Occupational Safety and Health Standards Board

Public Meeting, Public Hearing and Business Meeting

November 19, 2020

Via teleconference / videoconference

Board Meeting Packet

STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

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

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.

November 19, 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 November.

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 DISCUSSION (COVID-19 Prevention Emergency Regulations)

A. The Board will hold a public discussion of the draft COVID-19 Prevention emergency regulations that will be considered for adoption.

1. Presentation of Draft Proposed Text

2. Public Comment on COVID-19 Prevention proposal

3. Board Discussion

**The draft regulations for this discussion will be posted on our website as soon as feasible at: https://www.dir.ca.gov/oshsb/mtgsch.html*

III. PUBLIC MEETING (Open for Public Comment)

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

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

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

A. PUBLIC COMMENT

B. ADJOURNMENT OF THE PUBLIC MEETING

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

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

A. REPORTS

1. Division Update

2. Legislative Update

3. Executive Officer's Report

B. PROPOSED VARIANCE DECISIONS FOR ADOPTION

1. Consent Calendar

C. PROPOSED EMERGENCY SAFETY ORDERS FOR ADOPTION (GOV. CODE SEC. 11346.1)

1. TITLE 8: **GENERAL INDUSTRY SAFETY ORDERS**
Chapter 4, Subchapter 7, New Sections 3205, 3205.1, 3205.2, 3205.3 and 3205.4
COVID-19 Prevention

D. NEW BUSINESS

1. Future Agenda Items

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

E. CLOSED SESSION

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

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

3. Personnel

F. RETURN TO OPEN SESSION

1. Report from Closed Session

G. ADJOURNMENT OF THE BUSINESS MEETING

Next Meeting: December 17, 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.

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

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 **November 19, 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 **November 19, 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).

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 hearing.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

DAVE THOMAS, Chairman

Occupational Safety and Health Standards Board

Business Meeting

Variance Consent Calendar

CONSENT CALENDAR—PROPOSED VARIANCE DECISIONS
NOVEMBER 19, 2020, MONTHLY BUSINESS MEETING
OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

A. URBAN VILLAGES SAN MARCOS, LLC — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
13-V-307M2	Urban Villages San Marcos, LLC	Elevator	GRANT

B. TUTOR PERINI / O&G JOINT VENTURE — HEARD NOVEMBER 7, 2019

OSHSB FIE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
18-V-18	Tutor Perini / O&G Joint Venture	TSO	GRANT

C. 15/23 GRACE STREET, LLC — HEARD OCTOBER 21, 2020

OSHSB FIL NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
18-V-276M	15/23 Grace Street, LLC	Elevator	GRANT

D. SHEA/PARSONS JOINT VENTURE — HEARD JUNE 11, 2020

OSHSB FIL NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
18-V-456	Shea/Parsons Joint Ventu	TSO & CSO	DENY

E. DEPARTMENT OF STATE HOSPITALS (DSH) — HEARD AUGUST 30, 2019

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
19-V-028	Department of State Hospitals (DSH)	GISO	GRANT

F. CLYDE AVENUE JOINT VENTURE LLC — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
19-V-460M1	Clyde Avenue Joint Venture LLC	Elevator	GRANT

G. SCHINDLER 3300 WITH SIL-RATED DRIVE TO DE-ENERGIZE DRIVE MOTOR — HEARD OCTOBER 22, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-108	950 ECR LLC	Elevator	GRANT
20-V-151	Fairmount Family Housing CIC LP	Elevator	GRANT
20-V-152	Fairmount Senior Housing CIC LP	Elevator	GRANT
20-V-174	1501 N. Blackstone Ave., L.P.	Elevator	GRANT
20-V-176	GPAI Davis Student Housing, LLC	Elevator	GRANT
20-V-186	LAMP Lodge LP	Elevator	GRANT
20-V-229	LINC-CORE Fairview Metro LP	Elevator	GRANT
20-V-230	LINC-CORE Fairview Metro LP	Elevator	GRANT
20-V-231	INJAE, Inc.	Elevator	GRANT
20-V-249	5950 Jefferson, LLC	Elevator	GRANT
20-V-264	2812 W. Temple, LLC	Elevator	GRANT
20-V-301	Garden Grove Hotel, LLC	Elevator	GRANT
20-V-302	Chandler Apartments of California, LLC	Elevator	GRANT
20-V-321	LINC-PCH LP	Elevator	GRANT
20-V-322	Missouri and Bundy Housing. L.P.	Elevator	GRANT

H. PATTON EQUITIES LLC — HEARD OCTOBER 22, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-128	Patton Equities LLC	Elevator	GRANT/DENY

I. OTIS ELEVATOR CONTROLLER ALTERATION (GROUP IV) — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-286	Hawthorne Plaza Associates LLC	Elevator	GRANT

J. VISION VIEW PARTNERS — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-299	Vision View Partners	Elevator	GRANT

K. SCHINDLER MODEL 3300 ELEVATORS WITH VARIANT GOV. (GROUP IV) — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-310	Poway Property LP	Elevator	GRANT

L. SCHINDLER MODEL 3300 ELEVATORS (GROUP IV) — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-311	Poway Property LP	Elevator	GRANT

M. SCHINDLER SLEEP MODE ESCALATORS — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-312	Los Angeles World Airports	Elevator	GRANT
20-V-313	Los Angeles World Airports	Elevator	GRANT

20-V-314	Los Angeles World Airport	Elevator	GRANT
20-V-315	Los Angeles World Airport	Elevator	GRANT
20-V-316	Los Angeles World Airport	Elevator	GRANT

N. <u>OTIS GEN2S ELEVATORS (GROUP IV) — HEARD OCTOBER 21, 2020</u>

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-317	DEANZA PROPERTIES	Elevator	GRANT
20-V-318	Empire at Larchmont LLC	Elevator	GRANT
20-V-326	Kaiser Foundation Health Plan, Inc.	Elevator	GRANT
20-V-329	Villa Street Apartments, a California Limited Partnership	Elevator	GRANT
20-V-330	City of Hope National Medical Center	Elevator	GRANT
20-V-331	City of Sacramento	Elevator	GRANT
20-V-336	Camden USA, Inc.	Elevator	GRANT
20-V-337	Camden USA, Inc.	Elevator	GRANT
20-V-338	Camden USA, Inc.	Elevator	GRANT
20-V-339	California State University, Los Angeles	Elevator	GRANT
20-V-340	1122 7th Street LLC	Elevator	GRANT
20-V-341	Thomas Safran & Associates	Elevator	GRANT
20-V-342	MGA North LLC	Elevator	GRANT
20-V-343	Madera Unified School District	Elevator	GRANT

O. THYSSENKRUPP ELEVATORS (GROUP IV; WIRE ROPES AND SHEAVES) — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-319	1145 Polk Street LLC	Elevator	GRANT
20-V-320	KFF RPP Storek, LLC	Elevator	GRANT

P. LOS ANGELES WORLD AIRPORTS — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-323	Los Angeles World Airports	Elevator	GRANT

Q. LOS ANGELES WORLD AIRPORTS — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-324	Los Angeles World Airports	Elevator	GRANT

R. LOS ANGELES WORLD AIRPORTS — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-325	Los Angeles World Airports	Elevator	GRANT

S. KONE MONOSPACE 500 ELEVATORS — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-327	14241 Ventura LLC	Elevator	GRANT
20-V-328	City of Santa Monica	Elevator	GRANT
20-V-333	Jacqueline Evans Trust	Elevator	GRANT
20-V-334	Dutton Flats LP	Elevator	GRANT

T. OTIS GEN2(O) AND/OR GEN2L ELEVATORS WITH VARIANT GOVERNOR ROPE/SHEAVE (GROUP IV) — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-332	City of Sacramento	Elevator	GRANT

U. OTIS RADAR SLEEP MODE ESCALATORS — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-344	CORE/Related Grande Ave Owner LLC	Elevator	GRANT

V. OTIS GEN2(O) AND/OR GEN2L ELEVATORS (GROUP IV) — HEARD OCTOBER 21, 2020

OSHSB FILE NUMBER	APPLICANT NAME	SAFETY ORDERS	PROPOSED DECISION
20-V-345	CORE/Related Grande Ave Owner LLC	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: Urban Villages San Marcos, LLC	OSHSB FILE No. 13-V-307M2 Proposed Decision Dated: October 23 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: November 19, 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: Urban Villages San Marcos, LLC	OSHSB File No.: 13-V-307M2 PROPOSED DECISION Hearing Date: October 21, 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
13-V-307M1	Urban Villages San Marcos, LLC	251 North City Drive, San Marcos

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 October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Wolter Geesink with Otis Elevator Company, and Dan Leacox of Leacox & Associates, appeared on behalf of the Applicant; Mark Wickens and 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 October 21, 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 13-V-307.

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 13-V-307 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.13-V-307.

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 13-V-307 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.13-V-307, to be:

200 East Barham Street
San Marcos, CA

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

1. Permanent Variance Application No. 13-V-307M2 is conditionally GRANTED, thereby modifying Board records, such that, without change in variance location, each elevator being the subject of Permanent Variance Nos.13-V-307, and 13-V-307M2, shall have the following address designation:

200 East Barham Street
San Marcos, CA

2. Permanent Variance No.13-V-307, 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. 13-V-307M2.

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: October 23, 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 by: Tutor Perini / O&G Joint Venture	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: November 2, 2020: DECISION

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

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: November 19, 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: Tutor Perini / O&G Joint Venture	OSHSB File No.: 18-V-181 PROPOSED DECISION Hearing Date: November 7, 2019

A. Jurisdictional and Procedural Matters

1. On April 17, 2018, Tutor Perini / O&G Joint Venture (Applicant) applied for permanent variance from certain provisions of California Code of Regulations, title 8[1], section 8427, subdivision (b), within the Tunnel Safety Orders. On March 29, 2019, Applicant submitted a first amended application for permanent variance in response to the Division of Occupational Safety and Health's (Division) February 4, 2019 evaluation recommending the initial variance application be denied.

2. This proceeding is conducted in accordance with Labor Code Section 143 and section 401, et. seq.

3. The hearing was held on November 7, 2019, in Sacramento, California, by delegation of the Occupational Safety and Health Standards Board (Board). The Hearing Panelists were Board Chair David Thomas and Board Member Laura Stock. The Hearing Officer was Peter Healy. Hearing Officer Healy subsequently held a telephonic case status conference with the parties on December 12, 2019, wherein the parties agreed to further exchange of information. The matter was subsequently assigned to Acting Hearing Officer Autumn Gonzalez. This proposed decision, prepared as directed by the Hearing Panel, is presented to the Board for its consideration, in accordance with section 426 of the Board's rules of procedure.

4. Appearing for the Applicant were Christine Linden, Engineering Manager, Matt Kendall, Project Manager, Steve Redmond, Vice President of Civil Construction, and Dave Rogstad, President and CEO[2]. Michael Nelmida appeared in a technical advisory role apart from the Board, and Eric Berg appeared for the Division.

5. Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: original Application for Permanent Variance received April 19, 2018, as Exhibit PD-1; Chris Dixon declaration and 13 attachments, dated April 31, 2018 as Exhibit PD-2; Chris Dixon declaration and letter dated August 9, 2018

[1] Unless otherwise stated, all references are to the California Code of Regulations, title 8.
[2] The four above-mentioned representatives are with Frontier-Kemper Constructors, Inc., a Tutor Perini company.

as Exhibit PD-3; Division's evaluation of application, dated February 4, 2019 as Exhibit PD-4; First Amended Application received April 2, 2019 as Exhibit PD-5; Board Staff review of amended application, dated August 16, 2019 as Exhibit PD-6; Division's review of amended application, dated September 11, 2019 as Exhibit PD-7; Notice of November 7, 2019 hearing as Exhibit PD-8; Applicant's 15-page slide presentation as Exhibit PD-9; and official notice taken of the Board's rulemaking records, and variance decisions concerning the safety order requirements from which variance is requested.

6. The hearing was closed on November 7, 2019, with the record remaining open.

7. On December 12, 2019, Hearing Officer Healy convened a telephonic case status conference with the parties. There was agreement among Applicant, Division, and Board staff that it would be worthwhile to revisit their positions based on new or additional evidence not available at the November 7, 2019 hearing.

8. Hearing Officer Healy issued a Minute Entry via email on February 19, 2020. The entry directed Division and Board staff to determine whether their recommendations would require modification following intervening discussions.

9. Following Hearing Officer Healy's February 19, 2020 Minute Entry, on August 7, 2020, Hearing Officer Gonzalez on behalf of the Board accepted the following documents into the record: Narrative describing the segmenting Reach 5 into 1,000 foot sections (Attach A) as Exhibit PD-10; Gantt Chart for Reach 5 showing the schedule for the following activities (Attach B) as Exhibit PD-11; Vertical Test Hole Borings (MPBX) as Exhibit PD-11(a); Written Assessment of Hazardous Gases and Soil Contaminants (Ensafe Report) as Exhibit PD-11(b); Prepare and Submit TBM Safety Plans by TPOG (TBM Safety Plan) as Exhibit PD-11(c); Review of TBM Safety Plan (Division Review) as Exhibit PD-11(d); BL TBM Tunneling as Exhibit PD-11(e); BR TBM Tunneling as Exhibit PD-11(f); and Preliminary Geologic Desktop Review of Hydrogen Sulfide and Methane Conditions Between Section 2-Reach 4 and 5 and Section 3-Reach 6 and 7 of the Westside Purple Extension Project Prepared by Ensafe (Attach C) as Exhibit PD-11(g).

10. On June 18, 2020, Michael Nelmida, representing the Board staff, submitted an amended Board staff review for the file at issue. The Division, represented by Eric Berg, submitted a second addendum to its evaluation of 18-V-181. These documents were entered into the record as Exhibit PD-12 and Exhibit PD-13 respectively. Following submission of these reports, the hearing record was closed by Hearing Officer Gonzalez.

B. Findings of Fact

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

1. The Applicant requests a permanent variance from section 8427, subdivision (b), a tunnel safety regulation. The application pertains to tunneling of the Los Angeles County Metropolitan Transit Authority (LACMTA) purple line Metro rail extension. Applicant has been awarded the contract for construction of a 12,500 foot, double track, heavy rail transit line below Wilshire Boulevard in the cities of Los Angeles and Beverly Hills.

2. The excavations for the transit lines will range from 65 to 113 feet in depth for "Reach 4", and 74 to 136 feet in depth for "Reach 5".

3. Division and Board staff had two remaining safety concerns following the conclusion of the November 7, 2019 hearing. Those concerns were how the required dilution ventilation was calculated to control hazardous air contaminants in the tunnel boring machine (TBM), and the lack of data regarding hazardous gases along the route of the tunnel.

4. Applicant agreed to modify how the volumetric ventilation rate needed in the TBM will be calculated to control maximum hydrogen sulfide concentrations to below 5 parts per million. The modified method will calculate the required dilution based on a 20 minute excavation phase.

5. Applicant developed a plan to obtain additional data on hazardous gasses along the tunnel alignment prior to tunneling work. Reach 4 and 5 will be segmented into 1,000-foot sections, and vertical test bores will be completed within the discrete section. Sequential reports will then be prepared for submission and review by the Division.

6. Approximately 150 employees will work at the site, with 50 people per shift.

7. The jobsite is of the Gassy tunnel classification, requiring the use of equipment and services for such an environment.

8. Applicant requests a variance related to the horizontal test hole requirements of section 8427, subdivision (b). Applicant has stated its intention to comply with other test hole drilling requirements (diagonal and vertical) set forth in the safety orders.

9. Applicant proposes to use an Earth Pressure Balance (EPB) class of TBM. The EPB dynamically pressurizes the space between the cutting head and the tunnel face, reducing the risk of water and gas intrusion into the tunnel. For a majority of tunneling

operations, there are no employees working in the area between the cutting head and the tunnel face.

10. The Applicant proposes utilizing the gas monitoring systems of the TBM and an exhaust ventilation system operating at 100,000 cubic feet per minute (CFM) to prevent employees from being overexposed to hazardous gases and liquids.

