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INITIAL STATEMENT OF REASONS

Subject Matter of Regulations: Revisions to the Elevator Safety Orders California Code of Regulations, Title 8, Chapter 4, Subchapter 6 of the Elevator Safety Orders:

Amend: Group I. Administrative Regulations; Article 1, Section 3000; Article 2, Section 3001; Article 3, Section 3002; Article 4, Section 3003; Article 6, Section 3009; Group IV; Article 40; and Article 42, Section 3142.

Repeal: Article 40, Section 3140; and Article 41, Section 3141.1.

Adopt: Article 45; Article 46; Group V; Article 47; Article 47, Section 3147, Section 3147.100, Section 3147.101, Section 3147.102, Section 3147.103, Section 3147.104, Section 3147.200 and Section 3147.300.

REVISIONS TO THE ELEVATOR SAFETY ORDERS

1. Introduction.

The use of unsafe or defective conveyances imposes a substantial probability of serious and preventable injury to employees and the public. The prevention of these injuries and protection of employees and the public from unsafe conditions are in the best interest of the people of this state.

Having developed its first Elevator Safety Orders (ESO) in 1916, California became one of the first states to adopt comprehensive safety regulations for elevators. California's regulations governing conveyances (elevators, escalators, platform lifts, moving walkways, etc.) have long been known by their original name, the "Elevator Safety Orders," even though these regulations have been applicable to conveyances other than elevators for decades. For continuity's sake, this proposal retains the name, "Elevator Safety Orders."

The current ESO are divided into "Groups" that govern conveyances based on the date they were contracted or installed, allowing existing elevators to remain compliant with design and operational regulations in place at the time of their development and construction. This prevents existing conveyances from having to undergo costly alterations to meet the requirements of each new revision to the ESO. These group demarcations are as follows:

- Group I – This regulatory group contains administrative regulations applicable to all conveyances. These regulations govern the scope of the ESO, including permitting, licensing, maintenance, periodic testing, repairs, definitions, etc.
- Group II – This regulatory group is applicable to conveyances contracted or installed prior to October 25, 1998. Within this group, there is a subset of regulations applicable to

conveyances installed prior to 1971, identified by *italicized* paragraphs, sentences, or phrases.

- Group III – This regulatory group is applicable to conveyances contracted or installed on or after October 25, 1998, but before May 1, 2008. This code adoption was the first time a national consensus code (ASME A17.1) was incorporated by reference into the ESO.
- Group IV – This regulatory group is applicable to conveyances contracted or installed on or after May 1, 2008. This code adoption is currently applicable to all newly installed conveyances.

Rulemaking Proposal: This proposal seeks to amend aspects of the existing ESO (Group I, and Group IV) and adopt new Group V conveyance regulations. This addresses the legislative mandate set forth in section 7323 of the Labor Code (LC), which requires the Division of Occupational Safety and Health (Division) to propose conveyance regulations to the Occupational Safety and Health Standards Board (Board) for review and adoption. The provisions of the Division's proposal must be at least as effective as the American Society of Mechanical Engineers (ASME) A17.1 (Safety Code for Elevators and Escalators), ASME A17.3 (Safety Code for Existing Elevators and Escalators), ASME A18.1 (Safety Standard for Platform Lifts and Stairway Chairlifts), and the American Society of Civil Engineers (ASCE) 21 (Automated People Movers). The LC also requires the Division to propose rulemaking to the Board when the referenced codes are revised. The Board's last rulemaking regarding the ESO was completed in 2008 and was based in part on ASME A17.1-2004 and ASME A18.1-2003. Since that time, ASME has published several revisions to these codes.

Group V: The Division reviewed each of the ASME conveyance codes above as to their provision of safety protections for conveyance workers and the riding public. This review revealed that the adoption of these codes without exclusion or amendment would weaken existing occupational safety and health protections found in the current ESO and elsewhere in Title 8 of the California Code of Regulations[1]. The exclusions and amendments found in this proposal address safety issues such as: safe and ready access to equipment for maintenance, inspection, minor repair, and testing; car top clearances and work space; clearances to prevent crushing and shearing hazards; guarding of hazardous conditions and equipment. The incorporation by reference of ASME codes listed below (section 2), as excluded and amended by the newly proposed sections of the ESO, creates a new regulatory group, Group V, for conveyances installed after a specified effective date to be determined by the Office of Administrative Law.

Group I: The Division proposes amendments to the requirements in this regulatory group to align licensing of inspectors, conveyance companies, and mechanics with the mandates of the L.C.

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

sections 7309.1, 7311.1, and 7311.2. Additional amendments to the Group I regulations address: private residence elevators; included, excluded, and prohibited devices; maintenance, alteration, repair, replacement, testing, permitting, and inspection of conveyances; and the submittal of plans, drawings, and other required information to the Division.

Group IV: The Division proposes amendments to this regulatory group to set a specified end date to be determined by the Office of Administrative Law. Other amendments recognize that requirements in the Group IV sections repealed by this proposal are now addressed in the Group I Administrative Regulations of this proposal.

The conveyance regulations in this proposal will maintain or increase the level of safety provided by the current conveyance regulations.

Consideration of ASME A17.3, and ASCE 21: The Division reviewed ASME A17.3-2020 (Safety Code for Existing Elevators and Escalators), which is referred to in LC sections 7300.1 and 7323. The Division concluded the proposed ESO are at least as effective as, or more protective than, the provisions of ASME A17.3. Therefore, the Division believes incorporating ASME A17.3 by reference is unwarranted. Additionally, this proposal does not include regulations relating to conveyance standard ASCE 21 (Automated People Movers). The California Public Utilities Commission (CPUC) has safety and security regulatory authority over all rail transit agencies in California, including those operating automated people movers. The CPUC works in cooperation with the Federal Transit Administration and the transit agencies to protect public safety and security on automated people movers.

Federal occupational safety standards for conveyance workers: There are no federal occupational safety and health regulations developed specifically for the conveyance industry[2]. However, Federal OSHA General Industry (29 CFR Part 1910) and Construction (29 CFR Part 1926) standards contain provisions that are generally applicable to all workers. OSHA regulations in such areas as confined space entry, lockout/tagout, fall protection, electrical safety, welding, hand and power tools and hazard communication, to name a few, are meant to protect elevator workers, as they do all other workers. Title 29 CFR Part 1917.116 does contain minimal requirements for elevators and escalators installed at “marine terminals.” Nothing in this proposal conflicts with the regulations in 29 CFR Part 1917.116.

Other revisions: This proposed rulemaking action also includes non-substantive revisions such as editorial, grammatical, and reformatting changes. This Initial Statement of Reasons does not discuss all of these non-substantive revisions, but they are clearly indicated in the regulatory text in underline and strikeout format.

[2] https://www.osha.gov/laws-regs/standardinterpretations/1993-10-20.

It is necessary to delete references to Title 24, Part 7 in the existing Elevator Safety Orders (ESO), because Title 24, Part 7, of the California Building Standards Code no longer exists. Prior to September 30, 2002, the Board was mandated by Health and Safety Code section 18943(b) to submit title 8 regulation building standards to the California Building Standards Commission for their approval and adoption into Title 24, the California Building Code. Assembly Bill 3000 (Stats. 2002. c. 1124) repealed LC section 142.6, and Health and Safety Code section 18943(b), thus exempting the Board from the building standard requirements contained in those statutes.

Petition: This proposal was not the result of a petition.

Advisory Committee: This proposal was developed with the assistance of an advisory committee. A list of advisory committee members, attendance sheets, and minutes are included as Documents Relied Upon.

Fire Prevention Statement: This proposal includes fire prevention or protection standards. Therefore, approval of the State Fire Marshal pursuant to Government Code section 11359 and/or Health and Safety Code section 18930(a)(9) is required.

2. Documents Incorporated by Reference.

1. American Society of Mechanical Engineers (ASME) A17.1 – 2019/Canadian Standards Association (CSA) B44:19 Safety Code for Elevators and Escalators, except sections 1.2.1, 2.7.5.3, 2.7.5.4., 2.7.5.5, 2.8.6, 2.14.1.6.2, 4.3, 5.8, 5.9, 5.11, 5.12, 8.6.5.8, which are not incorporated by reference.

2. American Society of Mechanical Engineers (ASME) A18.1-2020 Safety Standard for Platform Lifts and Stairway Chairlifts.
3. American Society of Mechanical Engineers (ASME) B20.1-2021 (Revision of ASME B20.1-2018) Safety Standard for Conveyors and Related Equipment, except sections 6.1 through 6.5, 6.7 through 6.20, and 6.22 through 6.24, which are not incorporated by reference.

These extensive documents are impractical to publish in the regulations and include copyrighted material. Therefore, it is proposed to incorporate the documents by reference.

3. Technical, Theoretical or Empirical Studies, Reports or Documents Relied Upon.

The Division relied on the following standards, documents, and studies:

1) Previous versions of ASME A17.1 Safety Code for Elevators and Escalators:
   a. ASME A17.1 – 2013/CSA B44-13 (Revision of ASME A17.1-2010/CSA B44-10)
   b. ASME A17.1 – 2016/CSA B44-16 (Revision of ASME A17.1-2013/CSA B44-13)
2) ASME A17.3 – 2020 (Revision of ASME A17.3-2017) Safety Code for Existing Elevators and Escalators.
3) ASME A17.7 – 2007/CSA B44.7-07 Reaffirmed 2012 Performance-based safety code for elevators and escalators.
4) Federal OSHA guidance letter dated October 20, 1993, regarding OSHA standards that

apply to elevator repair and servicing.

5) Finding of Otago/Southland (New Zealand) coroner, in the matter of an inquest, dated June 2011, CSU-2009-DUN-000315.
6) Health and Safety Laboratory (United Kingdom), Technical assessment of means of preventing crushing risks on lifts subject to directive 95/16/EC, Report Number ME/07/07, dated August 30, 2007.
7) *Otis Elevator Company vs Division of Occupational Safety and Health*, Case No. 13-0274–OSH (Mar. 14, 2014).
8) Ordinance No. 182846, City of Los Angeles Municipal Code, section 92.0207(k), December 23, 2013.
9) Federal OSHA letters of interpretation on subjects including pit ladders dated December 2, 1991, (Corrected April 4, 2005), and confined spaces in elevator pits dated October 27, 1995, (Corrected July 11, 2012) and September 19, 1994, (Corrected October 22, 2007).
10) Troubleshooting Elevators: How to find and correct problems with motors, drives, and controllers, by David Herres, Elevator World, April 2017.
11) Elevator Safety Flaws Persist Despite History of Tragic Accidents by Shawn Hubler, posted December 18, 2013, at www.fairwarning.org.
12) Department of the Navy Interim Technical Guidance (ITG 2013-01) (NAVFAC Elevator Design), August 1, 2013.
13) A Trade Union look at the Lift Sector, European Trade Union Institute and European Metalworkers' Federation (Boy, Stefano, ed.), March 2010.
14) McCann, Michael, PhD, CIH. Deaths and Injuries Involving Elevators and Escalators. CPWR – The Center for Construction Research and Training, September 2013.
15) Wilkinson, Kaija, MRL Elevators – Traditional system's younger sibling is gaining acceptance worldwide, but does it have staying power? Elevator World, April 2015.
16) Advisory Committee Meetings; ESO Advisory Committee Meeting – agendas, attendance sheets and minutes, December 18, 2012, and April 22, 2014.
17) Sue Dong, Xiuwen, DrPh, Wang, Xuanwen, PhD, Katz, Rebecca, MPH. Deaths and Injuries Involving Elevators or Escalators in Construction and the General Population. CPWR – Quarterly Data Report, Fourth Quarter 2018.

The Standards Board's rulemaking files on the proposed action are open for public inspection BY APPOINTMENT Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California. Appointments can be scheduled via email at oshsb@dir.ca.gov or by calling (916) 274-5721.

4. Problems Addressed with this Rulemaking.

LC section 7323 mandates the Division propose to the Board regulations for conveyance equipment that include provisions at least as effective as those in ASME A17.1, A17.3, and A18.1 as they existed prior to September 30, 2002. This proposal fulfills that mandate.

