational injury, illness, or death to the division by telephone or email, as specified.

This bill would require a public or private employer or representative employer, except as specified, that receives a notice of potential exposure to COVID-19 to provide specified notifications to its employees within one business day of the notice of potential exposure. The bill would require the employer to provide prescribed notice to all employees, and the employers of subcontracted employees, who were on the premises at the same worksite as a qualifying individual, as defined, within the infectious period, as defined, that they may have been exposed to COVID-19. The bill would require notice to the exclusive representative, if any, of notified employees. The bill would require an employer to provide those employees and any exclusive representative with certain information regarding COVID-19-related benefits and options. The bill would require an employer to notify all employees, the employers of subcontracted employees, and any exclusive representative on the disinfection and safety plan that the employer plans to implement and complete per the guidelines of the federal Centers for Disease Control. The bill would require an employer to maintain records of notifications for at least 3 years. The bill would provide for a specified civil penalty for an employer that violates the notification requirements. The bill would define additional terms for its purposes.

The bill would require an employer, if the employer or representative of the employer is notified of the number of cases that meet the definition of a COVID-19 outbreak, as defined, within 48 hours, to report prescribed information to the local public health agency in the jurisdiction of the worksite. The bill would require an employer that has an outbreak to continue to give notice to the local health department of any subsequent laboratory-confirmed cases of COVID-19 at the worksite. The bill would exempt a health facility, as defined, from this reporting requirement.

The bill would require the State Department of Public Health to make specified information on outbreaks publicly available on its internet website, as specified. The bill would require local public health departments and the division to provide a link to this page on its internet websites. By requiring additional duties from local public health departments, this bill would impose a state-mandated local program.

These notice and reporting provisions would be repealed on January 1, 2023.

	(3) OSHA creates a rebuttable presumption that a "serious violation" exists in a place of employment if the division demonstrates that there is a realistic possibility that death or serious physical harm could result from the actual hazard created by the violation. OSHA requires the division, before issuing a citation alleging that a violation is serious, to make a reasonable attempt to determine and consider certain facts. This OSHA requirement is satisfied if the division sends, at least 15 days before issuing such a citation, a standardized form containing descriptions of the alleged violation the division intends to cite as serious and clearly soliciting the prescribed information. OSHA permits an employer to rebut the presumption, as prescribed, and establishes inferences that may be drawn at hearing with regard to information provided by an employer in rebuttal. This bill would exempt a citation alleging a serious violation relating to SARS-CoV-2 from the precitation standardized form provision and the rebuttal at hearing provision. This exemption would be repealed on January 1, 2023. (4) 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 with regard to certain mandates no reimbursement is required by this act for a specified reason. With regard to any other mandates, this bill would provide that, if the Commission on State Mandates determines that the bill contains costs so mandated by the state, reimbursement for those costs shall be made pursuant to the statutory provisions noted above. (5)Existing constitutional provisions require that a statute that limits the right of access to the meetings of public bodies or the writings of public officials and agencies be adopted with findings demonstrating the interest protected by the limitation and the need for protecting that interest. This bill would make legislative findings to that effect.

AB 1512

AB-1512 as amended, Security officers: rest periods. (Carrillo/*Durazo*)

Date	Action
09/30/20	Chaptered by Secretary of State - Chapter 343, Statutes of 2020.
09/30/20	Approved by the Governor.
09/14/20	Enrolled and presented to the Governor at 4 p.m.

Summary:

Existing law prohibits an employer from requiring an employee to work during a mandated meal or rest or recovery period, as specified. Existing law requires an employer who fails to provide an employee a mandated meal or rest or recovery period to pay the employee one additional hour of pay at the employee's regular rate of compensation for each workday that the meal or rest or recovery period was not provided. Existing law provides certain exemptions from these requirements.

Existing law, the Private Security Services Act, provides for the licensing and regulation of private security guards, private patrol operators, and armored contract carriers by the Bureau of Security and Investigative Services.