11. The EPB TBM is equipped with gas sensors and shunt trip switching that automatically shut down and cut operational power in the event of increased gas levels. During such a power down, the screw discharge gate automatically closes, sealing the tunnel against any further inflows and the fresh air ventilation powered from the surface fans on negative pressure will continue to draw fresh air from outside the TBM.

12. Concentrations of hazardous gases and liquids ahead of the tunnel face may be approximated based on information from data gleaned from monitoring wells located ahead of the TBM's path of travel. Data collected reasonably near the time at which the TBM would encroach upon those areas would constitute a demonstration of equivalent safety combined with proper safety procedures.

C. Applicable Regulations

As stated above, the Applicant requests a variance from Section 8427, subdivision (b), within the Tunnel Safety Orders that reads as follows:

> (b) Whenever any working place in a tunnel is being advanced within 200 feet of areas that contain or are likely to contain dangerous accumulations of water, gas, petroleum products, or mud, representative vertical test holes shall be drilled from the surface where possible to determine if a hazard is present. Where the likelihood of a dangerous accumulation does exist, horizontal test holes of sufficient depth shall be drilled in advance of such workings to insure that at least 20 feet of tested ground remains beyond the face. Test holes 20 feet deep shall also be drilled at angles of 45 degrees into the walls, roof, and floors when necessary.

D. Conclusive Findings

The record contains a reasonable and adequate basis for concluding that the Applicant has complied with the statutory and regulatory requirements that must be met before an application for a permanent variance may be conditionally granted. Further, the record supports a conclusion that the preponderance of the evidence establishes that the Applicant's proposals,

subject to all conditions set forth in the below Decision and Order, will provide employment, and a place of employment, as safe and healthful as would prevail if the Applicant complied with the safety order requirements at issue.

E. Decision and Order

The Application for Permanent Variance of Tutor Perini / O&G Joint Venture, OSHSB File No. 18-V-181, is conditionally GRANTED subject to the following conditions:

1. The tunneling work will be divided into 1,000-foot sections. Prior to any tunneling work in any 1,000-foot section, the Applicant shall complete all vertical test holes required by section 8427(b) as determined by a qualified person or persons along the tunnel alignment to determine the presence of hazardous gases and soil contaminants. Prior to any tunneling work, the Applicant shall provide the vertical test hole results to the Division, other affected employers, employees, and employee representatives.

2. Upon completion of all vertical test holes required by condition 1 above and prior to any tunneling work in any 1,000-foot section, the Applicant shall ensure that a written assessment of hazardous gases and soil contaminants along the tunnel alignment be prepared by a qualified person or persons. This written assessment shall be provided to the Division, other affected employers, employees, and employee representatives.

3. Prior to any tunneling work in any 1,000-foot section, the Applicant shall establish a written TBM safety plan based on the assessment of underground hazardous gases and soil contaminants described in condition 2 above. The plan must include procedures to adjust the speed of the TBM and increase ventilation rates to ensure that the following conditions are met:

    a. Oxygen is above 19.5% and below 22%.

    b. Hydrogen sulfide does not exceed 5 ppm.

    c. Flammable gases do not exceed 5% of the Lower Explosive Limit (LEL).

    d. Benzene does not exceed 0.5 ppm.

    e. Carbon monoxide levels do not exceed 10 ppm.

4. All atmospheric testing shall be performed by a Division Certified Gas Tester and evaluated by a qualified person or persons.

5. All calculations used in the TBM safety plan shall assume that 100% of the gases in the excavated soil off-gas instantaneously at the screw conveyor discharge gate (guillotine).

6. Prior to any tunneling work in any 1,000-foot section, the Applicant shall provide the TBM safety plan to the Division, other affected employers, employees, and employee representatives.

7. Applicant shall prepare and submit a bar chart schedule for Reach 4 to the Division at least 30 days prior to any tunneling work in Reach 4. The bar chart schedule shall include the following information:

    a. Multi-Point Borehole Extensometer (MPBX) Installation - Vertical test holes (drilling & sampling)

    b. Preparation of Underground Conditions Assessment Report

    c. Preparation of TBM Safety Plan

    d. Division review

    e. TBM mining

8. During tunneling, the TBM shall be operated at all times in the closed-face EPB mode. During tunneling, the cutter-head pressure seals and other pressure seals between the TBM and the tunnel walls and/or lining must be functioning to effectively prevent hazardous gases, mud or water from entering the tunnel and shall be inspected, serviced and maintained as recommended by the manufacturer.

9. If loss of pressure in the cutter-head results in the intrusion of liquids, gas, petroleum products or mud inside the tunnel, the Division may require additional protective measures, including forward probe holes. Prior to any so required, or otherwise performed probe hole drilling from within confines of the TBM, the procedures and other precautions to be utilized for the protection of workers assisting in such drilling shall be provided by Applicant to, and preapproved by, the Division in writing.

10. Human entry in the cutter-head area, excavation chamber, or machine room shall not be made until the area has been tested for oxygen, flammable and toxic gases and determined to be safe for entry by a person certified by the Division as required by Labor Code section 7999. (See condition 3.) Further, the ground shall be stabilized by grouting, pressurizing or other appropriate methods approved by the Division, and entry shall be continuously monitoring for oxygen and flammable and toxic gases by a Division Certified Gas Tester.

11. The guillotine shall be effective in preventing flammable gases, water and mud from entering the tunnel environment and shall be remotely operable from the operator's station with a single-stroke continuously acting valve or switch.

12. There shall be an effective auxiliary exhaust ventilation system within close proximity of the guillotine which exhausts directly to the main ventilation system for the tunnel. It shall be so directed that it will be prevented from contaminating any inlet air source going to any underground or below surface work area.

13. The following gas sensors shall be properly installed, calibrated, maintained, operated and functioning to provide a continuous display at the TBM Operator's Station, at all times the TBM is in use or otherwise occupied. Gas sensors shall include oxygen, flammable gases, carbon monoxide, benzene, hydrogen sulfide and other toxic gases as determined necessary by the Division. The manufacturers' technical specifications for each such sensor shall be made available to the Division upon request. The gas sensors shall be located at the:

    a. Guillotine;

    b. Crown area of the heading;

    c. Invert of the heading and configured and calibrated to monitor heavy hydrocarbons in addition to the gases listed above; and

    d. Return air duct of the ventilation system (to provide an early warning if flammable gas is encountered).

14. A Division Certified Gas Tester shall be present in the heading area at all times when employees are present to continuously monitor oxygen and explosive and toxic gas levels (including but not limited to methane, hydrogen sulfide, carbon monoxide and benzene).

15. Each employee working within the tunnel shall be equipped with a personal hydrogen sulfide gas monitor, the manufacturers' technical specifications of which shall be provided to, and subject to the approval of the Division. The personal hydrogen sulfide gas monitor shall be inspected, calibrated and maintained as recommended by the manufacturer.

16. Applicant shall ensure that all employees in the tunnel have been provided with, and carries on the employee's person, an emergency escape respirator necessary for full evacuation. All such respirators shall be certified and the subject of user training, in accordance with section 5144, and adequately protective of employees against carbon monoxide, hydrogen sulfide, oxygen deficiency and other toxic gases that may be

encountered in the tunnel. The escape respirators shall be inspected, maintained and used as recommended by the manufacturer.

17. Applicant shall train all affected employees on the procedures required by conditions 3 and 10, above, and have a copy of said procedures immediately available to all affected employees during TBM use or entry into the cutter-head chamber.

18. Applicant shall treat all recordings of air monitoring conducted in the tunnel and the TBM as employee exposure records covered by Title 8, Section 3204(d).

19. Applicant shall provide a copy of the procedures required by conditions 3 and 10 to the Division at least seven days prior to the beginning of work covered by this variance. Applicant shall promptly make any revisions to the procedures specified in writing by the Division.

20. The tunnel liner segments shall be bolted and/or welded in their sealed, water-tight mode. Openings for grout installation and water drainage shall be properly controlled to prevent accidental discharge of liquids, muck and gases into the tunnel.

21. The TBM shall be of such design that, in case a forward probe hole is required, it can be drilled from the tunnel at ambient pressure.

22. One or more probe holes must be driven prior to excavating any cross tunnels.

23. Applicant shall submit to the Division, at least once every two months, a report explaining all LEL monitor readings in excess of 5%, the duration of such readings and the effectiveness of the EPB TBM in maintaining a safe work area.

24. Where oil or gas well casings or similar hazards may be encountered during tunnel construction, the Applicant shall use appropriate methods, such as record searches, magnetometer surveys, or ground-penetrating radar to detect casings or similar hazards. The Applicant shall modify excavation procedures to minimize the excavation and tunnel intrusion hazards.

25. Applicant shall notify its employees and their authorized representatives 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.

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

I hereby certify that the above Proposed Decision is the decision of the Hearing Panel, and the Hearing Panel recommends its adoption by the Occupational Safety and Health Standards Board as the Board's decision in this preceding.

DATED: 11/2/20

Autumn Gonzalez, Hearing Officer

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

In the Matter of Application to Modify Permanent Variance by: 15/23 Grace Street, LLC	OSHSB FILE No. 18-V-276M1 Proposed Decision Dated: October 23, 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: November 19, 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: 15/23 Grace Street, LLC	OSHSB File No.: 18-V-276M1 PROPOSED DECISION Hearing Date: October 21, 2020

A. 15/23 Grace Street, LLC ("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 the subject of Permanent Variance No. 18-V-276, approved by the Board on September 20, 2018.

B. This proceeding is conducted in accordance with Labor Code Section 143.

C. This hearing was held on October 21, 2020, in Sacramento, California, via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

1. At the hearing, Andrew Ferris with ThyssenKrupp Elevator Americas, appeared on behalf of the Applicant, Mark Wickens and David Morris appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Michael Nelmida appeared on behalf of Board staff in its technical advisory capacity apart from the Board.

2. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: application for modification of Permanent Variance No. 18-V-276M1 as Exhibit PD-1, Notice of Hearing in this matter as PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review-Draft-1 Proposed Decision as PD-5; and official notice taken of the Board's rulemaking records and variance decisions concerning the safety order requirements at issue in this matter. On October 21, 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 variance location specified within Board records for a single elevator the subject of previously granted Permanent Variance No. 18-V-276.

2. Application 18-V-276M1, declared to be wholly truthful under penalty of perjury by signatory Andrew Ferris, states in substantial part that the FOS calculations in

Permanent Variance No. 18-V-276 were discovered by the Division at its acceptance inspection to contain an error. Applicant requests modification to correct the FOS calculations.

3. The Board finds the Application Section 3, declaration of Mr. Ferris to be credible, uncontroverted, and consistent with available, sufficient facts.

4. The written Division evaluation of Application for Permanent Variance No. 18-V-276M1, dated April 28, 2020 (Exhibit PD-4), states in significant part:

   Applicant is requesting to modify the permanent variance to correct for inaccurate FOS calculation data contained in the original variance application. The correct data for total suspended load (W) is now indicated as being 6,417 [lbs.]. As a result, the FOS value for the suspension means decreases to 18.2, well above the minimum value of 9.2 required by the current Elevator Safety Orders. The increase in total suspended load, and the decrease in FOS, does not change other factors within the FOS calculation (speed, number of ropes, and rope ratios), as they are still within the parameters required by the Elevator Safety Orders.

5. In its written evaluation (Exhibit PD-4), Division recommends grant of Application No. 18-V-276M1, subject to the same conditions stipulated in OSHSB File No. 18-V-276, except as modified below;

   Revisions exclusive to OSHB File No. 18-V-276, Decision and Order, Appendix 1:

OSHSB File No.	Car	Minimum Suspension Ropes per Elevator (per Condition No. 3)	Roping Ratio	Max. Rated Speed In Feet per Minute (per Condition No. 6)	Maximum Suspended Load per Elevator (+5%) (per Condition 7)
18-V-276	1	6	2:1	150	~~3,836~~ 6,417 lb

   The Board finds the recommendation of Division, summarized in above subparts 4 and 5, to be the knowledgeable opinion of experienced and competent elevator safety engineering professionals. The Board also finds persuasive the concurrence of Board staff engineering professionals, per Exhibit PD-3, in recommending grant of requested modification.

6. The Board finds that modification of Permanent Variance No. 18-V-276, per above Section 5 specified technical conditions, will provide for safety and health equivalent to

Title 8, Elevator Safety Order requirements from which variance was granted under Permanent Variance No. 18-V-276.

E. Decision and Order:

Variance application 18-V-276M1 is conditionally GRANTED, to the limited extent specified below, with respect to one conveyance the subject of Permanent Variance No. 18-V-276, Decision and Order.

1. Permanent Variance File No. 18-V-276, Decision and Order, Appendix 1, is modified, with respect to the below specified conveyance, as follows:

OSHSB File No.	Car	Minimum Suspension Ropes per Elevator (per Condition No. 3)	Roping Ratio	Max. Rated Speed In Feet per Minute (per Condition No. 6)	Maximum Suspended Load per Elevator (+5%) (per Condition 7)
18-V-276	1	6	2:1	150	~~3,836~~ 6,417 lb

2. Permanent Variance No. 18-V-276, only being modified as specified per above Decision and Order Condition No. 1, is otherwise unchanged and remaining in full force and effect, as hereby incorporated by reference into this Decision and Order of Permanent Variance File No. 18-V-276M1.

3. 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.

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 accordance with Title 8, Division 1, Chapter 3.5, procedures.

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: October 23, 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 by: Shea/Parsons Joint Venture	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: November 2, 2020: DECISION

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

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: November 19, 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: Shea/Parsons Joint Venture	OSHSB File No.: 18-V-456 PROPOSED DECISION Hearing Date: June 11, 2020

A. Jurisdictional and Procedural Matters

1. Shea/Parsons Joint Venture (Applicant) has applied for permanent variance from certain provisions of California Code of Regulations, title 8[1], sections 1604.24, subdivision (a)(2), 1604.26, subdivision (c), and section 8495, subdivision (b)(1), regarding the operation of elevators at a construction site.[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 hearing was held on June 11, 2020, in Sacramento, California, by delegation of the Occupational Safety and Health Standards Board (Board). The Hearing Panelists are Board Members David Harrison and Nola Kennedy. The Hearing Officer is Autumn Gonzalez. This proposed decision, prepared as directed by the Hearing Panel, is presented to the Board for its consideration, in accordance with section 426 of the Board's rules of procedure.

---

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

[2] Section 1604.24, subdivision (a)(2) reads as follows: "(a) Operation and Operating Devices.
(2) Operating Devices for Car-Switch Operation Hoists. Handles of lever-type operating devices of car-switch operation hoists shall be so arranged that they will return to the stop position when the hand of the operator is removed. Car-switch push-buttons shall be of the constant-pressure type so that when the hand is removed from the button the car will stop."
Section 1604.26, subdivision (c) states: "(c) Operation. Hoists shall be operated only by a competent authorized operator, in the car, or stationed adjacent to the driving machine subject to the following conditions:
(1) A regular attendant is stationed in the car.
(2) A constant-pressure-type switch shall be provided in the car, which must be held manually in the closed position by the attendant in the car in order to permit operation of the driving machine and which shall be opened automatically when released by the operator during normal or emergency stop operations.
(3) A means of closed voice communication shall be provided between the car attendant and the operator stationed adjacent to the driving machine."
Section 8495, subdivision (b)(1): "(b) Personnel Hoisting Systems.
(1) The hoist control shall be of such design that it will return to the "stop" position when the hand of the operator is removed from the control lever. The brakes shall be automatically applied and the power cut off whenever the control lever is in the "stop" position."

4. Appearing for the applicant were Jeremy Saum, Safety Director, Tom Fluehr, and Neil Theorff for Shea/Parsons Joint Venture. Michael Nelmida appeared in a technical advisory role apart from the Board, and Yancy Yap for the Division of Occupational Safety and Health (Division).

5. Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: subject First Amended Application for Permanent Variance as Exhibit PD-1, Notice of Hearing as Exhibit PD-2, Division Review of Application as PD-3, Board Staff Review of Application as PD-4, Supplemental Submission to First Amended Application as PD-5, Alternate Access Plan as PD-6, Employer Photographs as PD-7A through 7G, PD-8, Employer Maintenance Plan, and official notice taken of the Board's rulemaking records, and variance decisions concerning the safety order requirements from which variance is requested.

6. On August 3, 2020, the panel re-opened the record to request further briefing on several questions. The Order is incorporated into the record as PD-9; Applicant's response, received on August 13, 2020, is incorporated as PD-10. Neither the Division nor Board staff opted to submit further briefing. Following submission of Applicant's response to the Board's Order, the record was closed and the matter taken under submission by the below-signed Hearing Officer on August 13, 2020.

B. Findings of Fact

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

1. The Applicant requests a permanent variance from sections 1604.24, subdivision (a)(2), 1604.26, subdivision (c), and 8495, subdivision (b)(1). The application pertains to installation of a single below-ground construction personnel hoist located at 1404 Radio Road, Redwood City, California.

2. The Applicant proposes to install a single Alimak Scando 650 CPH with automatic controls, within a receiving lift station shaft approximately 90 feet in depth. The hoist will be used primarily to transport approximately 25 employees between two landings within the shaft, as well as inspectors, surveyors, supervisors, and other personnel during work hours. The hoist will not be used to move materials or equipment other than small tools.

3. Applicant proposes to utilize signage and the visual observation of crane operators to ensure that only authorized employees operate the hoist.

C. Applicable Regulations

As stated above, the Applicant requests a permanent variance from sections 1604.24, subdivision (a)(2), 1604.26, subdivision (c), and 8495, subdivision (b)(1). Those sections read as follows:

§1604.24. Operating Devices and Control Equipment.

(a) Operation and Operating Devices.

(1) Types of Operating Devices. All operating devices shall be of the enclosed electric type. Rope or rod operating devices actuated directly by hand, or rope operating devices actuated by wheels, levers, or cranks, shall not be used.

(2) Operating Devices for Car-Switch Operation Hoists.

§1604.26. Inspection and Tests of Personnel Hoists.

(c) Operation. Hoists shall be operated only by a competent authorized operator, in the car, or stationed adjacent to the driving machine subject to the following conditions:

(1) A regular attendant is stationed in the car.

(2) A constant-pressure-type switch shall be provided in the car, which must be held manually in the closed position by the attendant in the car in order to permit operation of the driving machine and which shall be opened automatically when released by the operator during normal or emergency stop operations.

(3) A means of closed voice communication shall be provided between the car attendant and the operator stationed adjacent to the driving machine.

§8495. Hoisting Equipment and Systems.

(b) Personnel Hoisting Systems.

(1) The hoist control shall be of such design that it will return to the "stop" position when the hand of the operator is removed from the control lever. The brakes shall be automatically applied and the power cut off whenever the control lever is in the "stop" position.

D. Hearing and Order Requesting Further Briefing, Representations and Testimony

Applicant's representatives presented information regarding training that competent persons would be given to run the hoist, as well as controls to prevent untrained employees from operating the hoist. Only authorized and trained competent persons would be allowed to

operate the hoist. This would be denoted through a hardhat decal, as well as signage by the elevators stating that only authorized and trained employees may operate the elevator.

The Division's representative also explained that Applicant would monitor the use of the personnel hoist through its crane operators, as the crane operators have a good view of the site and the lift, and could monitor who is using the lift. Applicant also added that there are controls in place to limit who is able to access the worksite.

In its Order requesting further briefing, the panel asked the question, "Should the hoist become unintentionally stuck with the door in an open position, will the key operated switch be able to gain control of the car for operation?" Applicant responded, "The car will not run from either base without the door being locked. It has a mechanical solenoid and physical lock."

Conclusive Findings

Section 1604.24, subdivision (c) requires that a hoist shall be operated only by a competent authorized operator in the car, or stationed adjacent to the car with a regular attendant stationed in the car.

A properly-functioning hoist can become critical in a situation where emergency responders need to reach an employee, or employees need to quickly evacuate due to atmospheric or other emergent issues. Having a regular attendant stationed in the car ensures that the hoist is able to quickly respond. The applicant states that the car will not run without the door being locked.

Without an operator, should the car door be stuck at the top of the shaft, while employees are attempting to evacuate from the bottom of the shaft, it is unclear who would have responsibility for identifying the door issue, and fixing it. An attendant stationed in the car would be able to quickly identify and address the problem. The panel is concerned that the lack of an attendant could cause a hazardous or fatal delay in event of emergency.

Based upon the above matters stated, and record in this matter, it is reasonable to conclude and find that Applicant Shea/Parsons Joint Venture, has not made the requisite showing that its proposed alternate program, method, practice, means, device, or process would provide equal or superior conveyance safety, and workplace safety and health, as would prevail if Applicant complied with the requirements of the safety order from which permanent variance has been requested.

Decision and Order

In accordance with the foregoing, and the record in this matter, the Occupational Safety and Health Standards Board holds that Applicant Shea/Parsons Joint Venture has not made the requisite showing that its proposed alternate program, method, practice, means, device, or process would provide equal or superior conveyance safety, and workplace safety and health,

as would prevail if Applicant complied with the requirements of the safety order from which permanent variance has been requested. The Application for Permanent Variance in OSHSB File No. 18-V-456, is hereby DENIED.

I hereby certify that the above Proposed Decision is the decision of the Hearing Panel, and the Hearing Panel recommends its adoption by the Occupational Safety and Health Standards Board as the Board's decision in this preceding.

DATED: 11/2/20

Autumn Gonzalez, Hearing Officer

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

In the Matter of Application for Permanent Variance by: Department of State Hospitals (DSH	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: November 2, 2020: DECISION

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

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: November 19, 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: Department of State Hospitals	OSHSB File No.: 19-V-028 PROPOSED DECISION Hearing Date: August 30, 2019

A. Jurisdictional and Procedural Matters

1. The State of California - Department of State Hospitals (Applicant) has applied for permanent variance from certain provisions of California Code of Regulations, title 8, section 3342, Violence Prevention in Healthcare, subdivision (g), Reporting Requirements for General Acute Care Hospitals, Acute Psychiatric Hospitals, and Special Hospitals, within the General Industry Safety Orders.

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

3. The hearing was held on August 30, 2019, in Sacramento, California, by delegation of the Occupational Safety and Health Standards Board (Board), with Hearing Officer Peter Healy presiding. Serving on the Hearing Panel were Board Members David Harrison and Chris Laszcz-Davis. The matter was subsequently reassigned to Hearing Officer Autumn Gonzalez, who has reviewed the record in its entirety, and issues this proposed decision to the Board for its consideration, in accordance with California Code of Regulations, title 8, section 426 of the Board's rules of procedure.

4. Appearing for the Applicant were Ellen Bachman, Deputy Director for Statewide Quality and Improvement and Garilyn Richardson, DSH, RN and Chief of Quality Improvement. David Kernazitskas appeared on behalf of Board staff acting in a technical advisory role apart from the Board. Eric Berg represented the Division of Occupational Safety and Health (Division).

   Oral evidence was received at the hearing, and by stipulation of all parties, documents were admitted into evidence: subject Application for Permanent Variance as Exhibit PD-1; Notice of Hearing as Exhibit PD-2; Division Evaluation of Application as Exhibit PD-3; Board Staff Evaluation of Application as Exhibit PD-4. By stipulation of the parties, official notice is taken of the Board's rulemaking records, and variance decisions concerning the safety order requirements from which variance is requested.

5. On January 8, 2020 Hearing Officer Healy granted American Federation of State, County and Municipal Employees (AFSCME) Local 2620 party status, and granted AFSCME Local 2620 the right to submit a written Position Brief, no later than January 20, 2020. Hearing Officer Healy also provided Applicant, Division, and Board staff the opportunity to prepare a written Response to the union's submission, and the union an opportunity to submit a Reply brief by January 31, 2020.

6. Following the submissions post-hearing submissions of the parties, the record was closed and matter taken under submission by Hearing Officer Healy on January 31, 2020.

B. Findings of Fact

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

1. The Applicant requests a permanent variance from the existing temporary variance from California Code of Regulations, title 8, section 3342, Violence Prevention in Healthcare, subdivision (g) Reporting Requirements for General Acute Care Hospitals, Acute Psychiatric Hospitals, and Special Hospitals, a general industry safety regulation.

2. A temporary variance for section 3342 was granted to Applicant by the Division on June 27, 2017, which expired on June 27, 2019.

3. Applicant's basis for the permanent variance include the high numbers of assaults perpetrated by patients in Applicant's five hospitals. Applicant believes that quarterly reporting allowed in the Division temporary experimental variance is more efficient, allowing the Applicant to ensure that the information reported is accurate due to the longer period of time in which to gather information related to reportable incidents.

4. The Division's evaluation of the permanent variance request notes that Labor Code section 6401.8, subdivision (d) exempts hospitals operated by the Department of State Hospitals, the State Department of Developmental Services, and the Department of Corrections and Rehabilitation, from the requirements of Labor Code section 6401.8. Granting of the variance is therefore not contra to the mandate of the relevant statute.

5. The Board and Division recommend approval of the Applicant's request for a permanent variance from California Code of Regulations, title 8, section 3342, subdivision (g), with conditions, as described in Exhibit PD-3 and PD-4, and are found below, in Section E, Decision and Order.

D. Applicable Regulations

(g) Reporting Requirements for General Acute Care Hospitals, Acute Psychiatric Hospitals, and Special Hospitals.

(1) Every general acute care hospital, acute psychiatric hospital, and special hospital shall report to the Division any incident involving either of the following:

(A) The use of physical force against an employee by a patient or a person accompanying a patient that results in, or has a high likelihood of resulting in,

injury, psychological trauma, or stress, regardless of whether the employee sustains an injury;

NOTE: "Injury" as used in subsection (g)(1)(A), means an injury meeting the criteria in Section 14300.7(b)(1).

(B) An incident involving the use of a firearm or other dangerous weapon, regardless of whether the employee sustains an injury.

NOTE: to (g)(1): These reports do not relieve the employer of the requirements of Section 342 to immediately report a serious injury, illness, or death to the nearest Division district office.

(2) The report to the Division required by subsection (g)(1) shall be made within 24 hours, after the employer knows or with diligent inquiry would have known of the incident, if the incident results in injury, involves the use of a firearm or other dangerous weapon, or presents an urgent or emergent threat to the welfare, health, or safety of hospital personnel. For purposes of this reporting process:

(A) "Injury" means a fatality or an injury that requires inpatient hospitalization for a period in excess of 24 hours for other than medical observation or in which an employee suffers a loss of any member of the body or suffers any serious degree of permanent disfigurement.

(B) An "urgent or emergent threat to the welfare, health, or safety of hospital personnel" means that hospital personnel are exposed to a realistic possibility of death or serious physical harm.

(3) All other reports to the Division required by subsection (g)(1) shall be made within 72 hours.

(4) Reports shall include, at a minimum, the following items:

(A) Hospital name, site address, hospital representative, phone number, and email address, and the name, representative name, and contact information for any other employer of employees affected by the incident;

(B) Date, time, and specific location of the incident;

(C) A brief description of the incident, including but not limited to, the type of attacker, the type of physical assault, the type of weapon or object used by the attacker, if any, working conditions at the time of attack, and whether the assaulted employee was alone or isolated immediately prior to the incident;

(D) The number of employees injured and the types of injuries sustained;

(E) Whether security or law enforcement was contacted, and how security or law enforcement assisted the employee(s);

(F) Whether there is a continuing threat, and if so, what measures are being taken to protect employees by engineering control modifications, work practice modifications, or other measures;

(G) A unique incident identifier;

(H) Whether the incident was reported to the nearest Division district office as required in Section 342.

(I) The report shall not include any employee or patient names. Employee names shall be furnished upon request to the Division.

(5) The employer shall provide supplemental information to the Division regarding the incident within 24 hours of any request.

(6) Reports shall be provided through a specific online mechanism established by the Division for this purpose.

E. Conclusive Findings

The record contains a reasonable and adequate basis for concluding that the Applicant has complied with the statutory and regulatory requirements that must be met before an application for a permanent variance may be conditionally granted. Further, the record supports

a conclusion that the preponderance of the evidence establishes that the Applicant's proposals, subject to all conditions set forth in the below Decision and Order, will provide employment, and a place of employment, as safe and healthful as would prevail if the Applicant complied with the safety order requirements at issue.

F. Decision And Order

The Application for Permanent Variance of Department of State Hospitals, OSHSB File No. 19-V-028, is conditionally GRANTED to the limited extent, upon the Board's adoption of this Proposed Decision, Department of State Hospitals shall have permanent variance from California Code of Regulations, title 8, section 3342, subdivisions (g)(1), (g)(2), (g)(3), (g)(4), and (g)(6), subject to the following conditions and limitations:

1. The permanent variance allows Applicant at its five acute psychiatric hospitals (Atascadero, Coalinga, Napa, Patton, and Los Angeles) to continue an alternative method of reporting workplace violence incidents to the Division, in place of those reporting requirements described in California Code of Regulations, title 8, section 3342, subdivision (g).

2. **Subdivision (g)(1)**: Applicant will report violent incidents that occur at or on the grounds of its acute psychiatric hospitals to the Division.

    a. Reportable violent incidents are:
        i. Aggressive acts against an employee where physical contact is made; including hitting, pushing, kicking, spitting, gassing, or similar acts which result in injury as defined by section 3342, subdivision (g)(2)(A), or hospitalization;
        ii. Acts where a weapon, as defined in California Code of Regulations, title 8, section 3342, is used, regardless of whether any injury occurs; and
        iii. Sexual assault or physical sexual contact against an employee, regardless of whether an injury occurs.

3. **Subdivisions (g)(2) and (g)(3)**: Each of Applicant's five acute psychiatric hospitals must report violent incidents to the Division on a quarterly basis, according to the following schedule:

Reporting Period	Report Date
October 1 through December 31	February 1 of the following year
January 1 through March 31	May 1
April 1 through June 30	August 1
July 1 through September 30	November 1

4. **Subdivision (g)(4)**: Applicant must include the following information for each workplace violence incident reported:
    a. Hospital name and contact person(s);
    b. Date, time, and location of incident being reported;
    c. A description of the incident, including: the type of attacker, type of assault, type of weapon or object used in the attack (if any), working conditions at the time of attack, and whether the assaulted employee was alone or isolated immediately prior to the incident;
    d. Number of employees involved in the incident, and injuries sustained.

5. **Subdivision (g)(6)**: Applicant must email violent incident reports in an Excel spreadsheet to DOSHWPV@dir.ca.gov, or any other email designated by the Division for this purpose.

6. The variance is applicable to only the above-mentioned subdivisions of section 3342, subdivision (g). No other title 8 sections or subdivisions are affected by granting of the permanent variance. The Applicant is still required by title 8, section 342, to immediately report a serious injury, illness, or death to the Division.

7. The Applicant shall notify its employees and their authorized representatives 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 duly modified or revoked upon application by the Applicant, affected employee(s), the Division, or by the Board on its own motion, in accordance with the then in effect administrative procedures of the Board.

I hereby certify that the above Proposed Decision is the decision of the Hearing Panel, and the Hearing Panel recommends its adoption by the Occupational Safety and Health Standards Board as the Board's decision in this preceding.

DATED: 11/2/20

Autumn Gonzalez, Hearing Officer

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

In the Matter of Application to Modify Permanent Variance by: Clyde Avenue Joint Venture LLC	OSHSB FILE No. 19-V-460M1 Proposed Decision Dated: October 23, 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: November 19, 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: Clyde Avenue Joint Venture LLC	OSHSB File No.: 19-V-460M1 PROPOSED DECISION Hearing Date: October 21, 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
19-V-460	Clyde Avenue Joint Venture LLC	600 Clyde Avenue, Mountain View, California

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 October 21, 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, Manish Sablok, with KONE Inc., appeared on behalf of the Applicant; Mark Wickens and 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 October 21, 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, "5", one (1) of three (3) elevators that are the subject of previously granted Permanent Variance 19-V-460.