5. Specific Technologies or Equipment. This proposal will not mandate the use of specific technologies or equipment.

6. Reasonable Alternatives to the Proposed Regulations and Reasons for Rejecting Those Alternatives.

The following alternatives were considered:

- The more stringent safety alternative is based upon the Navy and Army Corps of Engineers (NAVFAC) design guide. This standard prohibits the installation of driving machines and controllers in the hoistway and thus imposes a higher compliance cost on the industry. In exchange for higher compliance and monitoring costs, it is plausible this standard would result in the same level of safety benefits. The increased level of safety benefits for elevator workers provided by the NAVFAC alternative is difficult to estimate and monetize. Therefore, for the above reasons, this alternative is rejected in favor of the proposed ESO.
- A less stringent alternative would be incorporation of the most recent editions of ASME A17.1, A17.3, A18.1, and B20.1 codes, without modification. However, these unmodified codes would weaken existing occupational safety and health standards found in the current ESO and standards applicable to all workers. As such, would expose conveyance workers, i.e., the people involved in constructing, maintaining, and inspecting conveyances in California, to additional electrical, fall, and crushing hazards. Further reason for rejecting this alternative is that it lacks prescriptive standards for maintenance and inspection access to equipment in the hoistway, which may lead in some instances where new elevators are being maintained less frequently and/or less thoroughly. Diminished maintenance means greater risks for the general public and the workers who maintain and inspect elevators. Adoption of these ASME conveyance codes without modification would result in lower compliance costs (see the Economic and Fiscal Impact Statement (Form 399) and Form 399 supplement).

7. Duplication or Conflicts with Federal Regulations (Gov. Code section 11346.2(b)(6)).

The proposed regulations do not duplicate or conflict with any federal regulations.

8. Facts, Evidence, Documents, Testimony, or Other Evidence on Which the Agency Relies to Support an Initial Determination That the Action Will Not Have a Significant Adverse Economic Impact on Business. (Gov. Code section 11346.2(b)(5)(A)).

The Board has made an initial determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses/individuals, including the ability of California businesses to compete with businesses in other states. The demand for new conveyance installations is directly related to the development of new buildings. The proposed regulations do not hinder the feasibility or development of new buildings. The proposed regulations only seek to establish minimum safety requirements for conveyance workers and the general public. These minimum safety requirements may affect the design, erection, construction and installation of conveyances installed in those buildings.

9. Economic Impact Analysis/Assessment (Gov. Code section 11346.3(b)(1)(A)-(D)).

It is estimated that the total statewide costs of compliance will be $8.6 million for the first year and $23.6 million ongoing. Information from the Public Safety State Inspection Management System (PSSIMS) and the City of Los Angeles Department of Building and Safety provided the basis for this analysis. As of June 2023, there are about 163,000 covered conveyances in 74,773 buildings in California, based upon data received from PSSIMS regarding separate addresses in the state that have active conveyances subject to the ESO. Of these, 58,414 (78 percent) are private sector and 16,359 (22 percent) are public sector. Local government comprises about 99.6 percent of public sector buildings. Each typical business will incur $147 in initial costs of compliance and $404 in ongoing costs once the three-year phase in testing requirements are in effect. It can be expected that for buildings that lease space, the compliance costs will be passed along to lessors. As explained in the Form 399 and Form 399 supplement, and the studies contained therein, the data show the following economic impacts:

(A) The creation or elimination of jobs within the state:

The adoption of this proposal will neither create nor eliminate jobs in the State of California. As a result of this proposal reducing the frequency of Firefighters' Emergency Operation (FEO) testing by Certified Competent Conveyance Mechanics (CCCMs) to a monthly occurrence, it is anticipated that Certified Qualified Conveyance Companies (CQCCs) may cause some CCCM duties (labor hours) to be transferred from the performance of monthly testing of FEO to performing periodic testing of Group II conveyances (this proposal creates new testing requirements for existing Group II conveyances). This transfer of duties (labor hours) makes this proposal labor neutral.

(B) The creation of new businesses or the elimination of existing businesses within the state:

No businesses will be created or eliminated as a result of this proposal. The provisions of this proposal do not expand or contract the scope of work performed by existing large and small CQCCs.

(C) The expansion of businesses currently doing business within the state: No businesses will be expanded as a result of this proposal.

(D) The benefits of the regulation to the health and welfare of California residents, worker safety and the state's environment.

The primary objective of the proposed ESO is to reduce the likelihood of work-related injuries for elevator workers and decrease risks to the general public. These incidents impose economic costs on both the worker and the industry. Additionally, transferring duties (labor hours) of CCCMs from monthly FEO testing to periodic testing of Group II conveyances will focus the industry's resources on a task that will ensure the functionality, and increase the reliability, of the critical safety systems on the oldest conveyances in the state, this will benefit the health and welfare of the riding public. The estimated initial cost avoidance per the requirements of this proposal is estimated to total $10.3 million, and the avoided cost of injuries is estimated to be $9.6 million. There is no effect on the state's environment.

10. The Specific Purpose and Necessity of Each Section of the Proposed Revisions and Proposed New Regulations of the California Code of Regulations, Title 8, Chapter 4, Subchapter 6, Elevator Safety Orders (Gov. Code section 11346.2(b)(1)).

Group I. Administrative Regulations

Specific purpose:

To replace the term "elevator" with "conveyance." To add reference to Group IV and the proposed Group V regulation.

Necessity:

The term "conveyance" is a defined term that is inclusive of all devices that are subject to the ESO. To make the Group I regulations applicable to all conveyance installations.

Subsection 3000(a).

Specific purpose:

To replace the term "elevator" with "conveyance."

Necessity:

The term "conveyance" is a defined term that is inclusive of all devices that are subject to the ESO.

Subsection 3000(a)(1).

Specific purpose:

To replace the term "elevator" with "conveyance."

Necessity:

The term "conveyance" is a defined term that is inclusive of all devices that are subject to the ESO.

Subsection 3000(a)(2).

Specific purpose:

To replace the term "elevator" with "conveyance."

Necessity:

The term "conveyance" is a defined term that is inclusive of all devices that are subject to the ESO.

Subsection 3000(a)(3).

Specific purpose:

To remove the exemption for conveyances located in multiunit residential buildings.

Necessity:

LC section 7317(b) requires these conveyances be inspected by the Division when they are initially installed and after any alteration. This proposal addresses these inspection requirements in section 3001(b)(5).

Subsection 3000(a) Note.

Specific purpose:

To capitalize “Division.”

Necessity:

Editorial change.

Subsection 3000(b)(1).

Specific purpose:

To eliminate the specific ASME A17.1 code edition and introduce a reference to the new Table 1 to determine the applicable code.

Necessity:

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

Subsection 3000(b)(2).

Specific purpose:

To add new section (2).

To add reference to ASME A18.1 Safety Standard for Platform Lifts and Stairway Chairlifts and the use of the new Table 1.

Necessity:

ASME A18.1 is the referenced standard for platform lifts and stairway chair lifts.

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

Subsection 3000(b)(3).

Specific purpose:

To add new section (3).

To add reference to ASME B20.1 Safety Standard for Conveyors and Related Equipment and the use of the new Table 1.

Necessity:

ASME B20.1 is the referenced standard for vertical reciprocating conveyors.

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

Subsection 3000(b)(4).

Specific purpose:

Existing section (2) renumbered to subsection (4), due to the addition of new subsections (2) and (3) above.

To add the complete code path reference of the ESO. To eliminate the specific ASME A17.1

code edition.

To add references to ASME A18.1 and ASME B20.1. To reference the use of new Table 1.

Necessity:

Editorial change.

Editorial change.

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

ASME A18.1 and ASME B20.1 are the referenced standards for platform lifts, stairway chair lifts, and vertical reciprocating conveyors.

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

Subsection 3000(b)(5).

Specific purpose:

Subsection (3) renumbered to (5), due to the addition of new subsections (2) and (3) above.

To add the complete code path reference of the ESO.

To eliminate the specific ASME A17.1 code edition. To add references to ASME A18.1 and ASME B20.1.

Necessity:

Editorial change.

Editorial change.

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

ASME A18.1 and ASME B20.1 are the referenced standards for platform lifts, stairway chair lifts, and vertical reciprocating conveyors.

Subsection 3000(b)(6).

Specific purpose:

Subsection (4) renumbered to (6), due to the addition of new subsections (2) and (3) above.

To add references to ASME A18.1 and ASME B20.1.

To eliminate the specific ASME A17.1 code edition.

Necessity:

Editorial change.

ASME A18.1 and ASME B20.1 are the referenced standards for platform lifts, stairway chair lifts, and vertical reciprocating conveyors.

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

Subsection 3000(b) Table 1.

Specific purpose: Incorporate new Table 1.

Necessity:

Due to the numerous code editions applicable to conveyances of different vintages, Table 1 was developed to clarify the appropriate applicable codes.

Subsection 3000(b) Note 1.

Specific purpose:

Add a note regarding code applicability.

Necessity:

To inform the reader that the use of italics and adoption dates within the Group II ESO affects code applicability. (see Group II)

Subsection 3000(c).

Specific purpose:

To replace the terms “devices” and “elevator” with “conveyance.”

Necessity:

The term “conveyance” is a defined term that is inclusive of all devices that are subject to the ESO.

Subsection 3000(c)(1).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code.

Necessity:

To align the conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(2).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code.

Necessity:

To align the conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(3).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate

references to specific Articles of the code.

Necessity:

To align the conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(4).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code.

Necessity:

To align conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(5).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code.

Necessity:

To align conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(6).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code.

Necessity:

To align conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(7).

Specific purpose:

To eliminate references to specific Articles of the code.

Necessity:

Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(8).

Specific purpose:

To eliminate references to specific Articles of the code.

Necessity:

Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(9).

Specific purpose:

To eliminate references to specific Articles of the code.

Necessity:

Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(10).

Specific purpose:

To eliminate references to specific Articles of the code.

Necessity:

Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(11).

Specific purpose:

To eliminate references to specific Articles of the code.

Necessity:

Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(12).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code.

Necessity:

To align conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(13).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code. To correct “or” to “and.”

Necessity:

To align conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1. Editorial change.

Subsection 3000(c)(14).

Specific purpose:

To refer to the conveyance by its correct and contemporary classification. To eliminate references to specific Articles of the code.

Necessity:

To align conveyance classification with that found in the referenced ASME standards. Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(15).

Specific purpose:

To eliminate references to specific Articles of the code.

Necessity:

Applicable code references are contained in subsection 3001(b), Table 1.

Subsection 3000(c)(16).

Specific purpose:

To eliminate reference to “special purpose elevators.”

To add additional conveyance classifications.

Necessity:

Special purpose elevators are the same classification as special-purpose personnel elevators, see subsection 3000(c)(15).

To align conveyance classifications with those found in the referenced ASME standards.

Subsection 3000(c)(17).

Specific purpose:

To add an additional conveyance classification.

Necessity:

To align conveyance classifications with those found in the referenced ASME standards.

Subsection 3000(c)(18).

Specific purpose:

To add an additional conveyance classification.

Necessity:

To align conveyance classifications with those found in the referenced ASME standards.

Subsection 3000(c)(19).

Specific purpose:

To add an additional conveyance classification.

Necessity:

To align conveyance classifications with those found in the referenced ASME standards.

Subsection 3000(c)(20).

Specific purpose:

To add an additional conveyance classification.

Necessity:

To align conveyance classifications with those found in the referenced ASME standards.

Subsection 3000(c)(21).

Specific purpose:

To add an additional conveyance classification.

Necessity:

To align conveyance classifications with those found in the referenced ASME standards.

Subsection 3000(c)(22).

Specific purpose:

To add an additional conveyance classification.

Necessity:

To align conveyance classifications with those found in the referenced ASME standards.

Subsection 3000(d)(4).

Specific purpose:

Change “which” to “that.”

Necessity:

Editorial changes.

Subsection 3000(d)(14).

Specific purpose:

To add a new conveyance classification that is excluded from the ESO. Necessity:
The referenced ASME standards contain requirements for this equipment classification; however, the LC sets forth the types of devices regulated by the ESO (see L.C. 7300.2 and 7300.3).

Subsection 3000(d)(15).

Specific purpose:

To add a new conveyance classification that is excluded from the ESO.

Necessity:
The referenced ASME standards contain requirements for this equipment classification; however, the LC sets forth the types of devices regulated by the ESO (see L.C. 7300.2 and 7300.3).

Subsection 3000(d)(16).

Specific purpose:
To add a new conveyance classification that is excluded from the ESO. Necessity:
The referenced ASME standards contain requirements for this equipment classification; however, the LC sets forth the types of devices regulated by the ESO (see L.C. 7300.2 and 7300.3).