This bill, until January 1, 2027, would authorize a person employed as a security officer who is registered pursuant to the Private Security Services Act, and whose employer is a registered private patrol operator, to be required to remain on the premises during rest periods and to remain on call, and carry and monitor a communication device, during rest periods. The bill would require a security officer to be permitted to restart a rest period anew as soon as practicable if the officer's rest period is interrupted and would provide that a subsequent uninterrupted rest period satisfies the rest period obligation. If a security officer is not permitted to take an uninterrupted rest period of at least 10 minutes for every 4 hours worked or major fraction thereof, the bill would require the officer to be paid one additional hour of pay at the employee's regular base hourly rate of compensation. The bill would require that certain conditions be satisfied before these provisions apply, and would specify these provisions do not apply to cases filed before January 1, 2021.

This bill would declare that it is to take effect immediately as an urgency statute.

AB 2028

AB-2028 - as amended, State agencies: meetings. (Aguiar-Curry)

Date	Action
09/01/20	Ordered to inactive file by unanimous consent.
08/24/20	Read second time. Ordered to third reading.
08/20/20	Read second time and amended. Ordered returned to second reading.
08/20/20	From committee: Amend, and do pass as amended. (Ayes 5. Noes 0.) (August 20).
08/19/20	In committee: Referred to APPR. suspense file.
08/14/20	From committee: Do pass and re-refer to Com. on APPR. (Ayes 13. Noes 0.) (August 14). Re-referred to Com. on APPR.

Summary:

Existing law, the Bagley-Keene Open Meeting Act, requires that a state body provide an opportunity for members of the public to directly address the body on each agenda item. Existing law exempts from this requirement, among other things, an agenda item that has already been considered by a committee composed exclusively of members of the state body at a public meeting where members of the public were afforded an opportunity to address the committee on the item.

This bill would delete this exception, thereby making the requirement to provide an opportunity to address the state body applicable to an agenda item for which the public had an opportunity to address it at a public meeting of a committee of the state body.

AB 2043

AB-2043 Occupational safety and health: agricultural employers and employees: COVID-19 response. (Rivas-Garcia-Gonzalez/Bonta)

Date	Action
09/28/20	Chaptered by Secretary of State - Chapter 212, Statutes of 2020.
09/28/20	Approved by the Governor.
09/10/20	Enrolled and presented to the Governor at 2:30 p.m.
09/28/20	Chaptered by Secretary of State - Chapter 212, Statutes of 2020.
09/28/20	Approved by the Governor.
09/10/20	Enrolled and presented to the Governor at 2:30 p.m.

Summary:

This bill would require the division to disseminate, in both English and Spanish, information on best practices for COVID-19 infection prevention, as specified, consistent with the Guidance Documents available on the division's internet website, including, but not limited to, the Guidance Document entitled, "Cal/OSHA Safety and Health Guidance: COVID-19 Infection Prevention for Agricultural Employers and Employees." The bill would also require the division to work collaboratively with community organizations and organizations representing employees and employers to conduct a statewide outreach campaign, targeted at agricultural employees, to assist with the statewide dissemination of the best practices information and to educate employees on any COVID-19-related employment benefits to which they are entitled, including access to paid sick leave and workers' compensation. The bill would require the campaign to include public service announcements on local Spanish radio stations and the distribution of workplace signs. The bill would require the division to routinely compile and report, via its internet website, information relating to the subject matter, findings, and results of any investigation by the division relating to practices or conditions prescribed in the Guidance Documents or a COVID-19 illness or injury at a workplace of agricultural employees, as specified. The bill would repeal these provisions when the state of emergency has been terminated by proclamation of the Governor or by concurrent resolution of the Legislature, as specified. The bill would also direct the

<table>
<tr><td></td><td>division to enforce the Guidance Documents to the extent any specific Guidance Document applies to any specific workplace and to the extent the division has existing regulatory authority.

This bill would declare that it is to take effect immediately as an urgency statute.</td></tr>
<tr><td>AB 2092</td><td>AB 2092 - Emergency ambulance employees: safety devices and safeguards. (Rodriguez)

<table><tr><th>Date</th><th>Action</th></tr><tr><td>09/28/20</td><td>Vetoed by Governor.</td></tr><tr><td>09/10/20</td><td>Enrolled and presented to the Governor at 2:30 p.m</td></tr></table>
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.