2. Application Section 3, declared to be wholly truthful under penalty of perjury by Application signatory, states facts upon which reasonably may be based a finding that the address, specified in the records of the Board, at which Permanent Variance 19-V-460 is in effect, in fact is more completely, and correctly the different address information specified in below subsection D.5, as regards elevator "5" 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. 19-V-460.

4. The Board finds the above subpart D.2 referenced declaration to be credible, uncontroverted, and consistent with available, sufficient facts, and of no bearing as to the finding of equivalent occupational health and safety upon which Grant of preexisting Permanent Variance 19-V-460 was, in part, based.

5. The Board finds the correct address by which to designate the location of elevator "5", one (1) of three (3) elevators that are the subject of Permanent Variance No. 19-V-460 to be:

620 Clyde Avenue
Mountain View, CA

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

1. Permanent Variance Application No. 19-V-460M1 is conditionally GRANTED, thereby modifying Board records, such that, without change in variance location, elevator "5", a single elevator being the subject of Permanent Variance No. 19-V-460, shall have the following address designation:

620 Clyde Avenue
Mountain View, CA

2. The Board finds the correct address by which to designate the location of the remaining two (2) of three (3) elevators is:

600 Clyde Avenue
Mountain View, CA

3. Permanent Variance No. 19-V-460, being only modified as to the subject location address for elevator "5" 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. 19-V-460M1.

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: October 23, 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 3300 with SIL-Rated Drive to De-Energize Drive Motor (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: November 2, 2020: DECISION

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

DAVID THOMAS, Chairman

BARBARA BURGEL, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Date of Adoption: November 19, 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 3300 with SIL-Rated Drive to De-energize Drive Motor (Group IV)	OSHSB File Nos.: 20-V-108, 20-V-151, 20-V-152, 20-V-174, 20-V-176, 20-V-186, 20-V-229, 20-V-230, 20-V-231, 20-V-249, 20-V-264, 20-V-301, 20-V-302, 20-V-321, 20-V-322 PROPOSED DECISION Hearing Date: October 22, 2020

Jurisdictional and Procedural Matters

1. The following matters have been consolidated by order of the Hearing Officer of the Occupational Safety and Health Standards Board (OSHSB), with no objection from the parties. The below-listed entities (Applicants) have each applied for a permanent variance from certain provisions of California Code of Regulations, Title 8, section 3141 of the Elevator Safety Orders:

Docket Number	Applicant	Date Original and Amended Application Received by OSHSB [if applicable]	Address of Variance	Number of Elevators at Location
20-V-108	950 ECR LLC	April 2, 2020; June 12, 2020 (1st Amended)	950 W. El Camino Real, Mountain View, CA	1
20-V-151	Fairmount Family Housing CIC LP	April 27, 2020; July 7, 2020 (1st Amended); August 25, 2020 (2nd Amended)	4340 44th St., San Diego, CA	2

20-V-152	Fairmont Senior Housing CIC LP	April 27, 2020; July 7, 2020 (1st Amended)	4320 44th St., San Diego, CA	2
20-V-174	1501 N. Blackstone Ave., LP	May 4, 2020; August 25, 2020 (1st Amended)	1661 E. Home Ave., Fresno, CA	2
20-V-176	GPAI Davis Student Housing	May 4, 2020; July 13, 2020 (1st Amended)	1111 Olive Dr., Davis, CA	4
20-V-186	LAMP Lodge LP	May 8, 2020; July 7, 2020 (1st Amended)	660 Stanford Ave., Los Angeles CA	1
20-V-229	LINC-CORE Fairview Metro LP	June 25, 2020	923 E. Redondo Blvd., Inglewood, CA	1
20-V-230	LINC-CORE Fairview Metro LP	June 25, 2020	925 E. Redondo Blvd., Inglewood, CA	1
20-V-231	INJAE, LLC	June 25, 2020	944 S. Serrano Ave., Los Angeles, CA	2
20-V-249	5950 Jefferson, LLC	July 7, 2020	5950 W. Jefferson Blvd., Los Angeles, CA 90016	2
20-V-264	2812 W. Temple, LLC	July 21, 2020	2812 W. Temple, Los Angeles, CA	1
20-V-301	Garden Grove Hotel, LLC	August 4, 2020	13850 Harbor Blvd, Garden Grove, CA	2

20-V-302	Chandler Apartments of California, LLC	August 5, 2020	11311 W. Chandler Blvd., North Hollywood, CA	2
20-V-321	LINC-PCH LP	August 18, 2020	1770 Magnolia Ave. Long Beach, CA	1
20-V-322	Missouri & Bundy Housing, LP	August 19, 2020	11998 Missouri Ave, Los Angeles, CA	1

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

3. The hearing was held via videoconference on October 22, 2020, in Sacramento, California, by delegation of the Occupational Safety and Health Standards Board (Board) to a panel including Board Members David Harrison and Chris Laszcz-Davis, and Hearing Officer Autumn Gonzalez. This proposed decision is presented to the Board for its consideration, in accordance with section 426 of the Board's rules of procedure.

4. Appearing for the applicant were Jennifer Linares, Denis Davis, James Bibby, and Lawrence Taylor of Schindler Elevator Corporation. Michael Nelmida appeared on behalf of Board staff, in a technical advisory role apart from the Board, and Mark Wickens and David Morris for the Division of Occupational Safety and Health (Division). Frank Belio appeared for the International Union of Elevator Constructors, Local 18, and Eric McClaskey for the International Union of Elevator Constructors.

5. Oral evidence was received at the hearing, and by stipulation of all parties, the following documents were admitted into evidence:

   Original and First Amended Application for Permanent Variance as Exhibit PD-1A through 1O, Notice of Hearing as Exhibit PD-2, Division Review of Application (and any subsequent Amended Reviews, if applicable) as PD-3A through 3O, Board Staff Review of Application as PD-4A through 4O, Supplemental Submissions to 20-V-108 as PD-5A, 5B, and 5C, Supplemental Submissions to 20-V-151 as PD-6A, 6B, and 6C, Supplemental Submissions to 20-V-152 as 7A and 7B, Supplemental Submissions to 20-V-174 as PD-8A and 8B, Supplemental Submissions to 20-V-176 as PD-9A and 9B, Supplemental Submissions to 20-V-186 as PD-10A and 10B, Supplemental Submissions to 20-V-229 as PD-11, Supplemental Submissions to 20-V-30 as PD-12, Supplemental Submissions to 20-V-249 as PD-13, Supplemental Submissions to 20-V-264 as PD-14, Supplemental Submissions to 20-V-301 as

15, Supplemental Submissions to 20-V-302 as PD-16, Supplemental Submissions to 20-V-321 as PD-17, and Supplemental Submissions to 20-V-322 as PD-18.

The parties also stipulated to official notice being taken of the Board's rulemaking records, and variance decisions concerning the safety order requirements from which variance is requested. The record was closed, and matter taken under submission by the below-signed Hearing Officer on October 22, 2020.

Relevant Safety Order Provisions

Applicant seeks a permanent variance from section 3141 [ASME A.17.1-2004, sections 2.20.1, 2.20.2.1, 2.20.2.2(a), 2.20.2.2(f), 2.20.3, 2.20.4, 2.20.9.5.4, 2.26.1.4.4(a), 8.4.10.1.1(a)(2)(B), 2.14.1.7.1, and 2.26.9.6.1]. The relevant language of those sections are below.

1. Suspension Means

Section 3141 [ASME A17.1-2004, section 2.20.1, Suspension Means] states in part:

> Elevator cars shall be suspended by steel wire ropes attached to the car frame or passing around sheaves attached to the car frame specified in 2.15.1. Ropes that have previously been installed and used on another installation shall not be reused. Only iron (low-carbon steel) or steel wire ropes, having the commercial classification "Elevator Wire Rope," or wire rope specifically constructed for elevator use, shall be used for the suspension of elevator cars and for the suspension of counterweights. The wire material for ropes shall be manufactured by the open-hearth or electric furnace process, or their equivalent.

Section 3141 [ASME A17.1-2004, section 2.20.2.1(b), On Crosshead Data Plate] states in part:

> The crosshead data plate required by 2.16.3 shall bear the following wire-rope data:
>
> (b) the diameter in millimeters (mm) or inches (in.)

Section 3141 [ASME A17.1-2004, section 2.20.2.2(a) and (f) On Rope Data Tag] states in part:

> A metal data tag shall be securely attached-to-one of the wire-rope fastenings. This data tag shall bear the following wire-rope data:
>
> (a) the diameter in millimeters (mm) or inches (in.)
>
> [...]

(f) whether the ropes were non preformed or preformed

Section 3141 [ASME A17.1-2004, section 2.20.3, Factor of Safety] states:

The factor of safety of the suspension wire ropes shall be not less than shown in Table 2.20.3. Figure 8.2.7 gives the minimum factor of safety for intermediate rope speeds. The factor of safety shall be based on the actual rope speed corresponding to the rated speed of the car.

The factor of safety shall be calculated by the following formula:

$$f = \frac{S\,x\,N}{W}$$

where:

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

W= maximum static load imposed on all car ropes with the car and its rated load at any position in the hoistway

Section 3141 [ASME A17.1-2004, section 2.20.4, Minimum Number and Diameter of Suspension Ropes] states:

The minimum number of hoisting ropes used shall be three for traction elevators and two for drum-type elevators.

Where a car counterweight is used, the number of counterweight ropes used shall be not less than two.

The term "diameter," where used in reference to ropes, shall refer to the nominal diameter as given by the rope manufacturer.

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.

Section 3141 [ASME A17.1-2004, section 2.20.9.3.4] states:

> Cast or forged steel rope sockets, shackle rods, and their connections shall be made of unwelded steel, having an elongation of not less than 20% in a gauge length of 50 mm (2 in.), when measured in accordance with ASTM E 8, and conforming to ASTM A 668, Class B for forged steel, and ASTM A 27, Grade 60/30 for cast steel, and shall be stress relieved. Steels of greater strength shall be permitted, provided they have an elongation of not less than 20% in a length of 50 mm (2 in.).

Section 3141 [ASME A17.1-2004, section 2.20.9.5.4] states:

> When the rope has been seated in the wedge socket by the load on the rope, the wedge shall be visible, and at least two wire-rope retaining clips shall be provided to attach the termination side to the load-carrying side of the rope (see Fig. 2.20.9.5). The first clip shall be placed a maximum of 4 times the rope diameter above the socket, and the second clip shall be located within 8 times the rope diameter above the first clip. The purpose of the two clips is to retain the wedge and prevent the rope from slipping in the socket should the load on the rope be removed for any reason. The clips shall be designed and installed so that they do not distort or damage the rope in any manner.

2. Inspection Transfer Switch

Section 3141[ASME A17.1-2004, section 2.26.1.4.4(a), Machine Room Inspection Operation] states:

> When machine room inspection operation is provided, it shall conform to 2.26.1.4.1, and the transfer switch shall be
>
> (a) located in the machine room[.]

3. Seismic Reset Switch

Section 3141[ASME A17.1-2004, section 8.4.10.1.1(a)(2)(b), Earthquake Equipment] states:

> *(a)* All traction elevators operating at a rated speed of 0.75 m/s (150 ft/min) or more and having counterweights located in the same hoistway shall be provided with the following:
>
> *(1)* seismic zone 3 or greater: a minimum of one seismic switch per building
>
> *(2)* seismic zone 2 or greater:
>
> *(a)* a displacement switch for each elevator

> *(b)* an identified momentary reset button or switch for each elevator, located in the control panel in the elevator machine room

4. Car-top Railings

Section 3141[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. SIL-Rated System to Inhibit Current Flow to AC Drive Motor

Section 3141[ASME A17.1-2004, section 2.26.9.6.1] states:

> Two separate means shall be provided to independently inhibit the flow of alternating current through the solid state devices that connect the direct current power source to the alternating-current driving motor. At least one of the means shall be an electromechanical relay.

Findings of Fact

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

1. Applicant intends to utilize Schindler model 3300 MRL elevator cars at the locations listed in Jurisdictional and Procedural Matters, section 1.

2. The installation contract for these 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. The Schindler model 3300 MRL elevator cars are not supported by circular steel wire ropes, as required by the Elevator Safety Orders (ESO). They utilize non-circular elastomeric-coated steel belts and specialized suspension means fastenings.

4. No machine room is provided, preventing the inspection transfer switch from being located in the elevator machine room. The lack of machine room also prevents the seismic reset switch from being located in the elevator machine room.

5. Applicant proposes to relocate the inspection transfer switch and seismic reset switch in an alternative enclosure.

6. The driving machine and governor are positioned in the hoistway and restrict the required overhead clearance to the elevator car top.

7. Applicant proposes to insert the car-top railings at the perimeter of the car top.

8. Applicant intends to use an elevator control system, model CO NX100NA, with a standalone, solid-state motor control drive system that includes devices and circuits having a Safety Integrity Level (SIL) rating to execute specific elevator safety functions.

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) 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 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.

Decision and Order:

Each Application being the subject of this proceeding, per the table in Jurisdictional and Procedural Matters, section 1 above, is conditionally GRANTED, to the extent that each such Applicant shall be issued permanent variance from California Code of Regulations, Title 8, section 3141 shall be GRANTED subject to the following conditions and limitations:

Elevator Safety Orders:

• 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 (Only to the extent necessary to permit the use of the Elastomeric-coated Steel Belts proposed by the Applicant, in lieu of circular steel suspension ropes.);

• Inspection transfer switch: 2.26.1.4.4(a) (Only to the extent necessary to permit the inspection transfer switch to reside at a location other than the machine room);

• Seismic reset switch: 8.4.10.1.1(a)(2)(b) (Only to the extent necessary to permit the seismic reset switch to reside at a location other than the machine room. room);

• Car-Top Railing: 2.14.1.7.1 (Only to the extent necessary to permit the use of the car-top railing system proposed by the Applicant, where the railing system is located inset from the elevator car top perimeter);

• Means of Removing Power: 2.26.9.6.1 (Only to the extent necessary to permit the use of SIL-rated devices and circuits as a means to remove power from the AC driving motor, where

the redundant monitoring of electrical protective devices is required by the Elevator Safety Orders).

Conditions:

1. The elevator suspension system shall comply to the following:

    a. 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

    b. 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 upon request.

        STM member mandatory replacement criteria shall include:

        i. Any exposed wire, strand or cord;
        ii. Any wire, strand or cord breaks through the elastomeric coating;
        iii. Any evidence of rouging (steel tension element corrosion) on any part of the elastomeric-coated steel suspension member;
        iv. Any deformation in the elastomeric suspension member such as, but not limited to, kinks or bends;

    c. 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.

    d. 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.

    e. 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.

f. 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).

g. 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. The bend cycle monitoring system shall be tested annually in accordance with the procedures required by condition 1b above.

h. The elevator shall be provided with a device to monitor the remaining residual strength of each STM member. The device shall conform to the requirements of Division Circular Letter E-10-04, a copy of which is attached hereto as Exhibit 1 and incorporated herein by reference.

i. The elevator crosshead data plate shall comply with the requirements of ASME A17.1-2013, section 2.20.2.1.

j. A suspension means data tag shall be provided that complies with the requirements of ASME A17.1-2013, section 2.20.2.2.

k. Comprehensive visual inspections of the entire length of each and all installed suspension members, to the criteria developed in condition 1b, shall be conducted and documented every six months by a CCCM.

l. The Applicant shall be subject to the requirements set out in Exhibit 2 of this Decision and Order, "Suspension Means Replacement Reporting Condition," Incorporated herein by this reference.

m. 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. If the inspection transfer switch required by ASME A17.1-2004, section 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.

3. 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.

4. 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 the railings to perform adjustments, maintenance, repairs or inspections. The Applicant shall not permit anyone to stand or climb over the car-top railing.

    b. The distance that the railing can be inset shall be limited to not more than 6 inches.

    c. 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.