Subsection 3000(d)(17).

Specific purpose:
To add a new conveyance classification that is excluded from the ESO. Necessity:
The referenced ASME standards contain requirements for this equipment classification; however, the LC sets forth the types of devices regulated by the ESO (see L.C. 7300.2 and 7300.3).

Subsection 3000(e).

Specific purpose:
To replace the terms “devices” and “elevator” with “conveyance.”

Necessity:
The term “conveyance” is a defined term that is inclusive of all devices that are subject to the ESO.

Subsection 3000(e)(9).

Specific purpose:
To prohibit new installations of special access elevators and special access lifts pursuant to Article 15 and Article 36.

Necessity:
The referenced standards in this proposal (ASME A17.1 and A18.1) contain more contemporary requirements for these types of devices, referring to them as Limited Use/Limited Application elevators (Special Access elevator) and Vertical and Inclined Platform lifts (Special Access Lifts). The requirements of Article 15, as referenced by Article 36, are over 30 years old. Limited Use/Limited Application elevators and Vertical and Inclined Platform lifts were added to the list of included conveyances in this proposal (see subsections 3000(c)(17) and 3000(c)(22)).

Subsection 3000(e)(10).

Specific purpose:

To prohibit new installations of hand-powered man platforms.

Necessity:

Hand-powered man platforms are legacy devices without a modern market. No ongoing consensus code development is occurring for these devices. General note: Hand-powered devices can be exclusionary to persons with certain physical attributes.

Subsection 3000(e)(11).

Specific purpose:

To prohibit new installations of hand-powered elevators.

Necessity:

The ASME requirements for hand elevators were not adopted in this proposal (see subsection 3147.100(a)). General note: Hand-powered devices can be exclusionary to persons with certain physical attributes.

Subsection 3000(e)(12).

Specific purpose:

To prohibit new installations of hand-powered dumbwaiters.

Necessity:

Hand-powered dumbwaiters are prohibited by the referenced ASME standard A17.1-2019 (see Part 7). General note: Hand-powered devices can be exclusionary to persons with certain physical attributes.

Subsection 3000(f).

Specific purpose:

To remove existing subsections (f)(1) through (3).

To add new subsection 3000(f) to include inspection and permitting information relevant to all conveyances.

Necessity:

Effective dates describing Group III conveyances have been relocated to subsection 3000(b) - Table 1. The existing subsection 3000(f) contained the effective date for Group III installations only. This new subsection contains relevant inspection and permitting information for all conveyances.

Subsection 3000(f)(1).

Specific purpose:

To inform how the applicable ESO will be determined when installing or altering a conveyance.

Necessity:

The date a conveyance installation or alteration contract is signed determines what provisions of the ESO are applicable. These contracts may be entered into years prior to the work being undertaken. Without this provision, an interim change in regulation could make previously purchased equipment obsolete or lead to significant unexpected costs.

Subsection 3000(f)(2).

Specific purpose:

To require conveyances to undergo an inspection and receive a permit to operate prior to being placed into service.

Necessity:

To prohibit the operation of a conveyance unless the Division has inspected it and issued a permit for it. This provision implements and makes enforceable the permit requirements of LC section 7301 (permit to operate). This provision is necessary because, on occasion, conveyances have been installed in California without being permitted or inspected by the Division.

Subsection 3000(g).

Specific purpose:

To remove existing subsection 3000(g).

Subsection 3000(h) is re-lettered as subsection 3000(g), due to the removal of the existing subsection 3000(g).

To include “testing” in the description of this subsection. Replace the term “devices” with “conveyances.”

Necessity:

Effective dates describing Group II conveyances have been relocated to subsection 3000(b) - Table 1.

Editorial changes.

Subsection 3000(g)(1).

Specific purpose:

To update maintenance, repair, replacement, and testing requirements for all conveyances.

To add new requirements for the periodic testing of Group II conveyances.

Necessity:

The referenced standards (ASME A17.1, ASME A18.1, and ASME B20.1) contain the most current testing requirements applicable to existing conveyances, regardless of age. The current ESO do not contain requirements for the periodic testing of the oldest (Group II) operating conveyances in the state.

Subsection 3000(g)(1)(A).

Specific purpose:

To establish requirements for conveyance periodic inspections and tests.

Necessity:

ASME A17.1-2019, section 8.11.1.3 indicates that the authority having jurisdiction shall establish the frequency of periodic tests.

Subsection 3000(g)(1)(B).

Specific purpose:

To establish requirements for conducting and reporting periodic tests.

Necessity:

To provide clear requirements for performing and reporting periodic tests.

Subsection 3000(g)(1)(B)1.

Specific purpose:

To require periodic tests be performed by a CCCM. Necessity:

The Labor Code beginning at LC 7300, requires conveyances be tested by CCCMs in the employ of CQCC.

Subsection 3000(g)(1)(B)2.

Specific purpose:

To require a CCCM to submit the results of periodic testing to the Division.

Necessity:

To ensure periodic tests were conducted, and ensure the tests were performed by a CCCM.

Subsection 3000(g)(1)(B)3.

Specific purpose:

To require an elevator be removed from service if it fails a periodic test.

Necessity:

Periodic tests are to ensure conveyances are safe to operate. Failure to successfully pass a periodic test indicates an unsafe condition exists.

Subsection 3000(g)(1)(B)4.

Specific purpose:

To require statements on test reports be made under penalty of perjury.

Necessity:

To ensure accountability.

Subsection 3000(g)(1)(C).

Specific purpose:

To require routine examination and maintenance of manually operated driving-machine brake mechanisms. To establish examination and maintenance requirements in the maintenance control program. To require immediate repair or replacement of defective components.

Necessity:

Failures of these devices to re-engage the driving machine brake when released have resulted in uncontrolled movement of the car. These device failures have been attributed to a lack of examination and maintenance. Due to the hazards that uncontrolled car movement presents to elevator personnel and passengers, the Division has issued a directive requiring examination, testing, and repair of this equipment.

Subsection 3000(g)(1)(D).

Specific purpose:

To disallow the use of alternative testing methods permitted by ASME A17.1-2019 for category 5 testing.

Necessity:

This type of alternative testing does not subject the entire elevator system to the forces that are delivered by tests at expected loads and speeds. These forces are not just applied to the individual device being tested, but forces are also generated upon related elevator components.

Subsection 3000(g)(1)(E).

Specific purpose:

To indicate escalator step/skirt performance index values with respect to code applicability periods of the ESO (i.e., Group II, Group III, Group IV, or later).

Necessity:

To provide discernible and clear values in order to determine the proper step/skirt performance index for any escalator installation covered by the ESO.

Subsection 3000(g)(1)(F).

Specific purpose:

To require a CCCM test FEO on a predetermined and regular basis, in addition to monthly testing performed by authorized personnel.

Necessity:

Emergency personnel rely upon the operations and features of FEO when responding to an emergency. FEO is a complex operation that is vastly different from the elevator's normal operating system. Periodic testing by a trained CCCM will assure the features of FEO are

available and fully functional.

Subsection 3000(g)(1)(G).

Specific purpose:

To permit authorized personnel to clean the exterior of transparent (glass) elevator car enclosures and the interior of transparent (glass) hoistway enclosures, only when under the direct supervision of a CCCM.

Necessity:

The cleaning of transparent elevator enclosures can expose cleaning personnel to unfamiliar hazards, such as electric shock, crushing, shearing, falling, etc. Limiting these cleaning operations to authorized personnel under the direct supervision of a CCCM, along with the cleaning procedures required by subsection 3001(a)(8) promotes hazard awareness and safe work practices. See proposed revision to Group I Administrative Regulation subsection 3009(b) for a definition of "supervision."

Subsection 3000(g)(1)(H).

Specific purpose:

To restrict passenger evacuation operations to CCCMs and emergency personnel trained to evacuate elevators.

Necessity:

Evacuation of passengers from inoperative elevators exposes the passengers and rescuers to hazardous conditions for which they may have had no training or experience to perform. Elevator evacuation operations should only be conducted by CCCMs and emergency personnel trained to evacuate elevators (e.g., firefighters).

Subsection 3000(g)(1)(I).

Specific purpose:

To establish a phase in period for the periodic testing of Group II conveyances.

Necessity:

Historically, Group II conveyances have not been required to undergo periodic testing. Elevator owners will need a reasonable amount of time to arrange for a licensed elevator contractor to perform the testing, to develop testing procedures, and obtain the equipment necessary to safely conduct this testing.

Subsection 3000(g)(1)(J).

Specific purpose:

To require specific Group II hydraulic elevators to undergo additional testing of their hydraulic cylinder every five years.

Necessity:

This proposal excludes requirements contained in ASME A17.1-2019 that require all existing hydraulic cylinders without a safety bulkhead design be summarily replaced (see subsection 3147.100(a) and ASME A17.1-2019, section 8.6.5.8 Safety Bulkhead). This replacement work is difficult to perform, invasive to building operations, and costly to the elevator owner. The Division has long required five-year full load testing of these older hydraulic cylinders to determine their condition. This testing program has proven successful at detecting compromised hydraulic equipment. The Division believes that the continuation of this testing program is a suitable alternative to the immediate replacement of hydraulic cylinders with remaining useful life.

Subsection 3000(g)(1)(K).

Specific purpose:

To establish supplementary requirements for the testing of lifts.

Necessity:

A periodic test under rated load will ensure all lift components are in a condition to provide safe operation.

Subsection 3000(g)(1)(L).

Specific purpose:

To establish supplementary requirements for the maintenance of lifts.

Necessity:

A maintenance and examination interval of six months or less ensures safe lift operation and availability.

Subsection 3000(g)(1)(M).

Specific purpose:

To clarify the type of maintenance work that is not required to be done by a CCCM, pursuant to the exemption in LC section 7300.4.

Necessity:

The Division is often asked to identify the types of work that fall into this LC exemption. LC section 7311.2 requires a person who, *without supervision*, erects, constructs, installs, alters, tests, maintains, services or repairs, removes, or dismantles a conveyance be a CCCM.

Subsection 3000(g)(2).

Specific purpose:

To make alteration requirements applicable to all conveyances.

To update alteration requirements to the most recent referenced standards.

Necessity:

The current ESO do not require all conveyances conform to this section, only Group II and Group III conveyances.

To require conformance with the applicable seismic requirements of a more recent edition of ASME A17.1 when performing alterations on conveyances subject to ASME A17.1.

Subsection 3000(g)(2)(A).

Specific purpose:

To require altered elements of a conveyance comply with seismic requirements.

Necessity:

Older conveyance designs may not accommodate the most recent information regarding the effects of seismic forces on conveyances. Applying contemporary seismic design criteria to the altered elements of existing conveyances ensures they provide the level of safety required by more recent seismic standards.

Subsection 3000(g)(2)(B).

Specific purpose:

To require seismic emergency operation, seismic emergency signaling, and suspension means displacement detection when new control equipment is provided.

Necessity:

Requiring contemporary seismic functions and operations when new control equipment is installed provides enhanced safety features required by the more recent seismic standards.

Subsection 3001(a)(1).

Specific purpose:

To replace the term “elevator, dumbwaiter, escalator, moving walk, or manlift” with “conveyance,”

To capitalize “Division.” To change “will” to “may,” permitting the Division to accept or reject a notification of intent to install a conveyance.

To change “recognized elevator company” to “Certified Qualified Conveyance Company (CQCC).”

Necessity:

The term “conveyance” is a defined term that is inclusive of all devices that are subject to the ESO.

Editorial change.

If the Division evaluates an intent to install notification and finds it incomplete or describing specialized or unfamiliar equipment, the Division can then compel complete erection plans and drawings be submitted through the rejection of the notification.

To harmonize with the term used in section 3003.1 to describe an elevator company.

Subsection 3001(a)(3).

Specific purpose:

To add new submittal requirements for new or unusual conveyance products and designs.

Necessity:

The Division is often faced with conveyance installations involving new or unusual designs or configurations. Often, they are implemented without complete consideration of the ESO. This results in costly rework or delays in building occupancy when issues are discovered during the acceptance inspection. Submittal of new or unusual conveyance products and designs will allow the Division to address potential code compliance issues at an earlier stage of project development.

Subsection 3001(a)(4).