This bill would require an emergency ambulance provider to inform each emergency ambulance employee, upon initial employment and subsequently on an annual basis, of the employee’s right to request safety devices and safeguards, as defined, at the beginning of the employee’s shift. By creating a new duty 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.</td></tr>
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<tr><td>AB 2537</td><td>AB-2537 - Personal protective equipment: health care employees. (Rodriguez)

<table><tr><th>Date</th><th>Action</th></tr><tr><td>09/29/20</td><td>Chaptered by Secretary of State - Chapter 313, Statutes of 2020.</td></tr><tr><td>09/29/20</td><td>Approved by the Governor.</td></tr></table></td></tr>
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09/11/20	Enrolled and presented to the Governor at 3 p.m.

Summary:

Existing law requires an employer to furnish employment and a place of employment that is safe and healthful for the employees and to establish, implement, and maintain an effective injury prevention program, as prescribed. Regulations enacted by the Department of Industrial Relations regulate the nature and use personal protective equipment and regulate practices in health care facilities connected with aerosol transmissible diseases.

This bill would require public and private employers of workers in a general acute care hospital, as defined, to supply those employees who provide direct patient care or provide services that directly support personal care with the personal protective equipment necessary to comply with the regulations described above, as specified. The bill would also require an employer to ensure that the employees use the personal protective equipment supplied to them. The bill would further require that an employer in this context, beginning April 1, 2021, maintain a supply of specified equipment in an amount equal to 3 months of normal consumption. The bill would require an employer to provide an inventory of its stockpile and a copy of its written procedures, as specified, to the Division of Occupational Safety and Health upon request. The bill would authorize the assessment of a civil penalty of up to $25,000 for each violation to maintain the required stockpile, except in certain circumstances. The bill would make a statement of legislative findings. The bill would require an employer who is obligated to maintain an equipment stockpile and who controls a facility or setting in which another employer provides health care services to maintain the required equipment for the other employer.

The bill would require a general acute care hospital, on or before January 15, 2021, to be prepared to report to the Department of Industrial Relations, under penalty of perjury, its highest 7-day consecutive daily average consumption of personal protective equipment during the 2019 calendar year and would exempt general acute care hospitals under the jurisdiction of the State Department of State Hospitals from this requirement, as specified. The bill would require an employer to establish and implement effective written procedures for periodically determining the quantity and types of equipment used in its normal consumption. The bill would also authorize the division to enforce these provisions through the issuance of citations, as specified. By expanding the crime of perjury, the 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.

AB 3056

AB-3056 as amended, Warehouse distribution centers. (Gonzalez)

Date	Action
09/01/20	Died on call pursuant to Article IV, Section 10(c) of the Constitution.
09/01/20	Read third time. Refused passage.
08/24/20	Read second time. Ordered to third reading.
08/20/20	Read second time and amended. Ordered returned to second reading.
08/20/20	From committee: Amend, and do pass as amended. (Ayes 5. Noes 2.) (August 20).
08/13/20	In committee: Referred to APPR. suspense file.

Summary:

This bill would enact prescribed protections for certain warehouse and distribution center employees. The bill would prohibit an employer from imposing a quota upon an employee under which reasonable amounts of time that the employee spends on any of the specified activities is counted toward the time required for completing the quota, or results in the employee having less time to complete the quota. The bill would define terms for its purposes.

This bill, except as specified, would require the Division of Labor Standards Enforcement to enforce its provisions. The bill would require the Labor Commissioner to investigate alleged violations of these provisions and order appropriate temporary measures pending the completion of a full investigation or hearing. The bill would also authorize the Labor Commissioner to order appropriate relief for employees or other persons whose rights were violated and take appropriate enforcement actions, including imposing civil penalties, against employers, as provided. The bill would authorize the commissioner to adopt regulations to implement its provisions.

This bill would subject an employer who violates the quota prohibition to civil penalties.

SB-275

SB-275 as amended, Health Care and Essential Workers Protection Act: personal protective equipment. (Pan-Leyva)

Date	Action
09/29/20	Chaptered by Secretary of State. Chapter 301, Statutes of 2020.
09/29/20	Approved by the Governor.

Summary:
SB 275, as amended, Pan. Health Care and Essential Workers: personal protective equipment.

Existing law establishes the State Department of Public Health to implement various programs throughout the state relating to public health, including licensing and regulating health facilities and control of infectious diseases.

This bill would require the State Department of Public Health and the Office of Emergency Services, in coordination with other state agencies, to, upon appropriation and as necessary, establish a personal protective equipment (PPE) stockpile. The bill would require the department to establish guidelines for the procurement, management, and distribution of PPE, taking into account, among other things, the amount of each type of PPE that would be required for all health care workers and essential workers in the state during a 90-day pandemic or other health emergency.