    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 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

    f. 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).

5. The SIL-rated devices and circuits used to inhibit electrical current flow in accordance with ASME A17.1-2004, section 2.26.9.6.1 shall comply with the following:

    a. The SIL-rated devices and circuits shall consist of a Variodyn SIL-3 rated Regenerative, Variable Voltage Variable Frequency (VVVF) motor drive unit, model VAF013 or VAF023, 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 (968/FSP 1556.00), and followed by the applicable revision number (as in 968/FSP 1556.00/19).

b. The devices and 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, testing, or replacement of the SIL-rated circuits shall be developed and a copy maintained in the elevator machine/control room/space. The procedures or methods shall include clear color photographs of each SIL-rated component, with notations identifying parts and locations.

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

f. A successful test of the SIL-rated devices and 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. Any alterations to the SIL-rated devices and 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. Any replacement of the SIL-rated devices and 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. Any repairs to the SIL-rated devices and 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 devices and circuits shall be maintained within the temperature and humidity range specified by Schindler Elevator Corporation. The temperature and humidity range shall be posted on each enclosure containing SIL-rated devices and circuits.

k. Field changes to the SIL-rated system are not permitted. Any changes to the SIL-rated system's devices and circuitry will require recertification and all necessary updates to the documentation and diagrams required by conditions d. and e. above.

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 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.

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 procedural manner prescribed per Title 8, Chapter 3.5, Subchapter 1.

I hereby certify that the above Proposed Decision is the decision of the Hearing Panel, and the Hearing Panel recommends its adoption by the Occupational Safety and Health Standards Board as the Board's decision in this preceding.

DATED: 11/2/20

Autumn Gonzalez, Hearing Officer

EXHIBIT 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

EXHIBIT 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 Pl., 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 Al7.l-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.

THE PROPOSED DECISION FOR OSHSB FILE NO. 20-V-128, PATTON EQUITIES LLC, WILL BE PROVIDED WHEN IT IS READY FOR THE BOARD'S CONSIDERATION.

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 Controller Alteration (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: October 23, 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: November 19, 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 Controller Alteration (Group IV)	OSHSB File Nos.: Per Section A.1 table below PROPOSED DECISION Hearing Date: October 21, 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-286	Hawthorne Plaza Associates LLC	75 Hawthorne Street San Francisco, CA	8

2. The safety orders at issue is California Code of Regulations, Title 8, Elevator Safety Order (ESO), Section 3141, incorporated ASME A17.1-2004, Section 2.26.9.4.

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 October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

3. 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; Mark Wickens and 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 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 files and decisions, concerning the Elevator Safety Order standards at issue. At close of hearing on October 21, 2020 Hearing Officer.

C. Findings of Fact

1. Respecting, and for the purpose of alteration to, each above Section A.1 table listed conveyance at the specified variance locations, in the specified quantities, each Section A.1 table listed Applicant has applied for a permanent variance from California Code of Regulations, Title 8, Section 3141 incorporated ASME A17.1-2004, Section 2.26.9.4, requirements (per Section 8.7.2.27.4(a)).

2. ASME A17.1-2004, Section 2.26.9.4, states:

> *"**2.26.9.4** Redundant devices used to satisfy 2.26.9.3 in the determination of the occurrence of a single ground, or the failure of any single magnetically operated switch, contactor or relay, or of any single solid state device, or any single device that limits the leveling or truck zone, or a software system failure, shall be checked prior to each start of the elevator from a landing, when on automatic operation. When a single ground or failure, as specified in 2.26.9.3, occurs, the car shall not be permitted to restart. Implementation of redundancy by a software system is permitted, provided that the removal of power from the driving-machine motor and brake shall not be solely dependent on software-controlled means."*

3. A principal intent of this code requirement is to avoid hazards that would be created by the failure of critical elevator safety circuits. Toward this purpose, use of software as the sole method of controlling such critical elevator safety circuits is prohibited.

4. Each Applicant proposes the use of a 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 would continuously monitor these devices and performs certain elevator safety functions. The design of this SIL rated software system and its related circuits includes a redundant (software) means to remove the power from the driving machine motor and brake under certain conditions.

5. The proposed Otis E2 elevator control system is to interface with a software system and related circuits having a certain Safety Integrity Level (SIL) rating, to monitor, process, and execute certain safety functions of the elevator, in a manner and configuration noncompliant with California ESO incorporated ASME A17.1-2004, Section 2.26.9.4, preclusion of safety system redundancy solely dependent upon a software controlled means.

6. The Applicant contends that the proposed SIL rated software system and its circuits conform to the relevant newer ASME A17.1 provisions—namely ASME A17.1-2013, Section 2.26.9.3.2.

7. ASME A17.1-2013, Section 2.26.9.3.2, states:

> ***"2.26.9.3.2*** *Methods used to satisfy 2.26.9.3.1 using software systems are permitted, provided that (a) a non-software-controlled means is also used to remove power from the driving-machine motor and brake, or (b) the software system and related circuits are listed/certified to a SIL rating that is in accordance with the applicable requirements of IEC 61508-2 and IEC 61508-3. This software system and its related circuits shall have a SIL of not less than the highest SIL value of the safety function(s) in Table 2.26.4.3.2 used in the circuit. The software system and related circuits shall be identifiable on wiring diagrams (see 8.6.1.6.3) with part identification, SIL, and certification identification information that shall be in accordance with the certifying organization's requirements."*

8. The Division has performed a safety analyzes of the proposed SIL rated software system and its related circuits, and determined the proposed system to be in conformity with relevant requirements of ASME A17.1-2013, Section 2.26.9.3.2, addressing safety issues associated with the proposed use of such a software system.

9. The equivalence of ASME A17.1-2013, Section 2.26.9.3.2, compliant control systems of the proposed type, with the safety of ASME A17.1-2004, Section 2.26.9.4, systems controlling the same critical safety functions, has been the subject of previous Division analyses, and Board decisions, concerning Otis Skyrise Elevators. In each of these prior matters, it was the recommendation of Division, with concurrence of Board engineering staff, and conclusion of the Board, that the type of ASME A17.1-2013, Section 2.26.9.3.2, compliant control system (as proposed in the present matter), subject to conditions in material conformity with those of the present Decision and Order, would provide for safety equivalent of superior to that of a ASME A17.1-2004, Section 2.26.9.4, compliant control system.

10. As provided per Title 8, Section 424.1, and as stipulated by the parties (see above Section B.4) The Board takes Official Notice of its decision, and respective Division and Board staff review of application, in the matters of OSHSB Permanent Variance File Nos. 14-V-090, 17-V-064, and 18-V-303. The permanent variances conditionally issued in the afore cited matters, exemplify numerous such previously issued variances providing for utilization of ASME A17.1-2013, Section 2.26.9.3.2, compliant control systems of the type presently proposed—absent known diminution in passenger or worker safety to date.

11. As to additional foundational evidence and findings concerning the essential safety rating and its indicative nomenclature to be labeled or marked on the subject software system and related circuits, as specified in the below Decision and Order, the Board also takes Official Notice of its Decision, and therein referenced exhibits, in OSHSB Permanent Variance File No. 15-V-397M1.

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 conditions in material conformity with those found in the below Decision and Order, will provide safety equivalent to the Title 8 standards from which permanent variance is sought. Further, by way of written evaluation (Exhibit PD-3), and statements at hearing, Board staff concurs with Division in recommending that such conditional grant will provide for safety equivalence.

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 modification of permanent variance may be conditionally granted, and

(2) a preponderance of the evidence establishes that Applicant's proposal, as below revised and 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 modified variance is being sought.

E. Decision and Order

Upon adoption of this Decision and Order by the Board, each above Section A.1 table listed Applicant, with respect to the corresponding listed number of conveyances and variance location, is conditionally Granted permanent variance from California Code of Regulations, Title 8, Elevator Safety Order (ESO), Section 3141, incorporated ASME A17.1-2004, Section 2.26.9.4, as per Section 8.7.2.27.4(a), subject to all below enumerated limitations and conditions:

1. 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 doors or covers of the enclosures containing the SIL rated components shall be clearly labeled or tagged on their exteriors 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.

2. 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 D.1(d), and other terms of this permanent variance.

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

4. 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.

5. 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.

6. 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: October 23, 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 by: Vision View Partners	OSHSB FILE No. 20-V-299 Proposed Decision Dated: October 23, 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: November 19, 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 by: Vision View Partners	OSHSB File No.: 20-V-299 PROPOSED DECISION Hearing Date: October 21, 2020

A. Procedural Matters:

1. Vision View Partners ("Applicant") has applied for a permanent variance from provisions of Title 8 of the California Code of Regulations regarding vertical platform (wheelchair) lifts, with respect to one vertical platform (wheelchair) lift proposed to be located at:

   4974 E. Clinton Ave.
   Fresno, CA

2. The safety orders at issue are stated in the prefatory part of the Decision and Order. This proceeding is conducted in accordance with Labor Code Section 143, and California Code of Regulations, Title 8, Section 401, et. seq.

3. This hearing was held on October 21, 2020, in Sacramento, California, via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

4. At the hearing, Susan Bethea, with Arrowlift of California, appeared on behalf of the Applicant, Mark Wickens and David Morris appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

5. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: subject Application for Permanent Variance, as Exhibit PD-1, Notice of Hearing in this matter as PD-2, Board staff Pending Application for Permanent Variance memorandum 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 decision concerning the Elevator Safety Order requirements at issue. On October 21, 2020, at close of hearing, the record closed and the matter was taken under submission on behalf of the Board.

B. Findings of Fact

Based on the record of this proceeding, and officially noticed Board records per (above

Section A.5) stipulation of Applicant and Division—inclusive of below cited permanent variance file decisions—the Board finds the following:

1. The Applicant proposes to install one (1) vertical platform (wheelchair) lift at a location having the address of:

   4974 E. Clinton Ave.
   Fresno, CA

2. The subject vertical lift is proposed to be a Symmetry Model VPC ELP-168, with a vertical travel range of approximately 168 inches. That range of travel exceeds the 12 foot maximum vertical rise allowed by ASME A18.1-2003, Section 2.7.1—the State of California standard in force at the time of this Decision.

3. The Division's evaluation in this Matter, states that the more recent consensus code ASME A18.1-2005 allows for vertical platform lifts to have a travel not exceeding 14 feet (168 in.).

4. Permanent variances regarding the extended travel of vertical platform lifts, of similar configuration to that of the subject proposed model, have been previously granted, absent subsequent harm attributable to such variance being reported by Division. (E.g. OSHSB File Nos. 13-V-260, 15-V-097, 17-V-270, 18-V-278, 19-V-256).

5. With respect to the equivalence or superior of safety, conditions and limitations of the Decision and Order are in material conformity with findings and conditions of prior Board permanent variance decisions, including the above cited.

6. Per its written Review of Application for Permanent Variance, Exhibit PD-4, it is the informed opinion of Division that equivalent safety (at minimum) will be achieved upon grant of presently requested permanent variance, subject to conditions and limitations incorporated into the below Decision and Order. Per its written review memorandum (Exhibit PD-3), Board staff concurs with Division in recommending that such conditional grant will provide for safety equivalence.

C. Conclusive Findings

On the basis of the above procedural matters, legal authority, and findings of fact, the Board finds that Applicant has complied with the statutory and regulatory requirements that must be met before an application for a permanent variance may be granted and that a preponderance of the evidence establishes that the Applicant's proposal, subject to all limiting conditions set forth in the below Decision and Order, will provide for conveyance safety, and employment and a place of employment that are as safe and healthful, as those that would prevail if the Applicant complied with the safety orders at issue.

D. Decision and Order

The Application for Permanent Variance of Vision View Partners, OSHSB File No. 20-V-299, is conditionally GRANTED to the limited extent, upon the Board's adoption of this Proposed Decision, Vision View Partners, shall have permanent variance from California Code of Regulations, Title 8, Sections 3142(a) and 3142.1 incorporated ASME A18.1-2003, Section 2.7.1, inasmuch as it restricts the vertical rise of a wheelchair lift to a maximum of 12 feet, with respect to one (1) Symmetry Model VPC ELP-168 Vertical Platform Lift, to be located at:

4974 E. Clinton Ave.
Fresno, CA

The above referenced vertical platform lift shall be subject to the following further conditions and limitations:

1. This lift may travel up to 168 inches, unless the manufacturer's instructions provide for a lesser vertical travel limit, or lesser total elevation change, in which case, travel shall be limited to the lesser limit or elevation change.

2. The wheelchair lift shall be installed and operated in accordance with the manufacturer's instructions, unless the provisions of this variance or applicable provisions of the law provide otherwise.

3. Durable signs with lettering not less than 5/16 inch on a contrasting background shall be permanently and conspicuously posted inside the car and at all landings indicating that the lift is for the exclusive use of persons with physical impairments and that the lift is not to be used to transport material or equipment. The use of the lift shall be limited in accordance with these signs.

4. A maintenance contract shall be executed between the owner/operator and a Certified Qualified Conveyance Company (CQCC). The contract shall stipulate that the routine preventive maintenance required by Section 3094.5(a)(1) shall be performed at least quarterly and shall include but not be limited to:

   (a) Platform driving means examination;

   (b) Platform examination;

   (c) Suspension means examination;

   (d) Platform alignment;

   (e) Vibration examination;

(f) Door/gate electrical; and

(g) Mechanical lock examination.

5. The lift shall be tested annually for proper operation under rated load conditions. The Division's Elevator Unit District Office shall be provided written notification in advance of the test, and the test shall include a check of car or platform safety device.

6. The lift shall be shut down immediately if the lift experiences unusual noise and vibration, and the Applicant shall notify the CQCC immediately. The lift shall only be restarted by the CQCC.

7. The Applicant shall notify the CQCC if the lift shuts down for any reason. The lift shall only be restarted by the CQCC.

8. Service logs including, but not limited to, the device shutdown(s) shall be kept in the maintenance office and shall be available to the Division. The shutdown information shall contain the date of the shutdown, cause of the shutdown, and the action taken to correct the shutdown.

9. The Applicant shall provide training on the safe operation of the lift in accordance with Section 3203. Such training shall be conducted annually for all employees using or who will be assisting others in using the lift. The Applicant shall notify the Division in writing that training has been conducted. A copy of the training manual (used for the subject training), and documentation identifying the trainer and attendees shall be maintained for at least 1 year and provided to the Division upon request.

10. Any CQCC performing inspections, maintenance, servicing or testing of the elevators shall be provided a copy of this variance decision.

11. The Division shall be notified when the lift is ready for inspection, and the lift shall be inspected by the Division and a Permit to Operate shall be issued before the lift is put into service.

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

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

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: October 23, 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.	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: October 23, 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: November 19, 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. (Group IV)	OSHSB File Nos.: Per Section A table, below PROPOSED DECISION Hearing Date: October 21, 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-310	Poway Property LP	13247 Poway Road Poway, CA	1

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 October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Jennifer Linares, with the Schindler Elevator Corporation, appeared on behalf of each Applicant; Mark Wickens and 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 October 21, 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)

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

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: October 23, 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: October 23, 2020 DECISION

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

OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

DAVID THOMAS, Chairman

Date of Adoption: November 19, 2020

BARBARA BURGEL, Member

DAVID HARRISON, Member

NOLA KENNEDY, Member

CHRIS LASZCZ-DAVIS, Member

LAURA STOCK, Member

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: October 21, 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-311	Poway Property LP	13247 Poway Road Poway, 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 October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Jennifer Linares, with the Schindler Elevator Company, appeared on behalf of each Applicant; Mark Wickens and 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 October 21, 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:

CAUTION
STAY INSIDE RAILING
NO LEANING BEYOND RAILING
NO STEPPING ON, OR BEYOND, RAILING

3.6. The Group IV requirements for car top clearances shall be maintained (car top clearances outside the railing will be measured from the car top and not from the required bevel).