Specific purpose:

Existing requirement (3) was renumbered to (4) to add a new subsection (3) above. To remove references to non-standard material, fabrication, or construction types.

Necessity:

Editorial change.

New subsection (3) above addresses the introduction of non-standard material, fabrication, or construction types.

Subsection 3001(a)(5).

Specific purpose:

To add new requirements for the submission of glass hoistway construction details prior to the installation of a conveyance in a glass hoistway.

Necessity:

Glass hoistway designs are often developed by persons unfamiliar with the requirements of the ESO. As a result, non-conformance with the ESO is typically not discovered until the hoistway has been built. This results in costly rework, building occupancy delays, and unwanted design changes. The submittal of glass hoistway design information prior to its installation will allow the Division to address potential code compliance issues at an earlier stage of project development.

Subsection 3001(a)(6).

Specific purpose:

Existing requirement (4) was renumbered to (6) to add new subsections (3) and (5) above.

To use the term “conveyances” in place of “passenger or freight elevators.”

To correct code reference “3000(h)” to the proposed new subsection “3000(g)(2).”

Necessity:

Editorial changes.

To remove the limitation that the terms “passenger and freight elevators” so this section is relevant to all conveyances.

Existing requirement (h) was renumbered due to the removal of existing section (g).

Subsection 3001(a)(7).

Specific purpose:

Existing requirement (5) was renumbered to (7) to add new subsections (3) and (5) above. To clarify who is responsible for notifying the Division when certain replacement work is complete and ready for inspection.

To include additional elevator devices that require Division notification when they are replaced.

To remove term “installation of passenger and freight.”

Necessity:

Editorial change.

The replacement of elevator equipment is limited to licensed elevator companies, per L C 7311.1.

This change harmonizes the devices listed in subsection 3001(a)(7) with the devices listed in subsection 3001(b)(3), which require an inspection by the Division when the listed devices are replaced.

To remove the limitation that the terms “passenger and freight elevators” so this section is relevant to all types of elevators.

Subsection 3001(a)(6).

Specific purpose:

To eliminate the existing requirement (6) that required the notification of the Division when installing a hand-powered man platform.

Necessity:

New installations of hand-powered man lifts are prohibited, see subsection 3000(e)(10) of this proposal.

Subsection 3001(a)(8).

Specific purpose:

To eliminate the existing requirement (8).

Existing requirement (7) was renumbered to (8) to add new subsections (3) and (5) above.

Necessity:

Submittal requirements for installing new static controls are contained in subsection 3147.101(f) of this proposal.

Editorial change.

Subsection 3001(b)(1).

Specific purpose:

To replace the term “device” with “conveyance.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3001(b)(2).

Specific purpose:

To replace the term “device” with “conveyance.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3001(b)(4).

Specific purpose:

To replace the term “devices” with “conveyances.” To replace the term “elevators” with “conveyances.”

To require that conveyance maintenance service contracts be with a licensed conveyance contractor.

To correct the code reference from 3003. to 3003.0

Necessity:

Editorial changes.

“Conveyance” is a defined term covering all devices subject to the ESO. Maintenance of conveyance equipment is limited to licensed elevator companies, per LC 7311.1.

Subsection 3001(b)(5).

Specific purpose:

To replace the term “elevators” with “conveyances.”

To remove specific code references from this section.

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Applicable code references are now listed in subsection 3000(b)(1), Table 1 of this proposal.

Subsection 3001(b)(6).

Specific purpose:

To repeal the existing requirement (6) that governed the installation of special access lifts.

Necessity:

New installations of special access lifts are prohibited, see subsection 3000(e)(9) of this proposal.

Subsection 3001(c).

Specific purpose:

To replace the term “elevator” with “conveyance.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3001(c)(1).

Specific purpose:

To replace the term “elevator” with “conveyance.” To clarify the requirements for posting the permit to operate.

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3001(c)(3).

Specific purpose:

To replace the term “elevator” with “conveyance.” To change “elevator service company” to “CQCC.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO. To harmonize with the term used in section 3003.1 to describe an elevator company.

Subsection 3001(c)(4).

Specific purpose:

To replace the term “elevator” with “conveyance.” To clarify the requirements for posting the permit to operate.

To change “elevator service company” to “CQCC.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

To harmonize with the term used in section 3003.1 to describe an elevator company.

Subsection 3001(c)(5).

Specific purpose:

To replace the term “elevator” with “conveyance.” To change “elevator service company” to “CQCC.”

Necessity:

"Conveyance" is a defined term covering all devices subject to the ESO. To harmonize with the term used in section 3003.1 to describe an elevator company.

Subsection 3001(c)(6).

Specific purpose:

To change "elevator service company" to "CQCC."

Necessity:

To harmonize with the term used in section 3003.1 to describe an elevator company.

Subsection 3001(d).

Specific purpose:

To capitalize "title."

Necessity:

Editorial change.

Subsection 3001(e).

Specific purpose:

To repeal existing requirement 3001(e).

Necessity:

This is legacy language. There is currently no application process for obtaining a permit to operate.

Section 3001 Citation.

Specific purpose:

To update cited references.

Necessity:

To include additional LC sections relevant to subject matter in section 3001. To remove reference to subsection (b) to make all of LC 7304 applicable.

Section 3002.0. Variances.

Specific purpose:

To renumber section 3002 to 3002.0.

Necessity:

To facilitate future expansion of the article.

Subsection 3002.0(a).

Specific purpose:

To replace the term "elevator" with "conveyance." Change "which" to "that."

Necessity:

"Conveyance" is a defined term covering all devices subject to the ESO. Editorial change.

Subsection 3002.0(b).

Specific purpose:

To replace the term "elevator" with "conveyance." To capitalize "title" and "chapter."

Necessity:

"Conveyance" is a defined term covering all devices subject to the ESO. Editorial change.

Section 3002.0 Citation.

Specific purpose:

To update cited authority and reference.

Necessity:

To include additional LC sections relevant to subject matter in section 3002.0.

Article 4.

Specific purpose:

To amend Article 4 description (heading) to remove inspector certification restriction.

Necessity:

This proposal adds sections 3003.1 and 3003.2 to Article 4 for certification of conveyance companies and mechanics in addition to inspectors.

Section 3003.0. ~~Qualifications for~~ Certified Competent Conveyance Inspector~~s~~ (CCCI).

Specific purpose:

To renumber section 3003 to 3003.0.

To amend the section's description (heading) to include a complete description of the certification.

Necessity:

This proposal renumbers section 3003 to facilitate the addition of sections 3003.1 and 3003.2.

To align the description of inspectors in this proposal with the terms used in LC section 7311.

Subsection 3003.0(a)(1).

Specific purpose:

To replace the term "elevator" with "conveyance."

To correct and update the name of the department.

Necessity:

"Conveyance" is a defined term covering all devices subject to the ESO. To reflect a long existing change to the name of the department.

Subsection 3003.0(a)(2).

Specific purpose:

To replace the term “he” with “the candidate.”

To replace the term “elevator” with “conveyance.”

Necessity:

Editorial change.

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3003.0(b)(1).

Specific purpose:

To replace the term “elevator” with “conveyance.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3003.0(b)(2).

Specific purpose:

To replace the term “elevator” with “conveyance.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3003.0(b)(3).

Specific purpose:

To replace the term “elevator” with “conveyance.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3003.0(b)(4).

Specific purpose:

To replace the term “elevator” with “conveyance.”

Necessity:

“Conveyance” is a defined term covering all devices subject to the ESO.

Subsection 3003.0(c)(1).

Specific purpose:

To reference the complete certification term for inspector used in this section.

Necessity:

See term in section 3003.0 of this proposal.

Subsection 3003.0(d).

Specific purpose:

To amend character trait and ability descriptions.

Necessity:

To align character trait and ability descriptions with current hiring practices and terms.

Subsection 3003.0(e).

Specific purpose:

Change “Certifcates” to “Certification.”

Necessity:

Editorial change.

Subsection 3003.0(e)(1).

Specific purpose:

To state employment status or qualifications necessary for a person to be eligible to reinspect conveyances.

Necessity:

To align with the requirements of LC section 7309.1.

Subsection 3003.0(e)(2).

Specific purpose:

To set the active term of a certificate of competency.

Necessity:

To periodically reassess an inspector’s competency and knowledge.

Subsection 3003.0(e)(3).

Specific purpose:

To require ongoing knowledge development through a certificate renewal process.

Necessity:

A renewal process requiring continued education ensures ongoing inspector competency and familiarity with industry advances.

Subsection 3003.0(e)(4).

Specific purpose:

To capitalize “Division.”

To replace the term “elevator” with “conveyance.”

To add a hearing request requirement.

Necessity:

Editorial change.

"Conveyance" is a defined term covering all devices subject to the ESO.

To require the Division to formally request a hearing to revoke a certificate of competency, in accordance with California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

Subsection 3003.0(e)(5).

Specific purpose:

To add a hearing request requirement.

To reference the complete certification term for inspector used in this section.

To replace the term "his" with "a CCCI's."

Necessity:

To require the Division to formally request a hearing to revoke a certificate of competency, in accordance with California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

Editorial change. Editorial change.

Subsection 3003.0(e)(6).

Specific purpose:

To capitalize "Division."

To add a hearing request requirement.

Necessity:

Editorial change.

To require the Division to formally request a hearing to revoke a certificate of competency, in accordance with California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

Subsection 3003.0(e)(7).

Specific purpose:

To add hearing criteria for suspension and revocation proceedings.

Necessity:

To require suspension or revocation hearings be conducted in accordance with California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

Subsection 3003.0(f)(1).

Specific purpose:

To reference the complete certification term for inspector used in this section.

To replace the term "elevator" with "conveyance." To capitalize "Division."

Necessity:

See term in section 3003.0 in this proposal.

"Conveyance" is a defined term covering all devices subject to the ESO. Editorial change.

Subsection 3003.0(f)(2).

Specific purpose:

To reference the complete certification term for inspector used in this section.

Necessity:

See term in section 3003.0 in this proposal.

Subsection 3003.0(g)(2).

Specific purpose:

To replace term "he" with "the applicant."

To set a fixed waiting period requirement.

Necessity:

Editorial changes.

The fixed waiting period requirement eliminates the current subjective waiting time determination by the Division.

Subsection 3003.0(g)(3).

Specific purpose:

To capitalize "Division."

To replace the term "elevator" with "conveyance."

To remove the word "indefinite" and require a probationary period be established by the Division.

Necessity:

Editorial change.

"Conveyance" is a defined term covering all devices subject to the ESO. Requiring the Division to set the probationary period informs the inspector of the term of their probationary period.

Subsection 3003.0(g)(4).

Specific purpose:

To capitalize "Division" And "These."

To eliminate the restriction of holding examinations at Division offices in San Francisco or Los Angeles.

Necessity:

Editorial changes.

Allows for more efficient examinations at Division offices located closer to the applicant.

Subsection 3003.0(h).

Specific purpose:

To add relevant fee information and requirements.

Necessity:

This new section is to establish compliance with LC section 344.30.

Section 3003.0 Citation.

Specific purpose:

To update cited authority and reference. Necessity:

To include additional LC sections relevant to subject matter in section 3003.0.

Section 3003.1. Certified Qualified Conveyance Company (CQCC).

Specific purpose:

To add new section 3003.1 governing the licensing of conveyance companies.

Necessity:

This new section is to formalize the Division's obligation to establish an application procedure to certify conveyance companies as required by LC section 7311.1(b).

Subsection 3003.1(a).

Specific purpose:

To state CQCC certification qualifications.

Necessity:

This new subsection sets qualifications for CQCCs in accordance with the qualification requirements of LC section 7311.1(b).

Subsection 3003.1(b).

Specific purpose:

To state application requirements necessary to apply for CQCC certification.

Necessity:

This new subsection sets application requirements for CQCCs in accordance with the application for certification requirements of LC sections 7311.1(c) and (d).

Subsection 3003.1(c)(1).

Specific purpose:

To state that certain types of conveyance work are restricted to being conducted by a CQCC.

Necessity:

This new subsection conforms to the work exclusivity requirements of LC section 7311.1(a).

Subsection 3003.1(c)(2).

Specific purpose:

To set the active term of a CQCC certification.

Necessity:

This new subsection allows for the periodic reassessment of qualifications, continuing education, licensure, and insurance requirements.

Subsection 3003.1(c)(3).

Specific purpose:

To set requirements for the renewal of an unexpired CQCC certification.