Existing law requires every employer to furnish and use safety devices and safeguards, and to adopt and use practices that are reasonably adequate to render the employment and place of employment safe and healthful.

The bill would, commencing January 1, 2023, or one year after the adoption of specified regulations, whichever is later, require health care employers, including clinics, health facilities, and home health agencies, to maintain an inventory of new, unexpired PPE for use in the event of a declared state of emergency and would require the inventory to be at least sufficient for 45 days of surge consumption, as determined by regulation, as specified. The bill would assess a civil penalty on a health care employer who violates that requirement, as specified. The bill would authorize the Department of Industrial Relations to exempt a health care employer from the above-required civil penalties if the department determines that supply chain limitations make meeting the mandated level of supplies for a specific type of PPE infeasible and the health care employer has made a reasonable attempt to obtain PPE, or if the health care employer has made a showing that they are not in possession of the mandated level of supplies due to reasons beyond their control, as specified.

	The bill would require the Department of Industrial Relations to adopt regulations, in consultation with the State Department of Public Health, setting forth requirements for determining 45-day surge capacity levels, as specified, for a health care employer's PPE inventory. The bill would also establish the Personal Protective Equipment Advisory Committee, consisting of representatives from skilled nursing facilities, physicians, and labor organizations that represent health care workers, among other groups, to make recommendations for the development of guidelines for the procurement, management, and distribution of PPE, as specified.

SB 1257	**SB-1257 as amended, Employment safety standards: household domestic services.** (Durazo) **Date** / **Action** 09/29/20 — In Senate. Consideration of Governor's veto pending. 09/29/20 — Vetoed by the Governor. 09/10/20 — Enrolled and presented to the Governor at 3 p.m. Summary: Existing law, the California Occupational Safety and Health Act of 1973, requires employers to comply with certain standards ensuring healthy and safe working conditions, as specified. Existing law charges the Division of Occupational Safety and Health within the Department of Industrial Relations with enforcement of the act, subject to oversight by the Chief of the Division of Occupational Safety (chief). Existing law makes a violation of the act a crime Existing law defines "employment," for purposes of the act, to include the carrying on of any trade, enterprise, project, industry, business, occupation, or work, including all excavation, demolition, and construction work, or any process or operation in any way related thereto, in which any person is engaged or permitted to work for hire, except household domestic service. This bill would delete the above-described exception for household domestic service, thereby making it subject to the act. The bill would provide, however, that "employment" does not include household domestic service that is publicly funded, as

	specified, unless it is subject to certain regulatory provisions. The bill would make coverage for household domestic service operative on January 1, 2022, as specified. By expanding the scope of a crime, the bill would impose a state-mandated local program. The bill would require the chief or a representative of the chief to convene an advisory committee, within 6 months of convening, in consultation with the Commission on Health and Safety and Workers' Compensation, to make findings and recommendations to the Occupational Safety and Health Standards Board for industry-specific regulations related to household domestic service. The bill would further require the board to adopt industry-specific regulations pursuant to these provisions within a reasonable time and no later than January 1, 2022. Existing law authorizes the chief and all qualified and authorized division inspectors and investigators to have free access to any place of employment to make an investigation or inspection during regular working hours, and at other reasonable times when necessary, for the protection of safety and health. This bill would require the chief or their representative, when the workplace is a residential dwelling, to initiate telephone contact with the employer in response to an alleged violation received from a domestic service employee within a specified timeframe. The bill would require the chief or their representative to provide specified notice to the employer about the alleged violation and to investigate the violation in accordance with certain procedures. The bill would require the employer to provide specified information to the division regarding mitigation efforts to correct the violation and to provide copies of all correspondence received from the division to the domestic service employee. The bill would authorize the chief or their authorized representative, for complaints alleging serious illness or injury or death in household domestic service, to enter the premises with permission or with an inspection warrant without first initiating telephone contact, as specified. The bill would require investigations of complaints in household domestic service employment to be conducted in a manner that avoids any unwarranted invasion of personal privacy and to not contain any personal, financial, or medical information of residents residing in the residential dwelling that is not pertinent to the investigation of the complaint. 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.

Occupational Safety and Health Standards Board

Business Meeting

Executive Officer Report