4. The elevator shall be serviced, maintained, adjusted, tested, and inspected only by CCCM having been trained, and competent, to perform those tasks on the Schindler Model 3300 elevator system in accordance with written procedures and criteria, including as required per above Conditions 1.2, and 1.3.

5. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division, and all applicable requirements met, including conditions of this permanent variance, prior to a Permit to Operate the elevator being issued. The elevator shall not be placed in service prior to the Permit to Operate being issued by Division.

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

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

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

Dated: October 23, 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 Sleep Mode Escalators	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: October 23, 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: November 19, 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 Sleep Mode Escalators	OSHSB File Nos.: Per Section A table, below PROPOSED DECISION Hearing Date: October 21, 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 Escalators
20-V-312	Los Angeles World Airports	CCTA Station 251 Center Way Los Angeles, CA	6
20-V-313	Los Angeles World Airports	ECTA Station 150 W. Center Way Los Angeles, CA	6
20-V-314	Los Angeles World Airports	EITF Station 9600 S. Aviation Blvd. Los Angeles, CA	9
20-V-315	Los Angeles World Airports	WITF Station 6001 W 96th St. Los Angeles, CA	9
20-V-316	Los Angeles World Airports	WCTA Station 351 World Way Los Angeles, CA	10

i. Specifically, per Board Staff Exhibit table below:

OSHSB Variance File No.	Escalator Identification No.
20-V-312	ESC 01, ESC 02, ESC 03, ESC 04, ESC 05, and ESC 06
20-V-313	ESC 01, ESC 02, ESC 03, ESC 04, ESC 05, and ESC 06
20-V-314	ESC 01, ESC 02, ESC 03, ESC 04, ESC 05, ESC 06, ESC 07, ESC 08, and ESC 09
20-V-315	ESC 01, ESC 02, ESC 03, ESC 04, ESC 05, ESC 06, ESC 07, ESC 08, and ESC 09
20-V-316	ESC 01, ESC 02, ESC 03, ESC 04, ESC 05, ESC 06, ESC 07, ESC 08, ESC 09, and ESC 10

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 California Code of Regulations, Title 8, Section 3141.11, incorporated ASME A17.1-2004, Sections 6.1.4.1., and 6.1.6.4.

B. Process and Procedure:

1. This hearing was held on October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Jennifer Linares, with Schindler Elevator Corporation, appeared on behalf of the Applicants; Mark Wickens and 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: Application for Permanent Variance 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, Board Staff Exhibit table per Section A.1.i. as PD-6, 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 October 21, 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:

1. Applicant proposes to install new escalators that include a "sleep mode" capability that will cause the escalator to run at a reduced speed when not in use to conserve energy. This arrangement does not comply with the Elevator Safety Orders that prohibit the intentional variation of an escalator's speed after start-up, and thus variance is requested from California Code of Regulations, Title 8, Elevator Safety Orders, Group IV, Section 3141.11, incorporated ASME A17.1-2004, Sections 6.1.4.1 regarding limits of escalator speed, and A17.1-2004, Section 6.1.6.4, regarding handrail speed. The Division has identified another closely related Section 3141.11 incorporated ASME requirement from which variance would be needed, in order to for the escalator system to operate as proposed—ASME A17-1-2004, Section 6.1.4.1, regarding escalator speed after start-up.

2. 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."

3. A purpose of this regulation is to ensure that the speed of the escalator during normal operation is kept constant to prevent passengers from losing their balance.

4. The Applicant contends that equivalent safety is achieved through the 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. When the sensors indicate a lack of traffic approaching the escalator, for a specified amount of time not less than three times the amount of time to transfer a passenger between landings, the control system will initiate the "sleep mode" function, decelerating the escalator to a "crawling speed", no less than 0.05 m/s (10 ft./min). If passenger traffic is detected while the escalator is in "Sleep Mode," a signal will 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 1ft/sec^2.

5. Per Applicant, the sensors used to detect passenger traffic would provide coverage able to detect passengers at a distance greater than a walking person could travel in 2 seconds, which will ensure the escalator is running at normal speed prior to passenger boarding.

6. Applicant proposes that if passenger traffic is detected approaching the escalator opposite the motion of the escalator steps while 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. This arrangement is intended to discourage passengers from entering the escalator opposite the motion of the steps while at reduced speed.

7. As proposed, the sensors used to detect passenger traffic are to be installed and arranged in a double redundant, fail-safe fashion with two sensors installed at each end of the escalator providing the same coverage field. This arrangement is intended to allow for passenger traffic detection in the case of any single sensor failure and provide for signal comparison by the controller to detect sensor failure. In the event of a detected failure of any one of the passenger traffic sensors, "sleep mode" would be disabled and the escalator would remain at normal operating speed until all sensors have resumed normal function. In addition, the passenger traffic sensors are to be wired to the escalator controller in a fail-safe manner that prevents "sleep mode" activation if the wiring is cut or disconnected.

8. The Division notes in its Review of Application (Exhibit PD-4) that the Applicant proposed "sleep mode" function meets the requirements of ASME A17.1-2010, Section 6.1.4.1 regarding the varying the speed of an escalator after start-up. For this reason among others identified within the its Review of Application, the Division advises that equivalent or superior safety will be provided by grant of permanent variance in this matter, as conditionally limited per the below Decision and Order.

9. 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."

10. The Division states correctly in its Review of Application, that Applicant's proposed "sleep mode" function is materially 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, and the concluding conditional grant of variance provided for the disabling of the handrail-speed monitoring device while the escalator is operating in slow speed "sleep mode."

11. ASME A17.1-2004, Section 6.1.6.4, states:

> *"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."*

12. The Division advises that the proposed "sleep mode" system incorporating the proposed hand rail speed control specifications, subject to all conditions and limitations of the below Decision and Order will provide for safety equivalence.

13. The proposed "sleep mode" system functions and devices are materially comparable to other installations for which permanent variance previously has been granted by the Board (e.g. OSHSB File No. 13-V-153, 15-V-236, 16-V-069), absent, to the Division's reported knowledge, adverse effect upon passenger or workplace safety or health.

14. Both Division and Board staff recommend that conditionally limited grant of permanent variance in this matter, per the below Decision and Order, will provide for passenger safety and occupational safety and health equivalent or superior to that would otherwise prevail per the subject Elevator Safety Order requirements.

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:

The Application of each above Section A table identified Applicant, is conditionally GRANTED as specified below, and to the limited extent, as of the date the Board adopts this Proposed Decision, the respective Section A table specified quantity of Schindler escalators, at the

specified location, shall have permanent variance from the following subparts of ASME A17.1-2004, Sections 6.1.4.1., and 6.1.6.4, subject to each and all of the following requirements and limitations:

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 4.5ft/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 any of the passenger detection sensors remains tripped for at least 5 minutes but no more than 10 minutes, then the control system shall generate a fault to indicate which sensor is 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.

2. If one of the paired sensors at either end of the escalator does not trip while the other paired sensor trips at least five times but no more than ten times, the control system shall generate a fault to indicate which sensor is 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 the 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 Certified Qualified Conveyance Company (CQCC; elevator contractor) performing inspection, maintenance, servicing or testing of the escalators shall be provided a copy of the variance decision.

7. The Division shall be notified when the escalator is ready for inspection, and the escalator shall be inspected by the Division and a "Permit to Operate" issued before the escalator may be placed in service.

8. 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.

9. 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, Section 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: October 23, 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 Gen2S Elevators (Group IV)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: October 23, 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: November 19, 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: October 21, 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-317	DEANZA PROPERTIES	3225 El Camino Real Palo Alto, CA	1
20-V-318	Empire at Larchmont LLC	5801 W Camerford Ave Los Angeles, CA	1
20-V-326	Kaiser Foundation Health Plan, Inc.	Kaiser Hesperia Medical Office Building 9550 Escondido Ave. Hesperia, CA	2
20-V-329	Villa Street Apartments, a California Limited Partnership	1720 Villa Street Mountain View, CA	3
20-V-330	City of Hope National Medical Center	New Hope Village Hotel 1500 E. Duarte Rd. Duarte, CA	3
20-V-331	City of Sacramento	Sacramento Convention Center 1400 J Street Sacramento, CA	2
20-V-336	Camden USA, Inc.	4325 Third Ave. San Diego, CA	1
20-V-337	Camden USA, Inc.	4305 Third Ave. San Diego, CA	1

20-V-338	Camden USA, Inc.	4315 Third Ave. San Diego, CA	1
20-V-339	California State University, Los Angeles	Student Housing East Project - Building 053 California State University, Los Angeles Los Angeles, CA	8
20-V-340	1122 7th Street LLC	1120 7th Street Sacramento, CA	2
20-V-341	Thomas Safran & Associates	205 N Market Street Inglewood, CA	3
20-V-342	MGA North LLC	24 Building D 20060 W Prairie St Winnetka, CA	3
20-V-343	Madera Unified School District	Madera Technical Exploration Center Sunrise Ave. & Tozer St (955 Lilly Street) Madera, CA	1

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 October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

3. At the hearing, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator, appeared on behalf of each Applicant; Mark Wickens and 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 October 21, 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: October 23, 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: ThyssenKrupp Elevators (Group IV; wire ropes and sheaves)	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: October 23, 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: November 19, 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: ThyssenKrupp Elevators (Group IV; wire ropes and sheaves)	OSHSB File Nos.: Per Section A.1 table PROPOSED DECISION Hearing Date: October 21, 2020

A. Subject Matter:

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

Variance N.	Applicant Name	Variance Location Address	No. of Elevators
20-V-319	1145 Polk Street LLC	1145 Polk St. San Francisco, CA	1
20-V-320	KFF RPP Storek, LLC	149 9th St. San Francisco, CA	1

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

B. Procedural:

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

2. This hearing was held on October 21, 2020, in Sacramento, California, via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

3. At the hearing, Andrew Ferris, with ThyssenKrupp Elevator appeared on behalf of each Applicant, Mark Wickens and David Morris appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

4. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: each respective Section A.1 specified Application for Permanent Variance as Exhibit PD-1; Notice of Hearing in this matter as PD-2; Board staff Pending Application Memorandum as PD-3; Division Review of Application as PD-4; Review Draft 1 Proposed Decision as PD-5; and official notice taken of the Board's files, records, recordings and decisions regarding conveyances. At the close of the hearing on October 21, 2020, the record was closed, and matter taken under submission by the Hearing Officer.

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

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

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

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

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

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

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

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

   b. Providing a 2:1 roping ratio;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

D. Conclusive Findings:

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

E. Decision and Order:

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

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

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

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

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

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

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

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

8. The Applicant shall provide and install a Rope Tension Monitoring System (RTMS) on each suspension rope. The RTMS shall monitor the tension in each suspension rope and immediately cut off power to the elevator machine and brakes if the differential

between any single rope and the average tension in all ropes suspending the car exceeds ±40% for more than 3 seconds. The Applicant will take all reasonable steps to make sure that this system is set to operate if there is a "±40%" tension discrepancy; however, no violation of this condition will be deemed to occur if, on a given occasion, the system goes into operation when the tension discrepancy is between "±40%" and "±45%."

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

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

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

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

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

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

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

Dated: October 23, 2020

Christina Shupe, Hearing Officer

APPENDIX 1

OSHSB File Number	Car	Minimum Suspension Ropes per Elevator (per Condition No. 3)	Roping Ratio	Max. Rated Speed In Feet per Minute (per Condition No. 6)	Maximum Suspended Load per Elevator (+5%) (per Cond.No. 7)
20-V-319	1	6	2:1	150	6,882
20-V-320	1	6	2:1	150	6,854

APPENDIX 2

Suspension Means Replacement Reporting Condition

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

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

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

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

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

    f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement and (2) any conditions that existed to cause damage or distress to the suspension components being replaced.

    g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in Section 2.a above.

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

In the Matter of Application for Permanent Variance by: Los Angeles World Airports	OSHSB FILE No. 20-V-323 Proposed Decision Dated: October 23, 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: November 19, 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 by: Los Angeles World Airports	OSHSB File No.: 20-V-323 PROPOSED DECISION Hearing Date: October 21, 2020

A. Procedural Matters

1. Los Angeles World Airports (Applicant) has applied for permanent variances from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, as they pertain to each subject moving walk, to be situated at a location of CCTA Station, 251 Center Way, Los Angeles, California, as more specifically per below Appendix 2.

2. The safety orders at issue are stated in the prefatory part 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 October 21, 2020, in Sacramento, California, via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

5. At the hearing Jennifer Linares with Schindler Elevator Corporation, appeared on behalf of the Applicant, Mark Wickens and David Morris appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Senior Engineer Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

6. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: Application for Permanent Variance in File No. 20-V-323 (Application) as Exhibit PD-1, Notice of Hearing in this matter as PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review Draft 1 Proposed Decision as PD-5; and official notice taken of the Board's files, records, recordings and decisions regarding conveyances. At the close of the hearing on October 21, 2020, the record was closed, and the matter 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 Code of Regulations, Title 8, Elevator Safety Orders, toward the stated purpose of installing new moving walks that include a "Sleep Mode" capability that will cause the moving walk to run at a reduced speed when not in use, thus resulting in conservation of electrical energy.

2. Each subject moving walkway are to be situated at the variance location of CCTA Station, 251 Center Way, Los Angeles, California, and more specifically per below Appendix 2.

3. 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 a moving walk's speed after start-up.

4. In order to install moving walks 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 3141.12 [ASME A17.1-2004, Sections 6.2.4] regarding the variation of moving walk speed.

5. Concerning variance in moving walk speed, Code of Regulations, Title 8, Section 3141.12 [ASME A17.1-2004, Section 6.2.4] states:

> The maximum speed of a treadway shall depend on the maximum slope at any point on the treadway. The speed shall not exceed the value determined by Table 6.2.4.
>
> The speed attained by a moving walk after startup shall not be intentionally varied.

Table 6.2.4	**Treadway Speed**
Maximum Treadway Slope at Any Point on Treadway, deg	Maximum Treadway Speed, m/s (ft/min)
0 to 8	0.9 (180)
Above 8 to 12	0.7 (140)

6. As quoted above, the intent of Section 3141.12 is to ensure that the speed of the moving walk during normal operation is kept constant to prevent passengers from losing their balance.

7. The Applicant contends that equivalent safety is achieved through the use of a controller that is capable of varying the moving walk drive motor speed in conjunction with dual redundant sensors strategically placed at each end of the unit to detect passenger traffic. When the sensors indicate a lack of traffic approaching the moving walk for 10 minutes, the control system will initiate the "sleep mode" function, decelerating the moving walk to approximately 20 feet per minute. If passenger traffic is detected while the moving walk is in "sleep mode", a signal will be sent to the controller to "wake up", resulting in the moving walk accelerating to normal operating speed within 1.5 seconds at a rate no greater than one ft/sec^2.

8. The Applicant states that if passenger traffic is detected approaching the moving walk opposite the motion of the moving walk while in "sleep mode", an alarm will sound and the moving walk will exit "sleep mode" and accelerate until it reaches normal operating speed at a rate no greater than one ft/sec^2. This arrangement is to discourage passengers from entering the moving walk opposite the motion of the treadway while at reduced speed. The Applicant proposes sensors used to detect passenger traffic being installed and arranged in a double redundant, fail-safe fashion with two sensors installed at each end of the moving walk providing the same coverage field.

9. The Applicant states that the sensors used to detect passenger traffic are installed and arranged in a double redundant, fail-safe fashion with two sensors installed at each end of the moving walk, providing the same coverage field. This arrangement allows for passenger traffic detection in the case of any single sensor failure and provides for signal comparison by the controller to detect sensor failure. In the event of a detected failure of any one of the passenger traffic sensors, "sleep mode" would be disabled and the moving walk would remain at normal operating speed until all sensors have resumed normal function. The passenger traffic sensors are wired to the moving walk controller in a fail-safe manner that prevents "sleep mode" activation if the wiring is cut or disconnected. 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 moving walk 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 moving walk controller in a fail-safe manner that prevents "sleep mode" activation if the sensor wiring is cut or disconnected.