Necessity:

This new subsection requires the submittal of information necessary for the Division to evaluate an application for renewal of a CQCC certification.

Subsection 3003.1(c)(4).

Specific purpose:

To give the Division the authority to suspend or revoke a CQCC certification.

Necessity:

This new subsection permits the Division to revoke or suspend a CQCC certification for good cause, for the purpose of maintaining an effective conveyance safety program in accordance with LC section 7300(a).

Subsection 3003.1(c)(5).

Specific purpose:

To permit the Division to suspend a CQCC certification if the CQCC allows an ineligible employee to work on a conveyance unsupervised.

Necessity:

This new section discourages CQCCs from allowing their employees to perform work on conveyances unsupervised without the proper certifications, training, and experience (CCCM). See subsection 3003.2(c)(1) and LC 7311.2(a).

Subsection 3003.1(c)(6).

Specific purpose:

To set the conditions for which a CQCC certification may be suspended or revoked.

Necessity:

To provide objective considerations by which a certification may be revoked or suspended by the Division.

Subsection 3003.1(c)(7).

Specific purpose:

To state the requirements of hearings held to revoke or suspend a CQCC certification.

Necessity:

To conduct these hearings according to the procedural practices required by California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

Subsection 3003.1(d).

Specific purpose:

To add relevant fee information and certificate issuance requirements.

Necessity:

This new subsection is to establish compliance with LC section 344.30.

Section 3003.2. Certified Competent Conveyance Mechanic (CCCM).

Specific purpose:

To add a new section governing the licensing of conveyance mechanics.

Necessity:

This new section is to formalize the Division's obligation to establish an application procedure to certify conveyance mechanics as required by LC section 7311.2(b).

Subsection 3003.2(a).

Specific purpose:

To state CCCM certification qualifications.

Necessity:

This new subsection sets qualifications for CCCMs in accordance with the qualification requirements of LC section 7311.2(b).

Subsection 3003.2(b).

Specific purpose:

To state application requirements necessary to apply for CCCM certification.

Necessity:

This new subsection sets application requirements for CCCMs in accordance with the applicant requirements of LC section 7311.2(b).

Subsection 3003.2(c)(1).

Specific purpose:

To state that certain types of conveyance work are restricted to being performed by a CCCM.

Necessity:

This new subsection describes the work exclusivity requirements of LC section 7311.2(a).

Subsection 3003.2(c)(2).

Specific purpose:

To set the active term of a CCCM certification.

Necessity:

This new subsection allows for the periodic reassessment of qualifications, continuing education, and employment requirements.

Subsection 3003.2(c)(3).

Specific purpose:

To set requirements for the renewal of an unexpired CCCM certification.

Necessity:

This new subsection requires the submittal of information necessary for the Division to evaluate an application for renewal of a CCCM certification.

Subsection 3003.2(c)(4).

Specific purpose:

To permit the Division to apply a certification prohibition period on a person who performs work, unsupervised, on a conveyance without a CCCM certification.

Necessity:

This new subsection discourages elevator workers from performing unsupervised work on conveyances without the proper certification. See LC section 7311.2(a).

Subsection 3003.2(c)(5).

Specific purpose:

To give the Division the authority to revoke a CCCM certification.

Necessity:

This new subsection permits the Division to revoke a CCCM certification for good cause, for the purpose of maintaining an effective conveyance safety program in accordance with LC section 7300(a).

Subsection 3003.2(c)(6).

Specific purpose:

To give the Division the authority to suspend a CCCM certification.

Necessity:

This new subsection permits the Division to suspend a CCCM certification for good cause, for the purpose of maintaining an effective conveyance safety program in accordance with L C section 7300(a).

Subsection 3003.2(c)(7).

Specific purpose:

To set the conditions for which a CCCM certification may be suspended or revoked.

Necessity:

To provide objective considerations by which a certification may be revoked or suspended by the Division.

Subsection 3003.2(c)(8).

Specific purpose:

To state the conduct requirements of hearings held to revoke or suspend a CCCM certification.

Necessity:

To conduct these hearings to the procedural practices required by California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

Subsection 3003.2(d).

Specific purpose:

To add relevant fee information and certificate issuance requirements.

Necessity:

This new subsection is to establish compliance with LC section 344.30.

Subsection 3009(b).

Specific purpose:

To establish new definitions for “maintenance, non-mechanical” and “supervision.”

Necessity:

To clarify the type of maintenance work that is not required to be done by a CCCM, pursuant to the exemption in LC section 7300.4. The Division is often asked to identify the types of work that fall into this LC exemption.

LC section 7311.2 requires a person who, *without supervision*, erects, constructs, installs, alters, tests, maintains, services or repairs, removes, or dismantles a conveyance be a CCCM.

The LC does not define “supervision” in this context. The Division is often asked to clarify its meaning.

Section 3009 Citation.

Specific purpose:

To update cited authority and reference.

Necessity:

To include additional LC sections relevant to subject matter in section 3009.

Group IV. Conveyance Installations for Which the Installation Contract was Signed on or After May 1, 2008, but before (insert OAL effective date here)

Specific purpose:

The header for Group IV is amended to include the effective end date for the Group IV regulations.

Necessity:

To prevent the ongoing application of Group IV regulations on new conveyances.

Article 40.

Specific purpose:

To delete all requirements under Article 40 and reserve Article 40.

Necessity:

The application requirements, including use and precedence of orders, are relocated to section 3000 of the Group I Administrative Regulations.

Section 3140 Application.

Specific purpose:

To repeal existing section 3140.

Necessity:

The section 3140 requirements for application, use, and precedence are incorporated in section 3000 of the Group I Administrative Regulations.

Article 41. Conveyances Covered by ASME A17.1-2004

Section 3141.1 Maintenance, Repair, and Replacement.

Specific purpose:

To repeal existing section 3141.1.

Necessity:

Maintenance, repair, and replacement requirements for all conveyances are now located in subsection 3000(g).

Article 42. Conveyances Covered by ASME A18.1-2003 Section 3142. General Requirements.

Specific purpose:

To amend existing subsection 3142.

Necessity:

Inspection and testing requirements for all conveyances are now located in subsections 3000(g) and 3001(b).

Article 45.
Specific purpose:
To add and reserve new article for future use.
Necessity:
To permit future amendments to the Group IV ESO.

Article 46.
Specific purpose:
To add and reserve new article for future use.
Necessity:
To permit future amendments to the Group IV ESO.

Group V Conveyance Installations for Which the Installation Contract was Signed on or After (insert OAL effective date here).
Specific purpose:
To add new Group V requirements for new conveyances.
Necessity:
The Group V proposal updates the ESO to include provisions at least as effective as the most recent versions of the conveyance standards referenced by LC section 7323.

Article 47. Conveyances Installed under Group V
Specific purpose:
To add new Article 47.

Necessity:
Editorial change.

Section 3147. Scope.
Specific purpose:
To set the scope of Article 47.
Necessity:
These published national standards govern the conveyances that are subject to this proposed revision to the ESO.

Section 3147.100. Conveyances Covered by ASME A17.1-2019 as amended by the Group V Elevator Safety Orders.
Specific purpose:
To add a new section to contain regulations for conveyances subject to ASME A17.1-2019.
Necessity:
Editorial.

Subsection 3147.100(a).

Specific purpose:

To incorporate by reference ASME A17.1-2019 Safety Code for Elevators and Escalators, in part.

Necessity:

To require applicable conveyances comply with ASME A17.1-2019, except certain specific sections. The excepted sections contain:

1. Alternative compliance processes that limit the Division's ability to regulate conveyances.
2. Certain devices and/or features that introduce workers to unnecessary hazards in the hoistway.
3. Requirements that govern conveyances that are not subject to the ESO (e.g. Mine Elevators, Marine Elevators, etc.).
4. Conflicts with alternative means within the ESO that have proven to be effective without subjecting existing conveyance owners to excessive cost impacts.

Subsection 3147.100(b).

Specific purpose:

To exclude incorporation by reference ASME A17.7/CSA B44.7 - Performance-based Safety Code For Elevators and Escalators.

Necessity:

The ASME A17.7/CSA B44.7 establishes a process to address designs and products unanticipated by published code. This process poses restraints on a jurisdictional authority's ability to independently evaluate these designs and products. Through authority granted by California LC, the Board and the Division have enacted variance processes that have been

effective in allowing the introduction and evaluation of new and innovative conveyance designs and products.

Section 3147.101. General Requirements.

Specific purpose:

This new section sets out general requirements that are applicable to all Group V conveyances covered by ASME A17.1-2019. The purpose and necessity of the particular requirements in each subsection are set forth below.

Necessity:

Promulgating general requirements eliminates the need to amend the applicable sections of each standard that is cited or incorporated by reference.

Subsection 3147.101(a).

Specific purpose:

To require the key(s) necessary to gain access to machine/control rooms and machinery spaces be provided in a designated elevator pit.

Necessity:

An ability to access these rooms and spaces is necessary for elevator personnel to perform their tasks. It is not uncommon for building representatives to be located off site and/or be unavailable to provide access.

Subsection 3147.101(b).

Specific purpose:

California Electrical Code (CEC). To affirm access and working space requirements shall be provided and maintained for electrical equipment. To require the clear working space requirements of CEC-2019, sections 110.26(A) and 620.5(A)(1) be applied to elevator control equipment and other electrical equipment likely to require examination, adjustment, servicing, or maintenance while energized. To recognize the applicable electrical code enforced in the State of California as the California Electrical Code.

Necessity:

The California Building Standards Commission promulgates electrical code regulations for enforcement in California. The Division has many times denied permits to operate to conveyances that do not provide minimum access and working space clearance to electrical equipment. The CEC requirements to provide these clearances are not grouped within the section specific to elevator equipment. Affirming these requirements in the ESO will better inform building designers and elevator contractors of these requirements. To preserve safe access and working spaces about control and electrical equipment should future iterations of the CEC seek to diminish these clearance requirements. Such changes would conflict with the California Code of Regulations, Low-Voltage Electrical Safety Orders (see section 2340.16).

Subsection 3147.101(c).

Specific purpose:

To recognize the applicable building code enforced in the State of California is the California Building Code (CBC).

Necessity:

The California Building Standards Commission promulgates building code regulations for enforcement in California.

Subsection 3147.101(d).

Specific purpose:

To require certain conveyance equipment be approved by the Division prior to its use.

Necessity:

The specified devices are subject to engineering or type testing, and/or have critical design, factor of safety, material, and performance criteria. An approval process that evaluates these devices to the requirements of the ESO ensures they are designed to perform their critical safety roles. Evaluating complex engineering information for each of these devices individually at each conveyance acceptance inspection is inefficient and repetitive.

Subsection 3147.101(e).

Specific purpose:

To indicate the information required for the Division to effectively evaluate and approve suspension means.

Necessity:

By specifying the information required for approval it helps the provider of the information submit the material necessary for an efficient approval process.

Subsection 3147.101(f)(1).

Specific purpose:

To require that certain conveyance control equipment and devices be evaluated by the Division for code compliance prior to installation or use.

Necessity:

Evaluating complex elevator control systems and connected devices at each inspection individually is inefficient and duplicative. It takes a considerable amount of time to review the numerous documents, certifications, and diagrams necessary to perform a thorough code compliance evaluation. Often, the submittal information necessary to determine code compliance is considered protected information by the manufacturer (e.g., proprietary, confidential, copyrighted, private, not for distribution, etc.). Limiting the distribution of this information allows the Division to fulfill its obligations to protect this type of information. Evaluating this equipment prior to its installation or use benefits the conveyance owner, the conveyance contractor, and the Division by preventing delays in issuing permits to operate due to non-compliance with the ESO.

Subsection 3147.101(f)(2).

Specific purpose:

To indicate the information required for the Division to effectively evaluate the specified devices and equipment.

Necessity:

By specifying the information required for evaluation it helps the provider of the information submit the material necessary for an efficient evaluation process.

Subsection 3147.101(g).

Specific purpose:

To prohibit passage through a machine or control room to gain access to equipment, systems, and building areas unrelated to the conveyance(s).

Necessity:

Machine/control rooms contain machinery and equipment that present hazards such as electrical shocks and rotating equipment. These rooms are secured to prevent malicious tampering with the conveyance equipment. Personnel and equipment traversing through these rooms in order to gain access to other spaces can cause serious injury to themselves, damage conveyance equipment, and passenger entrapment.

Subsection 3147.101(h).

Specific purpose:

To prohibit access to machine and control rooms through areas where a high degree of privacy, exclusivity, and/or security is expected.

Necessity:

Locating machine/control rooms in or through areas such as private residences, bathrooms, locker rooms, dressing rooms, medical offices, and pharmacies has inhibited access to these rooms, caused controversies, upset security protocols, and invaded personal privacy.

Subsection 3147.101(i).

Specific purpose:

To permit jails and penal institutions to eliminate elevator operations related to Firefighters' Emergency Operation.

Necessity:

Elevators that respond automatically to fire situations can diminish the level of security in these institutions. These institutions are operated 24 hours a day by security personnel trained to respond to fire emergencies in accordance with their security protocols.

Subsection 3147.101(j).

Specific purpose:

To prohibit the provision of scissor-type collapsible gates.

Necessity:

Scissor-type collapsible gates have a series of horizontally sliding vertical bars, jointed by a scissor-like linkage that allows the assembly to collapse. The spaces between the bars and

linkages present serious pinching and shearing hazards to hands and fingers, causing injuries to workers and the public.

Subsection 3147.101(k).

Specific purpose:

To prohibit arranging pull straps so they form a loop.

Necessity:

Pull straps are provided on manually closed freight elevator doors to assist in their closing. Looped pull straps can cause injury to workers if their hand or arm becomes entrapped in the loop.

Subsection 3147.101(*l*).

Specific purpose:

To prohibit the use of aramid fiber suspension means.

Necessity:

Aramid fiber ropes, while they have high tensile strength, lack durability and are susceptible to abrasion and heat damage. An instance where an elevator with aramid fiber ropes suffered catastrophic suspension separation occurred while installed in California under a temporary experimental variance. All aramid fiber suspension ropes installed under permanent variances issued by the Board were subsequently required to be replaced with traditional steel wire rope suspension.

Subsection 3147.101(m).

Specific purpose:

To prohibit the provision of hoistway door unlocking devices.

Necessity:

These devices can unlock the hoistway door from the landing side without the presence of the elevator car. This exposes a fall hazard. Hoistway door unlocking devices have proven to be a dangerous means for accessing a hoistway. The hazards posed by these devices outweigh any utility they might provide. Door unlocking devices are not use restricted and are easily obtainable by anyone who wishes to obtain one.

Subsection 3147.101(n).

Specific purpose:

To prohibit the provision of access panels in hoistways and car enclosures for the purpose of cleaning transparent enclosure materials (glass).

Necessity:

The cleaning of the transparent (glass) enclosure elements of elevators is typically accomplished by persons authorized by the elevator owner to accomplish this work (facility maintenance personnel, facility cleaning crew, outside contractor, etc.). The cleaning of transparent elevator enclosures through openings in the car and/or hoistway can expose cleaning personnel to unfamiliar and undisclosed hazards. Access panels within the car

enclosure create an unnecessary opportunity for abuse and misuse by persons with malicious intent or attempting to self-evacuate due to entrapment. Someone could open the access panel, causing a running elevator to stop abruptly, possibly entrapping passengers, and likewise exposing themselves to unfamiliar and undisclosed hazards.

Subsection 3147.101(o).

Specific purpose:

To prohibit the use of permanent ink markers for recording information on data tags and data plates.

Necessity:

Permanent ink markers have proven to be an ineffective way of recording information that must remain legible for the life of the component and/or conveyance. The solvents used to clean grease and oil off conveyance parts also remove permanent ink markings.

Subsection 3147.101(p).

Specific purpose:

To eliminate hazardous hoistway enclosure surface projections that could destabilize or injure elevator personnel.

Necessity:

Construction items like reinforcing rods, snap ties, and screws that extend beyond the surface of the hoistway enclosure pose snagging and injury hazards to elevator personnel.

Subsection 3147.101(q).

Specific purpose:

To limit the top surface of horizontal projections, recesses, and setbacks to two inches before mitigation measures must be taken.

Necessity:

Exposed horizontal surfaces in elevator hoistways create a surface to set tools, equipment, and supplies, or to allow workers to stand, exposing them to a fall hazard. Materials are easily dislodged and could fall onto elevator cars or workers below. Limiting the dimension of these horizontal surfaces discourages these practices.

Subsection 3147.101(r).

Specific purpose:

To require a CCCM provide authorized personnel access to the elevator water removal equipment located in the pit.

Necessity:

CCCMs are trained and have access to the keys necessary to safely enter and work in an elevator pit.

Subsection 3147.101(s).

Specific purpose:

To require guards between adjacent pits to prevent accidental contact with moving equipment. To require the guard to provide similar protection to persons positioned on pit ladders.

To provide an exception to the guarding requirement if the moving equipment is guarded by distance.

Necessity:

An elevator operating adjacent to an elevator pit exposes elevator personnel to shearing and crushing hazards created by the moving equipment of the neighboring elevator. This proposal requires a guard between all adjacent pits, with an exception for pits having sufficient depth to prevent accidental contact with unguarded moving equipment.

This proposal requires the guard be of sufficient height and width that it will protect elevator personnel positioned on pit ladders that are adjacent to neighboring elevators.

Subsection 3147.101(t)(1).

Specific purpose:

To prohibit the reduction of pit ladder rung, cleat or step width from 16 inches.

Necessity:

The Title 8 General Industry Safety Orders, subsection 3277(d)(3) requires a 16-inch minimum clear rung length for fixed ladders.

Subsection 3147.101(t)(2).

Specific purpose:

To require the pit ladder be positioned as close as possible to the pit access door.

Necessity:

Elevators with enlarged pit areas may allow pit ladders to be installed an extended distance from the pit access door. This would require elevator personnel to over-extend or over-reach in order to transition to or from the pit ladder. This proposed subsection requires the pit ladder be positioned as close to the pit access door as possible while maintaining required running clearances.

Subsection 3147.101(t)(3).

Specific purpose:

To permit the hand clearance on each side of the ladder to be eliminated if the pit ladder rungs can effectively be used as handgrips.

Necessity:

Adequate clearance on each side of a ladder is necessary to prevent injuries to workers' hands while using the ladder's side rails as hand grips. Pit ladders extending their rungs above the pit access door landing surface allows workers to use the rungs as hand grips, making the provision of this side clearance unnecessary.

Subsection 3147.101(t)(4).

Specific purpose:

To prohibit the use of retractable pit ladders.

Necessity:

Retractable pit ladders are deployed into the running envelope of the elevator by elevator personnel to access the elevator pit. If the pit ladder remains or is unexpectedly deployed in this position, for any reason, it may be struck by the elevator car, causing damage to the car and ladder. Retractable pit ladders can be difficult to deploy and retract, encouraging elevator personnel to use them in their retracted position or forego the use of the ladder altogether.

Subsection 3147.101(u).

Specific purpose:

To limit the size of the perforations permitted in counterweight guards.

Necessity:

The size of the perforations in the guard, in conjunction with the proximity of the moving counterweight, could cause serious injury should elevator personnel grasp the guard using the perforations. Requiring the perforation to reject a 0.5 inch ball would prevent elevator personnel from inserting their fingers into the perforations and possibly having them struck by the counterweight.

Subsection 3147.101(v).

Specific purpose:

To require the pit light switch be located so it can be easily activated prior to accessing the pit using a pit ladder.

Necessity:

Locating the pit light switch at an elevation easily reachable by a person standing on the landing and adjacent to the pit ladder encourages the use of the light switch prior to entering the pit.

Subsection 3147.101(w)(1).

Specific purpose:

To require a platform in the pit to safely access elevated serviceable equipment.

Necessity:

A permanently installed and robustly designed platform will provide elevator personnel safe and convenient access to elevated equipment.

Subsection 3147.101(w)(2).

Specific purpose:

To require a platform in the pit to safely access elevated serviceable equipment.

Necessity:

A permanently installed and robustly designed platform will provide elevator personnel safe and convenient access to elevated equipment. Platforms positioned to provide access to equipment more than 99 inches above the pit floor will be elevated to an extent requiring the provision of an access ladder and guardrails.

Subsection 3147.101(x).

Specific purpose:

To require the area outside of car top railings to have a minimum 43 inches of vertical clearance above the car top at maximum upward movement of the elevator car. An exception to allow a minimum vertical clearance of four inches above the car top is allowed if the car top area outside the railings is clearly marked to indicate a hazard exists (red and white stripes).

Necessity:

If the elevator were to unexpectedly move upward while elevator personnel were positioned in these area(s) it would lead to serious injury or death. Forty three inches is the minimum vertical clearance required elsewhere on the car top to protect elevator personnel. By clearly identifying the area(s) of the car top that have reduced vertical clearance, elevator personnel will be made aware of hazards present and to avoid these area(s).

Subsection 3147.101(y).

Specific purpose:

To provide safe occupiable spaces on the car top for elevator personnel when the elevator has reached its maximum upward movement.

To require the occupiable spaces be provided within car top envelope and car top railings (if provided).

To require the occupiable spaces be identified.

To allow for intrusions of minimal dimension to be positioned on the car top in the occupiable spaces.

To prohibit overlapping the two occupiable spaces.

Necessity:

If an elevator unexpectedly moves upwards while elevator personnel are positioned on the car top, it may cause them to be struck by an overhead structure or equipment in the hoistway. Elevator personnel should not be required to climb over or under car top railings to access these spaces.

To guide elevator personnel to these spaces. Minimal structural or equipment intrusions mounted on the car top surfaces will not diminish the safe occupancy of the space.

To allow full use of the provided occupiable space by an individual.

This proposal requires the dimensions of the occupiable spaces provide a sufficient horizontal area respective of the available overhead clearance.

Subsection 3147.101(z).

Specific purpose:

To prohibit equipment from obstructing the work surfaces used to perform maintenance and inspection tasks from the car top.

Necessity:

Equipment mounted to the car top can prevent elevator personnel from safely positioning themselves to perform maintenance and inspection tasks.

Subsection 3147.101(aa).

Specific purpose:

To prohibit the maximum clearance requirement between the elevator car and the hoistway enclosure or fascia from being increased or eliminated through the provision of a car door interlock.

Necessity:

If a person or group of people attempts to self-extricate from a malfunctioning or stalled elevator by forcing the car door open, it may break the car door interlock, exposing them to a potentially life-threatening fall hazard. Persons trapped in an elevator car may be motivated to apply all available force and means to open the car door.

Subsection 3147.101(bb).

Specific purpose:

To provide clear access to serviceable equipment from all directions necessary to safely perform maintenance tasks.

Necessity:

It may be necessary to approach serviceable equipment from more than one direction to safely perform required maintenance.

Subsection 3147.101(cc)

Specific purpose:

To establish clear working areas and equipment work reach conditions for conducting inspections, maintenance, minor repairs, minor replacements, or testing that is required to be conducted from the elevator car top.

Necessity:

A lack of access to equipment from the elevator car top encourages elevator workers to use portable ladders, climb on the car top railings (which are intended to be fall protection), climb off the car top to stand on beams, or use other improvised means for gaining access to equipment.

Subsection 3147.101(cc)(1).

Specific purpose:

To provide an unobstructed standing surface (work area) on the elevator car top for elevator personnel to safely access driving machines, motors, brakes, and governors.

Necessity:

Equipment typically attached to elevator car tops can prevent elevator personnel from safely positioning themselves to perform their work. Having to stand on this equipment can diminish the effectiveness of car top railings and/or cause worker instability.

Subsection 3147.101(cc)(2).

Specific purpose:

To require serviceable equipment be situated so elevator personnel can safely and effectively perform work while positioned on the elevator car top.

Necessity:

Serviceable equipment positioned out of reach of elevator personnel has led to the use of unsafe and improvised methods for gaining access to this equipment, diminishing worker safety.

Subsection 3147.101(cc)(3).

Specific purpose:

To require serviceable equipment be situated so elevator personnel can safely and effectively perform work while positioned on the elevator car top.

Necessity:

Serviceable equipment positioned out of reach of elevator personnel has led to the use of unsafe and improvised methods for gaining access to this equipment, diminishing worker safety.

Subsection 3147.101(cc)(4).

Specific purpose:

To require serviceable equipment be situated so elevator personnel can safely and effectively perform work while positioned on the elevator car top.

Necessity:

Serviceable equipment positioned out of reach of elevator personnel has led to the use of unsafe and improvised methods for gaining access to this equipment, diminishing worker safety.