10. The Division, in its evaluation (Exhibit PD-4), is of the well informed opinion that the Applicant proposed Sleep Mode function meets the requirements of ASME A17.1-2010, Section 6.2.4.1.2 regarding the varying the speed of an moving walk after start-up.

11. ASME A17.1-2010, Section 6.2.4.1.2 states:

"Variation of the moving-walk speed after start-up shall be permitted provided the moving-walk 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 moving walk such that

(1) detection of any approaching passenger shall cause the moving walk to accelerate to or maintain the full moving walk speed conforming to 6.2.4.1.2(a) through (d)

(2) detection of any approaching passenger shall occur sufficiently in advance of boarding to cause the moving walk 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 moving walk travel and shall cause the moving walk to accelerate to full rated speed and sound the alarm (see 6.2.6.3.2) 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 moving walk to operate at full rated speed only."

12. 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, 16-V-069). In these previous variance decisions it was concluded that a variance was required from ASME A17.1-2004, section 6.2.6.4 regarding handrail speed monitoring. Conditions set

forth in the previous variance decisions allow for the disabling of the handrail speed monitoring device while the conveyance is operating in slow speed Sleep Mode.

13. Concerning handrail speed monitoring, Section 3141.12 [ASME A17.1-2004, Section 6.2.6.4] states:

> "Handrail Speed Monitoring Device. A handrail speed monitoring device shall be provided that will cause the activation of the alarm required by 6.2.6.3.1(b) without any intentional delay, whenever the speed of either handrail deviates from the treadway 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."

14. The Division, in its Review of Application (Exhibit PD-4), and Board staff, in its Application Review Memorandum (Exhibit PD-3), each conclude that the moving walk Sleep Mode function design, as proposed by the Applicant, subject to certain conditions and limitations, will provide equivalent occupational safety and health to the Code of Regulations, Title 8, Elevator Safety Orders requirements from which variance is being sought, and conveyance passenger safety, and recommend that the applied for variance be granted subject to specified 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, as supported by documentary evidence of record and hearing testimony in the matter, 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

Applicant Los Angeles World Airports is hereby conditionally GRANTED permanent variances from the following specified provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, as they pertain to each moving walk to be situated at the location of CCTA Station, 251 Center Way, Los Angeles, California, and more specifically per below Appendix 2 table. Conditional permanent variance is granted from California Code of Regulations, Title 8, Section 3141.12 required applicability of ASME A17.1-2004 Sections

6.2.4, and 6.2.6.4, as each pertains to the moving walk, subject to all below conditions and limitation.

1. The Applicant may intentionally vary the moving walk 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 moving walk 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 moving walk to reach full speed before a passenger, walking at 4.5ft/sec, reaches the comb plate.

   (e) The passenger detection means shall detect a person within a sufficient distance along all possible paths to the moving walk that do not require climbing over barriers or moving walk handrails to assure that the moving walk attains full operating speed before a person walking at 4.5 ft/sec reaches the moving walk comb plate. The minimum detection distance shall be calculated according to the following formula or alternatively according to Appendix 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 moving walk travel shall cause the moving walk to reach full speed before a passenger, walking at 4.5 ft/sec, reaches the comb plate and shall cause the moving walk 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 moving walk shall not be less than 0.05 m/s (10 ft/min). The "Sleep Mode" functionality shall not affect the moving

walk inspection operation. The speed of the moving walk shall not vary during Inspection Mode.

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

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

1. If any of the passenger detection sensors remains tripped for at least 5 minutes but no more than 10 minutes, then the control system shall generate a fault to indicate which sensor is faulted while causing the moving walk to exit the Sleep Mode and remain at the normal run speed until the faulted sensor begins to function properly.

2. If one of the paired sensors at either end of the moving walk does not trip while the other paired sensor trips at least five times but no more than ten times, the control system shall generate a fault to indicate which sensor is faulted while causing the moving walk 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 6.2.6.4 may be disabled while the moving walk 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 moving walks, to demonstrate that the moving walk 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 moving walk.

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 the 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 moving walk. 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 moving walk.

6. Any Certified Qualified Conveyance Company (CQCC; elevator contractor) performing inspection, maintenance, servicing or testing of the moving walk shall be provided a copy of the variance decision.

7. The 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 the 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), the Division of Occupational Safety and Health, or by the Board on its own motion, in the procedural manner prescribed per Title 8, Chapter 3.5, Subchapter 1.

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

DATED: October 23, 2020

Christina Shupe, Hearing Officer

Detection Distance Sleep Mode Operation

Accurate when applied to Escalators/Moving Walks with a rated speed of **100** ft./min.

Acceleration Rate (ft./sec.^{2})	Escalator/Moving Walk "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/Moving Walk 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.)
1 ft./min. = **0.0167** ft./sec.

APPENDIX 1

APPENDIX 2

CCTA Station Units
MW 01
MW 02
MW 03
MW 04
MW 05
MW 06
MW 07
MW 08

APPENDIX 2

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

In the Matter of Application for Permanent Variance by: Los Angeles World Airports	OSHSB FILE No. 20-V-324 Proposed Decision Dated: October 23, 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: November 19, 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 by: Los Angeles World Airports	OSHSB File No.: 20-V-324 PROPOSED DECISION Hearing Date: October 21, 2020

A. Procedural Matters

1. Los Angeles World Airports (Applicant) has applied for permanent variances from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, as they pertain to each subject moving walk, to be situated at a location of WTCA Station, 351 World Way, Los Angeles, California, 90045 as more specifically per below Appendix 2.

2. The safety orders at issue are stated in the prefatory part 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 October 21, 2020, in Sacramento, California, via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

5. At the hearing, Jennifer Linares, with Schindler Elevator Corporation, appeared on behalf of the Applicant, Mark Wickens and David Morris appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Senior Engineer Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

6. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: Application for Permanent Variance in File No. 20-V-324 (Application) as Exhibit PD-1, Notice of Hearing in this matter as PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review Draft 1 Proposed Decision as PD-5; and official notice taken of the Board's files, records, recordings and decisions regarding conveyances. At the close of the hearing on October 21, 2020, the record was closed, and the matter 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 Code of Regulations, Title 8, Elevator Safety Orders, toward the stated purpose of installing new moving walks that include a "Sleep Mode" capability that will cause the moving walk to run at a reduced speed when not in use, thus resulting in conservation of electrical energy.

2. Each subject moving walk are to be situated at the variance location of WCTA Station, 351 World Way, Los Angeles, California, and more specifically per below Appendix 2.

3. 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 a moving walk's speed after start-up.

4. In order to install moving walks 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 3141.12 [ASME A17.1-2004, Sections 6.2.4] regarding the variation of moving walk speed.

5. Concerning variance in moving walk speed, Code of Regulations, Title 8, Section 3141.12 [ASME A17.1-2004, Section 6.2.4] states:

> The maximum speed of a treadway shall depend on the maximum slope at any point on the treadway. The speed shall not exceed the value determined by Table 6.2.4.
>
> The speed attained by a moving walk after startup shall not be intentionally varied.

Table 6.2.4	**Treadway Speed**
Maximum Treadway Slope at Any Point on Treadway, deg	Maximum Treadway Speed, m/s (ft/min)
0 to 8	0.9 (180)
Above 8 to 12	0.7 (140)

6. As quoted above, the intent of Section 3141.12 is to ensure that the speed of the moving walk during normal operation is kept constant to prevent passengers from losing their balance.

7. The Applicant contends that equivalent safety is achieved through the use of a controller that is capable of varying the moving walk drive motor speed in conjunction

with dual redundant sensors strategically placed at each end of the unit to detect passenger traffic. When the sensors indicate a lack of traffic approaching the moving walk for 10 minutes, the control system will initiate the "sleep mode" function, decelerating the moving walk to approximately 20 feet per minute. If passenger traffic is detected while the moving walk is in "sleep mode", a signal will be sent to the controller to "wake up", resulting in the moving walk accelerating to normal operating speed within 1.5 seconds at a rate no greater than one ft/sec^2.

8. The Applicant states that if passenger traffic is detected approaching the moving walk opposite the motion of the moving walk while in "sleep mode", an alarm will sound and the moving walk will exit "sleep mode" and accelerate until it reaches normal operating speed at a rate no greater than one ft/sec^2. This arrangement is to discourage passengers from entering the moving walk opposite the motion of the treadway while at reduced speed. The Applicant proposes sensors used to detect passenger traffic being installed and arranged in a double redundant, fail-safe fashion with two sensors installed at each end of the moving walk providing the same coverage field.

9. The Applicant states that the sensors used to detect passenger traffic are installed and arranged in a double redundant, fail-safe fashion with two sensors installed at each end of the moving walk, providing the same coverage field. This arrangement allows for passenger traffic detection in the case of any single sensor failure and provides for signal comparison by the controller to detect sensor failure. In the event of a detected failure of any one of the passenger traffic sensors, "sleep mode" would be disabled and the moving walk would remain at normal operating speed until all sensors have resumed normal function. The passenger traffic sensors are wired to the moving walk controller in a fail-safe manner that prevents "sleep mode" activation if the wiring is cut or disconnected. 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 moving walk 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 moving walk controller in a fail-safe manner that prevents "sleep mode" activation if the sensor wiring is cut or disconnected.

10. The Division, in its evaluation (Exhibit PD-4), is of the well informed opinion that the Applicant proposed Sleep Mode function meets the requirements of ASME A17.1-2010, Section 6.2.4.1.2 regarding the varying the speed of an moving walk after start-up.

11. ASME A17.1-2010, Section 6.2.4.1.2 states:

> "Variation of the moving-walk speed after start-up shall be permitted provided the moving-walk 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 moving walk such that

(1) detection of any approaching passenger shall cause the moving walk to accelerate to or maintain the full moving walk speed conforming to 6.2.4.1.2(a) through (d)

(2) detection of any approaching passenger shall occur sufficiently in advance of boarding to cause the moving walk 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 moving walk travel and shall cause the moving walk to accelerate to full rated speed and sound the alarm (see 6.2.6.3.2) 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 moving walk to operate at full rated speed only."

12. 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, 16-V-069). In these previous variance decisions it was concluded that a variance was required from ASME A17.1-2004, section 6.2.6.4 regarding handrail speed monitoring. Conditions set forth in the previous variance decisions allow for the disabling of the handrail speed monitoring device while the conveyance is operating in slow speed Sleep Mode.

13. Concerning handrail speed monitoring, Section 3141.12 [ASME A17.1-2004, Section 6.2.6.4] states:

> "Handrail Speed Monitoring Device. A handrail speed monitoring device shall be provided that will cause the activation of the alarm required by 6.2.6.3.1(b) without any intentional delay, whenever the speed of either handrail deviates from the treadway 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."

14. The Division, in its Review of Application (Exhibit PD-4), and Board staff, in its Application Review Memorandum (Exhibit PD-3), each conclude that the moving walk Sleep Mode function design, as proposed by the Applicant, subject to certain conditions and limitations, will provide equivalent occupational safety and health to the Code of Regulations, Title 8, Elevator Safety Orders requirements from which variance is being sought, and conveyance passenger safety, and recommend that the applied for variance be granted subject to specified 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, as supported by documentary evidence of record and hearing testimony in the matter, 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

Applicant Los Angeles World Airports is hereby conditionally GRANTED permanent variances from the following specified provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, as they pertain to each moving walk to be situated at the location of WCTA Station, 351 World Way, Los Angeles, California, and more specifically per below Appendix 2 table. Conditional permanent variance is granted from California Code of Regulations, Title 8, Section 3141.12 required applicability of ASME A17.1-2004 Sections 6.2.4, and 6.2.6.4, as each pertains to the moving walk, subject to all below conditions and limitation.

1. The Applicant may intentionally vary the moving walk 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 moving walk 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 moving walk to reach full speed before a passenger, walking at 4.5ft/sec, reaches the comb plate.

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

   $d = (V_f - Vs) \times (V_w / a)$ 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 moving walk travel shall cause the moving walk to reach full speed before a passenger, walking at 4.5 ft/sec, reaches the comb plate and shall cause the moving walk 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 moving walk shall not be less than 0.05 m/s (10 ft/min). The "Sleep Mode" functionality shall not affect the moving walk inspection operation. The speed of the moving walk shall not vary during Inspection Mode.

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

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

1. If any of the passenger detection sensors remains tripped for at least 5 minutes but no more than 10 minutes, then the control system shall generate a fault to indicate which sensor is faulted while causing the moving walk to exit the Sleep Mode and remain at the normal run speed until the faulted sensor begins to function properly.

2. If one of the paired sensors at either end of the moving walk does not trip while the other paired sensor trips at least five times but no more than ten times, the control system shall generate a fault to indicate which sensor is faulted while causing the moving walk 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 6.2.6.4 may be disabled while the moving walk 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 moving walks, to demonstrate that the moving walk 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 moving walk.

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 the 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 moving walk. 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 moving walk.

6. Any Certified Qualified Conveyance Company (CQCC; elevator contractor) performing inspection, maintenance, servicing or testing of the moving walk shall be provided a copy of the variance decision.

7. The 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 the 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), the Division of Occupational Safety and Health, or by the Board on its own motion, in the procedural manner prescribed per Title 8, Chapter 3.5, Subchapter 1.

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

DATED: October 23, 2020

Christina Shupe, Hearing Officer

Detection Distance Sleep Mode Operation

Accurate when applied to Escalators/Moving Walks with a rated speed of **100** ft./min.

Acceleration Rate (ft./sec.^{2})	Escalator/Moving Walk "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/Moving Walk 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.)
1 ft./min. = **0.0167** ft./sec.

APPENDIX 1

APPENDIX 2

WCTA Station Units
MW 01
MW 02
MW 03
MW 04
MW 05
MW 06

APPENDIX 2

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

In the Matter of Application for Permanent Variance by: Los Angeles World Airports	OSHSB FILE No. 20-V-325 Proposed Decision Dated: October 23, 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: November 19, 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 by: Los Angeles World Airports	OSHSB File No.: 20-V-325 PROPOSED DECISION Hearing Date: October 21, 2020

A. Procedural Matters

1. Los Angeles World Airports (Applicant) has applied for permanent variances from provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, as they pertain to each subject moving walk, to be situated at a location of ECTA Station, 150 West Center Way, Los Angeles, California, 90045 as more specifically per below Appendix 2.

2. The safety orders at issue are stated in the prefatory part 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 October 21, 2020, in Sacramento, California, via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

5. At the hearing Jennifer Linares, with Schindler Elevator Corporation, appeared on behalf of the Applicant, Mark Wickens and David Morris appeared on behalf of the Division of Occupational Safety and Health ("Division"), and Senior Engineer Michael Nelmida appeared on behalf of Board staff acting in a technical advisory role apart from the Board.

6. At the hearing, oral evidence was received and by stipulation of all parties, documents were accepted into evidence: Application for Permanent Variance in File No. 20-V-325 (Application) as Exhibit PD-1, Notice of Hearing in this matter as PD-2, Board staff Pending Application Memorandum as PD-3, Division Review of Application as PD-4, Review Draft 1 Proposed Decision as PD-5; and official notice taken of the Board's files, records, recordings and decisions regarding conveyances. At the close of the hearing on October 21, 2020, the record was closed, and the matter 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 Code of Regulations, Title 8, Elevator Safety Orders, toward the stated purpose of installing new moving walks that include a "Sleep Mode" capability that will cause the moving walk to run at a reduced speed when not in use, thus resulting in conservation of electrical energy.

2. Each subject moving walk are to be situated at the variance location of ECTA Station, 150 West Center Way, Los Angeles, California, and more specifically per below Appendix 2.

3. 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 a moving walk's speed after start-up.

4. In order to install moving walks 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 3141.12 [ASME A17.1-2004, Sections 6.2.4] regarding the variation of moving walk speed.

5. Concerning variance in moving walk speed, Code of Regulations, Title 8, Section 3141.12 [ASME A17.1-2004, Section 6.2.4] states:

> The maximum speed of a treadway shall depend on the maximum slope at any point on the treadway. The speed shall not exceed the value determined by Table 6.2.4.
>
> The speed attained by a moving walk after startup shall not be intentionally varied.