Subsection 3147.101(cc)(5).

Specific purpose:

To prohibit locating driving machines, motors, brakes, and governors so they require elevator personnel to affect inspections, maintenance, minor repairs, minor replacements, or testing from an adjacent hoistway.

Necessity:

Using an elevator car top as a platform to perform work on equipment in an adjacent hoistway can lead to injuries and fatalities.

Subsection 3147.101(dd).

Specific purpose:

To require stairs be provided to access overhead machinery spaces that contain driving machines.

Necessity:

This type of equipment is routinely accessed for maintenance and troubleshooting purposes with tools and diagnostic equipment that would be difficult to safely carry up a ladder. Driving machines are similarly accessed to perform routine maintenance. Driving machines should be readily accessible to promote frequent inspections and maintenance.

Subsection 3147.101(ee).

Specific purpose:

To require hoistway access switches on all elevators regardless of their rated speed.

Necessity:

Hoistway access switches provide the safest means for elevator personnel to gain access to the elevator car top. Elevator rated speed is not a relevant safety metric for hoistway access switch exclusion. The hazards associated with gaining access to the elevator car top are present at all speeds.

Subsection 3147.101(ff).

Specific purpose:

To require the car top emergency exit to reside within the perimeter of the car top railings.

Necessity:

Passage through an emergency exit located outside the car top railings will expose persons to an unguarded fall hazard.

Subsection 3147.101(ff)(1).

Specific purpose:

To mitigate impediments to clear and safe passage through the emergency exit that may be caused by the location of the car top railings.

Necessity:

The placement of car top railings many times is predicated on equipment in the hoistway. The required railing placement may encroach on the clear path through an emergency exit opening. Permitting car top railing elements to be minimally offset, along with additional screening measures, allows safe passage through the emergency exit while maintaining fall protections provided by the railing.

Subsection 3147.101(ff)(2).

Specific purpose:

To mitigate impediments to clear and safe passage through the emergency exit that may be caused by the location of the car top railings.

Necessity:

The placement of car top railings many times is predicated on equipment in the hoistway. The required railing placement may encroach on the clear path through an emergency exit opening. Permitting car top railing elements to be minimally offset, along with additional screening measures, allows safe passage through the emergency exit while maintaining fall protections provided by the railing.

Subsection 3147.101(gg).

Specific purpose:

To prohibit car top emergency exits on elevators in partially enclosed hoistways, unless it is firmly secured, in the closed position by bolts that cannot be removed from inside the car.

Necessity:

Partially enclosed hoistways pose unique fall hazards to passengers who may attempt to pass through the emergency exit to gain access to the car top to self-evacuate.

Subsection 3147.101(hh).

Specific purpose:

To require a monitoring switch on spring-return oil buffers to ensure the buffer returns to its fully extended position within a maximum period of time.

Necessity:

Spring-return oil buffers are permitted to be partially compressed during normal elevator operation. If the buffer does not return to its fully extended position, the buffer will not perform as intended should the car pass the terminal landing. Should the buffer not return to its extended position, the elevator is removed from service in a manner that does not entrap passengers or interfere with Firefighters' Emergency Operation. The detection of a buffer malfunction warrants an evaluation by a CCCM before the elevator is returned to service.

Subsection 3147.101(ii).

Specific purpose:

To require the means to prevent unexpected car movement be provided when the driving machine or governors are installed in the hoistway.

To require the means to prevent unexpected car movement be designed to engage at any car position required to safely perform maintenance and inspections from the car top.

The Division does not intend to require a means to prevent unexpected car movement be applied to existing elevators through an alteration.

Necessity:

Maintenance of driving machines or governors may require movement and actuation of switches and speed-sensing devices related to the elevator's motion control system, which can lead to unexpected car movement.

To protect the lives and safety of elevator workers and inspectors, the means to prevent unexpected car movement must engage in all locations necessary to safely perform maintenance and inspection tasks from the car top.

Subsection 3147.101(jj).

Specific purpose:

To require elevator motor controllers and motion controllers be installed in a dedicated machine room or control room, permitting full bodily entry.

Necessity:

These control elements are often positioned at the top of an elevator hoistway requiring access from the elevator car top. An elevator mechanic interacting with the motor

controller and portions of the motion control while standing on the elevator car top could induce unexpected car movement. In other words, the surface from which the mechanic is working could suddenly be in motion, risking the worker's safety and life. Often, complete lockout/tagout is impossible because the controller must be energized for troubleshooting purposes.

In addition, the Division has observed many building designs that locate the elevator control space (closet) on the roof, where the equipment and elevator personnel are exposed to the elements. In other buildings, the control space (closet) was located in egress stairwells or immediately adjacent to emergency exits. This presents a potential public safety hazard when the heavy, self-closing/self-locking closet doors are propped open by elevator or authorized personnel. These spaces could also expose the pubic to energized control equipment when the doors are propped open.

Also, if these self-closing control space (closet) doors swing into the safe workspace clearances required by the California Electrical Code, a mechanic working on a controller could be struck by the self-closing door, forcing them into energized equipment.

Subsection 3147.101(jj)(1).

Specific purpose:

Require machine and control rooms be located near the elevator(s) they control.

Necessity:

Fire authorities have expressed concern to the Division about the difficulty of locating machine/control rooms/spaces in building areas that are distant and remote from the elevators they control.

Subsection 3147.101(jj)(2).

Specific purpose:

Require machine and control rooms be located near the elevator(s) they control.

Necessity:

Fire authorities have expressed concern to the Division about the difficulty of locating machine/control rooms/spaces in building areas that are distant and remote from the elevators they control.

Subsection 3147.101(jj)(3).

Specific purpose:

To require electrical clearances be maintained irrespective of machine/control room door position.

Necessity:

The California Electrical Code requires electrical clearances be maintained in front of and around electrical equipment so maintenance personnel can be safely positioned while working. Access doors that violate these minimum clearance requirements by swinging into these electrical spaces put maintenance personnel at risk. A mechanic working on a controller could be struck by the door, forcing them into energized equipment.

Subsection 3147.101(jj)(4).

Specific purpose:

To require an identifying sign on machine room and control room doors.

Necessity:

To assist first responders and elevator personnel to efficiently locate the room that contains the elevator controls. Fire authorities often visually survey the condition of elevator control rooms and control equipment during the course of their emergency response. First responders and elevator personnel are often required to lock out/tag out an elevator prior to performing work. If it is difficult to locate the machine room containing the electrical current disconnecting means, they may be inclined to forgo this important safety procedure.

Subsection 3147.101(jj)(5).

Specific purpose:

To require signs indicating the location of elevator machine/control room.

Necessity:

To assist first responders and elevator personnel to efficiently locate the room that contains the elevator controls. Fire authorities often visually survey the condition of elevator control rooms and control equipment during the course of their emergency response. First responders and elevator personnel are often required to lock out/tag out an elevator prior to performing work. If it is difficult to locate the machine room containing the electrical current

disconnecting means they may be inclined to forgo this important safety procedure.

Subsection 3147.101(kk).

Specific purpose:

To permit shunt trip equipment that is incorporated into the elevator's power disconnecting means to reside in machine rooms and control rooms.

Necessity:

Shunt trip equipment is used to remove power from elevator equipment prior to the application of water by fire sprinklers to prevent unanticipated and/or undirected movement of the elevator car. Electrical equipment manufacturers have developed "power module switches" for elevators that incorporate the shunt trip components within the required listed and labeled mainline disconnecting means. Mainline disconnecting means for elevators are required to be located in the control or machine room. Shunt trip equipment that is not incorporated into a listed elevator disconnecting means is not considered elevator related equipment. It is part of the building's power distribution system and is not permitted to be located in the elevator control/machine rooms.

Subsection 3147.101(*ll*).

Specific purpose:

To prohibit air conditioning equipment for machinery spaces, machine rooms, control spaces or control rooms from being installed in the elevator hoistway.

Necessity:

Maintenance of air conditioning equipment installed in a hoistway creates hazards to HVAC personnel who are unfamiliar with the hazards that exist in elevator hoistways.

Subsection 3147.101(mm).

Specific purpose:

To prohibit the hoistway emergency doors in single blind hoistways.

NOTE: A single blind hoistway is a hoistway that contains a single elevator, and a portion of the hoistway is not provided with hoistway entrances.

Necessity:

The provision of hoistway emergency doors requires a switch to determine if the door is closed; however, the switch is not required to determine if the door is in a position that the lock engages (closed and locked). As these doors are permitted in public areas and spaces, someone could open an unlocked emergency door, causing a running elevator to stop abruptly, possibly entrapping passengers, while exposing themselves to a fall hazard.

Subsection 3147.101(nn).

Specific purpose:

To limit the insetting of the car top railing only to the extent necessary to provide required horizontal clearances to the railing, with a maximum inset of 12 inches from the edge of the car top. To provide an exception when the area beyond the car top railing is physically guarded to prevent occupation of the area beyond the railing.

Necessity:

Limiting the inset of the car top railing:

1. Discourages occupying the limited area outside the railing that would expose elevator personnel to the fall, crushing, and shearing hazards present outside the railing.
2. Maximizes the car top working surface area within the car top railing so elevator personnel can position themselves to safely perform their work.
3. Minimizes the reach distance necessary to maintain serviceable equipment in the hoistway.

Subsection 3147.101(oo).

Specific purpose:

To inform elevator personnel to not use the car top railing to provide access to equipment. To inform elevator personnel to not position themselves in areas beyond the car top railing.

Necessity:

Standing on or climbing over car top railings negates the fall hazard protections that the car top railings are intended to provide.

Subsection 3147.101(pp).

Specific purpose:

To address shearing and crushing hazards created between the car top railing and equipment, the elevator passes as it moves upward in the hoistway.

Necessity:

Shearing and crushing accidents are among the most frequent accidents suffered by elevator workers. This requirement is necessary to protect elevator workers and inspectors from these hazards by providing a minimum clearance between the railing and converging objects in the hoistway.

Subsection 3147.101(pp)(1)(A).

Specific purpose:

To set a prescriptive vertical clearance dimension between the car top railings and objects mounted in the hoistway, above the railing.

Necessity:

Elevator personnel often lean their body over these railings to inspect or troubleshoot conveyance equipment. Without this clearance, a person could be crushed if the conveyance unexpectedly moves upward.

Subsection 3147.101(pp)(1)(B).

Specific purpose:

To set a prescriptive horizontal clearance dimension between the car top railings and objects mounted in the hoistway that project into the confines of the railing.

Necessity:

Elevator personnel reside inside the railing and need clearance to safely position their body between these converging surfaces should the conveyance unexpectedly move upward.

Subsection 3147.101(pp)(2).

Specific purpose:

To set a prescriptive horizontal clearance dimension between the car top railings and objects mounted in the hoistway, outside the confines of the railing.

Necessity:

Elevator personnel often lean their body over these railings to inspect or troubleshoot conveyance equipment. Without this clearance, a person could be crushed if the conveyance unexpectedly moves upwards.

Subsection 3147.101(pp)(3).

Specific purpose:

To allow a reduction in horizontal clearance to certain equipment, or shear hazards effectively guarded by this equipment.

Necessity:

Allowing a reduction in clearance to four inches provides for hand clearance to this equipment, instead of clearance necessary for other body parts. The equipment listed in this section either:

1. Presents no horizontal projections to create a shearing or crushing hazard.
2. Are constantly positioned adjacent to the car in a manner that prevents a person from leaning over the car top railing.
3. Presents a minimal horizontal projection from a vertical surface that would cause a body part to be deflected rather than be crushed or sheared.
4. Is provided with beveling to deflect a body part away from the crushing or shearing hazards.
5. Shearing and crushing hazards that are mitigated elsewhere in the code.
6. Shearing and crushing hazards associated with leaning over the car top railing that are effectively guarded by the equipment in this list.

Subsection 3147.101(pp)(4).

Specific purpose:

To allow for a reduction in horizontal clearance to the car top railing when the hazards have been sufficiently mitigated by an alternative prescribed means.

Necessity:

Not all equipment can be positioned away from the car top railing to provide the necessary clearances needed to guard from shearing and crushing hazards. This proposal allows for these hazards to be mitigated through beveling and/or screening.

Subsection 3147.101(qq).

Specific purpose:

To require device model designations be provided on selected equipment data plates.