Table 6.2.4	**Treadway Speed**
Maximum Treadway Slope at Any Point on Treadway, deg	Maximum Treadway Speed, m/s (ft/min)
0 to 8	0.9 (180)
Above 8 to 12	0.7 (140)

6. As quoted above, the intent of Section 3141.12 is to ensure that the speed of the moving walk during normal operation is kept constant to prevent passengers from losing their balance.

7. The Applicant contends that equivalent safety is achieved through the use of a controller that is capable of varying the moving walk drive motor speed in conjunction with dual redundant sensors strategically placed at each end of the unit to detect passenger traffic. When the sensors indicate a lack of traffic approaching the moving walk for 10 minutes, the control system will initiate the "sleep mode" function, decelerating the moving walk to approximately 20 feet per minute. If passenger traffic is detected while the moving walk is in "sleep mode", a signal will be sent to the controller to "wake up", resulting in the moving walk accelerating to normal operating speed within 1.5 seconds at a rate no greater than one ft/sec^2.

8. The Applicant states that if passenger traffic is detected approaching the moving walk opposite the motion of the moving walk while in "sleep mode", an alarm will sound and the moving walk will exit "sleep mode" and accelerate until it reaches normal operating speed at a rate no greater than one ft/sec^2. This arrangement is to discourage passengers from entering the moving walk opposite the motion of the treadway while at reduced speed. The Applicant proposes sensors used to detect passenger traffic being installed and arranged in a double redundant, fail-safe fashion with two sensors installed at each end of the moving walk providing the same coverage field.

9. The Applicant states that the sensors used to detect passenger traffic are installed and arranged in a double redundant, fail-safe fashion with two sensors installed at each end of the moving walk, providing the same coverage field. This arrangement allows for passenger traffic detection in the case of any single sensor failure and provides for signal comparison by the controller to detect sensor failure. In the event of a detected failure of any one of the passenger traffic sensors, "sleep mode" would be disabled and the moving walk would remain at normal operating speed until all sensors have resumed normal function. The passenger traffic sensors are wired to the moving walk controller in a fail-safe manner that prevents "sleep mode" activation if the wiring is cut or disconnected. 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 moving walk 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 moving walk controller in a fail-safe manner that prevents "sleep mode" activation if the sensor wiring is cut or disconnected.

10. The Division, in its evaluation (Exhibit PD-4), is of the well informed opinion that the Applicant proposed Sleep Mode function meets the requirements of ASME A17.1-2010, Section 6.2.4.1.2 regarding the varying the speed of an moving walk after start-up.

11. ASME A17.1-2010, Section 6.2.4.1.2 states:

"Variation of the moving-walk speed after start-up shall be permitted provided the moving-walk 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 moving walk such that

(1) detection of any approaching passenger shall cause the moving walk to accelerate to or maintain the full moving walk speed conforming to 6.2.4.1.2(a) through (d)

(2) detection of any approaching passenger shall occur sufficiently in advance of boarding to cause the moving walk 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 moving walk travel and shall cause the moving walk to accelerate to full rated speed and sound the alarm (see 6.2.6.3.2) 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 moving walk to operate at full rated speed only."

12. 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, 16-V-069). In these previous variance decisions it was concluded that a variance was required from ASME A17.1-2004, section 6.2.6.4 regarding handrail speed monitoring. Conditions set

forth in the previous variance decisions allow for the disabling of the handrail speed monitoring device while the conveyance is operating in slow speed Sleep Mode.

13. Concerning handrail speed monitoring, Section 3141.12 [ASME A17.1-2004, Section 6.2.6.4] states:

> "Handrail Speed Monitoring Device. A handrail speed monitoring device shall be provided that will cause the activation of the alarm required by 6.2.6.3.1(b) without any intentional delay, whenever the speed of either handrail deviates from the treadway 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."

14. The Division, in its Review of Application (Exhibit PD-4), and Board staff, in its Application Review Memorandum (Exhibit PD-3), each conclude that the moving walk Sleep Mode function design, as proposed by the Applicant, subject to certain conditions and limitations, will provide equivalent occupational safety and health to the Code of Regulations, Title 8, Elevator Safety Orders requirements from which variance is being sought, and conveyance passenger safety, and recommend that the applied for variance be granted subject to specified 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, as supported by documentary evidence of record and hearing testimony in the matter, 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

Applicant Los Angeles World Airports is hereby conditionally GRANTED permanent variances from the following specified provisions of the Elevator Safety Orders, found at Title 8 of the California Code of Regulations, as they pertain to each moving walk to be situated at the location of ECTA Station, 150 West Center Way, Los Angeles, California, and more specifically per below Appendix 2 table. Conditional permanent variance is granted from California Code of Regulations, Title 8, Section 3141.12 required applicability of ASME

A17.1-2004 Sections 6.2.4, and 6.2.6.4, as each pertains to the moving walk, subject to all below conditions and limitation.

1. The Applicant may intentionally vary the moving walk 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 moving walk 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 moving walk to reach full speed before a passenger, walking at 4.5ft/sec, reaches the comb plate.

   (e) The passenger detection means shall detect a person within a sufficient distance along all possible paths to the moving walk that do not require climbing over barriers or moving walk handrails to assure that the moving walk attains full operating speed before a person walking at 4.5 ft/sec reaches the moving walk comb plate. The minimum detection distance shall be calculated according to the following formula or alternatively according to Appendix 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 moving walk travel shall cause the moving walk to reach full speed before a passenger, walking at 4.5 ft/sec, reaches the comb plate and shall cause the moving walk 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 moving walk shall not be less than 0.05 m/s (10 ft/min). The "Sleep Mode" functionality shall not affect the moving

walk inspection operation. The speed of the moving walk shall not vary during Inspection Mode.

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

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

1. If any of the passenger detection sensors remains tripped for at least 5 minutes but no more than 10 minutes, then the control system shall generate a fault to indicate which sensor is faulted while causing the moving walk to exit the Sleep Mode and remain at the normal run speed until the faulted sensor begins to function properly.

2. If one of the paired sensors at either end of the moving walk does not trip while the other paired sensor trips at least five times but no more than ten times, the control system shall generate a fault to indicate which sensor is faulted while causing the moving walk 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 6.2.6.4 may be disabled while the moving walk 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 moving walks, to demonstrate that the moving walk 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 moving walk.

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 the 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 moving walk. 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 moving walk.

6. Any Certified Qualified Conveyance Company (CQCC; elevator contractor) performing inspection, maintenance, servicing or testing of the moving walk shall be provided a copy of the variance decision.

7. The 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 the 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), the Division of Occupational Safety and Health, or by the Board on its own motion, in the procedural manner prescribed per Title 8, Chapter 3.5, Subchapter 1.

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

DATED: October 23, 2020

Christina Shupe, Hearing Officer

Detection Distance Sleep Mode Operation

Accurate when applied to Escalators/Moving Walks with a rated speed of **100** ft./min.

Acceleration Rate (ft./sec.^{2})	Escalator/Moving Walk "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/Moving Walk 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.)
1 ft./min. = **0.0167** ft./sec.

APPENDIX 1

APPENDIX 2

ECTA Station Units
MW 01
MW 02
MW 03
MW 04

APPENDIX 2

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: October 23, 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: November 19, 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: October 21, 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-327	14241 Ventura LLC	14241 W Ventura Blvd. Sherman Oaks, CA	1
20-V-328	City of Santa Monica	1685 Main Street Santa Monica, CA	1
20-V-333	Jacqueline Evans Trust	2232 Webster Street San Francisco, CA	1
20-V-334	Dutton Flats LP	214 W. 3rd Street Santa Rosa, CA	1

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 October 21, 2020, in Sacramento, California, via teleconference, by delegation of the Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Manish Sablok, with KONE, Inc., appeared on behalf of each Applicant; Mark Wickens and 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 October 21, 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 x N)/ f

where

W = maximum static load imposed on all car ropes with the car and its rated load at any position in the hoistway

N = number of runs of rope under load. For 2:1 roping, N shall be two times the number of ropes used, etc.

S = manufacturer's rated breaking strength of one rope

f = the factor of safety from Table 2.20.3

16. ASME A17.1-2010 Sections 2.20.3 and 2.20.4 utilize the same formula, but provide for use of suspension ropes having a diameter smaller than 9.5 mm, under specified conditions, key among them being that use of ropes having a diameter of between 8 mm to 9.5 mm be engineered with a factor of safety of 12 or higher. This is a higher minimum factor of safety than that proposed by Applicant, but a minimum recommended by both Board staff and Division as a condition of variance necessary to the achieving of safety equivalence to 9.5 mm rope.

17. Board staff and Division are in accord with Applicant, in proposing as a condition of safety equivalence, that periodic physical examination of the wire ropes be performed to confirm the ropes continue to meet the criteria set out in the (Application attachment) *Inspector's Guide to 6 mm Diameter Governor and 8 mm Diameter Suspension Ropes for KONE Elevators.* Adherence to this condition will provide an additional assurance of safety equivalence, regarding smaller minimum diameter suspension rope outer wire performance over the course of its service life.

18. Both Board staff, and Division, by way of written submissions to the record (Exhibits PD-3 and PD-4 respectively), and stated positions at hearing, are of the well informed opinion that grant of permanent variance, as limited and conditioned per the below Decision and Order will provide employment, places of employment, and subject conveyances, as safe and healthful as would prevail given non-variant conformity with the Elevator Safety Order requirements from which variance has been requested.

D. Conclusive Findings:

The above stated procedural prerequisites, legal authority, and factual findings, as further supported by the documentary record and hearing testimony in this matter, provide a substantive and reasonable basis of conclusion that: (1) Each Applicant has complied with the statutory and regulatory requirements that must be met before an application for permanent variance may be conditionally granted; and (2) a preponderance of the evidence establishes that each Applicants proposal, subject to all conditions and limitations set forth in the below Decision and Order, will provide equivalent safety and health to that which would prevail upon full compliance with the requirements of California Code of Regulation, Title 8, Elevator Safety Orders from which variance is being sought.

E. Decision and Order:

Each Application being the subject of this proceeding, per above Section A.1 table, is conditionally GRANTED, to the extent that each such Applicant shall be issued permanent variance from California Code of Regulations, Title 8, Section 3141 incorporated ASME A17.1-2004, Section 2.20.4, in as much as it precludes use of suspension rope of between 8 mm and 9.5 mm, or outer wire of between 0.51 mm and 0.56 mm in diameter, at such locations and numbers of Group IV KONE Monospace 500 elevators identified in each respective Application, subject to the following conditions:

1. The diameter of the hoisting steel ropes shall be not less than 8 mm (0.315 in) diameter and the roping ratio shall be two to one (2:1).

2. The outer wires of the suspension ropes shall be not less than 0.51 mm (0.02 in.) in diameter.

3. The number of suspension ropes shall be not fewer than those specified per hereby incorporated Decision and Order Appendix 1 Table.

4. The ropes shall be inspected annually for wire damage (rouge, valley break etc.) in accordance with "KONE Inc. Inspector's Guide to 6 mm diameter and 8 mm diameter steel ropes for KONE Elevators" (per Application Exhibit B, or as thereafter amended by KONE subject to Division approval).

5. A rope inspection log shall be maintained and available in the elevator controller room / space at all times.

6. The elevator rated speed shall not exceed those speeds specified per the Decision and Order Appendix 1 Table.

7. The maximum suspended load shall not exceed those weights (plus 5%) specified per the Decision and Order Appendix 1 Table.

8. The opening to the hoistway shall be effectively barricaded when car top inspection, maintenance, servicing, or testing of the elevator equipment in the hoistway is required. If the service personnel must leave the area for any reason, the hoistway and control room doors shall be closed.

9. The installation shall meet the suspension wire rope factor of safety requirements of ASME A17.1-2013 Section 2.20.3.

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

11. The Division shall be notified when the elevator is ready for inspection. The elevator shall be inspected by the Division and a "Permit to Operate" issued before the elevator is placed in service.

12. The Applicant shall comply with suspension means replacement reporting condition per hereby incorporated Decision and Order Appendix 2.

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

14. This Decision and Order shall remain in effect unless modified or revoked upon application by the Applicant, affected employee(s), the Division of Occupational Safety

and Health, or by the Board on its own motion, in accordance with procedures per Title 8, Division 1, Chapter 3.5.

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

Dated: October 23, 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)

Appendix 2

Suspension Means Replacement Reporting Condition

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

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

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

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

    b. The business name, complete address, telephone number, and contact person of the elevator responsible party (presumably the Applicant or the subsequent holder of this variance).

    c. The business name, complete address, telephone number, and Certified Qualified Conveyance Company (CQCC) certification number of the firm performing the replacement work.

    d. The name (as listed on certification), Certified Competent Conveyance Mechanic (CCCM) certification number, certification expiration date, and signature of each CCCM performing the replacement work.

    e. The date and time the elevator was removed from normal service for suspension replacement, the date and time the replacement work commenced, the date and time the replacement work was completed, and the date and time the elevator was returned to normal service.

    f. A detailed description of, and clear color photographs depicting, (1) all the conditions that existed in the suspension components requiring their replacement and (2) any conditions that existed to cause damage or distress to the suspension components being replaced.

g. A detailed list of all elevator components adjusted, repaired, or replaced in conjunction with the suspension component replacement.

h. All information provided on the crosshead data plate per ASME A17.1-2004, Section 2.20.2.1, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

i. For the suspension means being replaced, all information provided on the data tag required per ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

j. For the replacement suspension means, all information provided on the data tag required by ASME A17.1-2004, Section 2.20.2.2, unless that ASME requirement is modified by the conditions of a variance that pertains to the elevator in question, in which case, the information to be reported shall be the information required by the ASME provision as modified by the variance.

k. Any other information requested by the Division regarding the replacement of the suspension means or fastenings.

3. In addition to the submission of the report to the Division, the findings of any testing, failure analysis, or other engineering evaluations performed on any portion of the replaced suspension components, or other elevator components replaced in conjunction therewith, shall be submitted to the Division referencing the information contained in above Appendix 2, Section 2, Subsection (a), above.

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

In the Matter of Application for Permanent Variance Regarding: Otis 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: October 23, 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: November 19, 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: October 21, 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-332	City of Sacramento	Sacramento Convention Center 1400 J Street Sacramento, CA	1

2. The safety orders at issue are stated in the portion of Section F that precedes the variance conditions.

B. Jurisdiction:

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

C. Procedural:

1. This hearing was held on October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board") with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator Company, appeared on behalf of each Applicant; Mark Wickens and 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 October 21, 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: October 23, 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 Radar Sleep Mode Escalators	OSHSB FILE No.: see grid in Item A of Proposed Decision Dated: October 23, 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: November 19, 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: October 21, 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-344	CORE/Related Grande Ave Owner LLC	100 S Grand Ave Los Angeles, CA	8

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 October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board"), with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

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; Mark Wickens and 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: Application for Permanent Variance 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 October 21, 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 1 ft/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: October 23, 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: October 23, 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: November 19, 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: October 21, 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-345	CORE/Related Grande Ave Owner LLC	100 S Grand Ave Los Angeles, CA	14

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 October 21, 2020, in Sacramento, California, via teleconference, by Occupational Safety and Health Standards Board ("Board") with Hearing Officer Christina Shupe, both presiding and hearing the matter on its merit, as a basis of proposed decision to be advanced to the Board for its consideration, in accordance with California Code of Regulations, Title 8, Section 426.

2. At the hearing, Dan Leacox of Leacox & Associates, and Wolter Geesink with Otis Elevator Company, appeared on behalf of each Applicant; Mark Wickens and 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 October 21, 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: October 23, 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.

Occupational Safety and Health Standards Board

Business Meeting

Legislative Update

THERE WILL BE NO WRITTEN LEGISLATIVE UPDATE FOR THIS MONTH'S MEETING

Occupational Safety and Health Standards Board

Business Meeting

Executive Officer Report