Necessity:

Device model identifications assist Division inspectors identify the devices used on a conveyance. The Division requires some of these devices be evaluated prior to their use. The

Division records certain device model information in its data reports it keeps on each conveyance.

Subsection 3147.101(rr).

Specific purpose:

To permit the use of distinct car-speed sensing devices as an acceptable alternative to a governor-mounted speed-reducing switch.

Necessity:

The Division has asserted through the Board's permanent variance process that a product meeting these requirements provides equivalent safety to governor-mounted speed-reducing switches. The Board has issued permanent variances for a product that meets these requirements.

Subsection 3147.101(ss).

Specific purpose:

To specify the published edition of ASME A17.6 applicable to this proposal.

Necessity:

To limit the application of ASME A17.6 to an edition the Division has had an opportunity to evaluate.

Subsection 3147.101(tt).

Specific purpose:

To clarify the characteristics and capabilities required of residual-strength monitoring devices.

Necessity:

The ASME A17.1-2019 definition of residual strength is:

"the actual breaking strength of a suspension member at any time during its operational life cycle".

A residual-strength detection means must be a device that physically monitors each suspension member's actual remaining strength properties.

Subsection 3147.101(tt)(1).

Specific purpose:

To require a residual-strength monitoring device that utilizes an effective means to recover data from the suspension members that relates to its remaining strength.

Necessity:

If the suspension's remaining strength is not determined by data from the actual suspension member, it is not possible to determine its "actual" remaining strength.

Subsection 3147.101(tt)(2).

Specific purpose:

To require a device that is capable of determining remaining residual-strength if affected by unusual and unforeseen conditions.

Necessity:

Suspension members can be negatively affected by a wide range of factors (e.g., manufacturing defect, shipping damage, installation damage, corrosion, damage by impacts, damage caused by seismic events, loss of traction, etc.).

Subsection 3147.101(tt)(3).

Specific purpose:

To prevent the removal of the monitoring device from an operating elevator.

Necessity:

When a residual-strength monitoring device becomes non-functional or is otherwise removed, the suspension members are left unmonitored.

Subsection 3147.101(tt)(4).

Specific purpose:

To allow a period of time the monitoring device may be removed to affect its repair or replacement.

Necessity:

To allow a reasonable period of time to repair or replace a monitoring device without having to remove the elevator from service, which may cause accessibility issues within the building.

Subsection 3147.101(tt)(5).

Specific purpose:

To require that a monitoring device be tested for proper function if removed or disconnected.

Necessity:

To ensure the reconnected monitoring device functions properly.

Subsection 3147.101(tt) Note.

Specific purpose:

To clarify that processes that monitor trips or bend cycles may be used to determine manufacturer's lifecycle replacement criteria, but they are not suitable in determining the remaining residual-strength of a suspension member.

Necessity:

Calculations used to forecast if a suspension member has been weakened by cyclic wear does not provide information on the "actual" remaining strength of the suspension at any time, throughout its lifecycle.

Subsection 3147.101(uu).

Specific purpose:

To restrict the location of inspection operation controls.

Necessity:

Providing inspection operation controls in the pit allows a mechanic to lower the car down on themselves, obstructing their means of egress from the pit, increasing the hazards associated with this confined space. Consequently, should a mechanic become incapacitated, the

elevator controls outside the pit would be unavailable to gain access to the pit to assist them. ASME A17.1-2019 permits the provision of inspection operation controls at working platforms and in control spaces. This proposal prohibits the provision of working platforms (see subsection 3147.100(a)) and control spaces (see subsection 3147.101(jj)).

Subsection 3147.101(vv).

Specific purpose:

To provide protections to elevator personnel in the areas of the hoistway involving their convergence with the counterweight and overhead objects when moving up the hoistway on car top inspection operation.

Necessity:

When travelling up the hoistway on car top inspection, at the point the car approaches the counterweight or overhead hoistway elements, dynamic crushing hazards exist. These hazards approach silently without warning from above.

Subsection 3147.101(vv)(1).

Specific purpose:

To require the elevator to automatically stop at a sufficient distance from an approaching hazard.

Necessity:

The automatic stop will allow elevator personnel time and space to assess their position relative to the approaching hazard.

Subsection 3147.101(vv)(2).

Specific purpose:

To indicate to elevator personnel that the elevator was stopped automatically due to an approaching hazard.

Necessity:

This will inform elevator personnel that the elevator was stopped intentionally due to an approaching hazard.

Subsection 3147.101(vv)(3).

Specific purpose:

To require elevator personnel to intentionally reinitiate the car top operating device (buttons) to continue to move the car upward towards the hazard.

Necessity:

This operation gives elevator personnel an opportunity to recognize the approaching hazard and determine if it is safe to continue.

Subsection 3147.101(ww).

Specific purpose:

To continue to require a dedicated “emergency audible signaling device” (car alarm button) for all elevators.

Necessity:

An audible signaling device, actuated by an “alarm” push button in the car, provides the riding public with a familiar means of summoning assistance when needed. This device gives persons with certain disabilities or language barriers a means to communicate for assistance.

Subsection 3147.101(xx).

Specific purpose:

To prohibit access panels in the car enclosure, which, when open, allow access to equipment outside the car enclosure.

Necessity:

Access panels in the car enclosure to perform work on elevator machinery and control equipment inside the hoistway exposes elevator personnel to hazards (e.g., unintended car movement, electrical clearances, shearing, etc.). Access panels within the car enclosure create an unnecessary opportunity for abuse and misuse by persons with malicious intent or attempting to self-evacuate due to entrapment.

Subsection 3147.101(yy).

Specific purpose:

To prohibit ladders and stairs in hoistways that are used to access equipment installed in hoistways, with certain exceptions.

Necessity:

The use of ladders and stairs to access equipment in the hoistway could expose workers to fall hazards and diminishes the protections of railings provided on car tops. This proposal requires equipment mounted in the hoistway to be located in a position where elevator workers and inspectors are not required to leave the safe confines of the elevator car top. (see subsections 3147.101(cc) and (zz)).

Subsection 3147.101(zz).

Specific purpose:

To provide safe access for maintenance and inspection when equipment is installed at the top of the elevator hoistway (shaft).

Necessity:

When equipment that requires maintenance or inspection is installed beyond a workers reach they may have to resort to less safe access methods to accomplish their tasks (e.g. stand on car top railing or the use of a portable ladder on the car top).

Subsection 3147.101(aaa).

Specific purpose:

To provide prescriptive requirements for the location of lighting switches at the entry of workspaces.

Necessity:

Having to enter and search a dark workspace containing active machinery and energized circuits for the workspace lighting switch is hazardous to workers.

Subsection 3147.101(aaa)(1).

Specific purpose:

To require the light switch to be located at the point of entry.

Necessity:

Having to search a dark workspace containing machinery and electrical equipment to locate the light switch exposes workers to hazards unnecessarily.

Subsection 3147.101(aaa)(2).

Specific purpose:

To require the light switch to be located at the point of entry.

Necessity:

Having to search a dark workspace containing machinery and electrical equipment to locate the light switch exposes workers to hazards unnecessarily.

Subsection 3147.101(aaa)(3).

Specific purpose:

To require the light switch be located inside the room on the lock-jamb side of the door opening.

Necessity:

To require the light switch be inside the room so elevator personnel can maintain control of the workspace lighting while they occupy the room. To prevent the light switch from being obstructed by the access door when it is opened.

Subsection 3147.101(aaa) Note.

Specific purpose:

To inform that the use of automated light switches are prohibited.

Necessity:

Unanticipated removal of workspace lighting is hazardous to workers. Automated lighting systems that can turn work space lighting off without deliberate action of the worker can present hazards while they work on equipment.

Subsection 3147.101(bbb).

Specific purpose:

To require hoistway fire alarm initiating devices be tested and maintained from outside the hoistway.

Necessity:

Requiring fire alarm service personnel to enter the hoistway to maintain their equipment exposes them to dangerous and unfamiliar hazards. Requiring an arrangement for them to perform their maintenance and testing tasks from outside the hoistway, allowing for safe and timely maintenance of fire alarm initiating devices (smoke and heat detectors), is integral to safe elevator operation.

Subsection 3147.101(ccc).

Specific purpose:

To provide a more comprehensive listing of the guarding requirements for rotating and moving elements of conveyance equipment.

Necessity:

To clarify the conveyance, rotating and moving machinery elements to be guarded. This requirement seeks to align with the equipment guarding required by the General Industry Safety Orders.

Subsection 3147.101(ddd).

Specific purpose:

To clarify how adjustable guide rail brackets are to be fixed in their final position.

Necessity:

This proposal identifies bolting or welding as the only allowable “means” for this purpose. These two methods have a long history of successful use. It also requires the elevator manufacturer to determine the installation and design characteristics of the fastening method used.

Subsection 3147.101(eee).

Specific purpose:

To maintain safe alignments between the car platform sill and the landing sill while passengers enter and exit the elevator.

Necessity:

Sill misalignments present a serious tripping hazard to passengers as they transition between the elevator car and landing surfaces. This requirement is consistent with requirements for accessibility by persons with disabilities. The accessibility requirements of the CBC require elevator cars be maintained within a tolerance one half inch of landings under all loading conditions.

Subsection 3147.101(fff).

Specific purpose:

To prohibit driving and hydraulic machines in pit areas.

Necessity:

Conveyance pit areas are hazardous due to the presence of the car above. Working on the equipment that supports the car while positioned under the car creates an unnecessary hazard. The Division is aware of a crushing fatality associated with this equipment configuration.

Subsection 3147.101(ggg).

Specific purpose:

To prohibit the application of temporarily applied adhesive films to escalator and moving walk handrails.

Necessity:

To prevent obstruction or distraction from the required warning signs and safety messages placed in critical transition areas. Adhesive films temporarily applied to escalators and moving walks are currently marketed to advertise to passengers during events (e.g., conventions, sporting events, concerts, etc.). These adhesive films degrade with use and delaminate from the handrail surface over time. When this occurs, the film can become entangled in handrail safety devices or cause the handrail to stall and destabilize the passengers. Other advertised uses for these adhesive films is to diminish microbial growth on the handrail surfaces and to provide visual cues on handrail motion for passengers to judge handrail speed in relation to the steps/pallets/belts. Hygiene devices are commonly available to address handrail microbial growth on an ongoing basis. Modern escalators and moving walks are required to be provided with devices that compare handrail speed with the speed of the steps/pallets/belts to ensure they travel at the same rate so passengers can maintain stability as they board and ride these conveyances.

Subsection 3147.101(hhh).

Specific purpose:

To permit the safe installation of Emergency Responder Radio Coverage antenna(s) in elevator hoistways.

Necessity:

Current fire codes require emergency responder radios be provided with full strength signal coverage throughout the building, including the elevator car. The materials used to construct elevator hoistways and car enclosures make it difficult for radio signals to penetrate these surfaces. Equipment (antennas) unrelated to the elevator are not permitted to reside in the hoistway due to the hazards present in hoistways. Arranging antenna(s) to be properly installed, serviced, and maintained from outside the hoistway will allow for their safe provision.

Subsection 3147.101(iii).

Specific purpose:

To require lighting throughout the hoistway in addition to the lighting provided in the pit and on the car top.

Necessity:

To improve the visibility for locating the car or counterweight in the hoistway. Improves elevator personnel's situational awareness of potential fall hazards. Provides lighting for emergency personnel to survey the hoistway conditions.

Subsection 3147.101(jjj).

Specific purpose:

To require an electrical sensing device to detect a person on the pit access ladder.

Necessity:

Injuries and fatalities have occurred while elevator personnel were on pit ladders. This sensing means will prevent directed movement of the car while the pit ladder is occupied.

Section 3147.102. Elevators Used for Construction.

Specific purpose:

To apply ASME requirements, as amended, to elevators used for construction.

Necessity:

These requirements provide for the safe use of elevators to provide worker access and material transport during a building's construction.

Subsection 3147.102(a)(1).

Specific purpose:

To require trained personnel to operate the controls of the elevator.

Necessity:

Many of the automatic emergency systems (including fire and life safety systems, earthquake protective devices, and emergency communication devices) required for passenger or freight elevators are not required to be installed or functional on these types of elevators. A trained elevator operator will be able to appropriately respond to unusual and emergency situations.

Subsection 3147.102(a)(2).

Specific purpose:

To require effective two-way communication between the elevator operator and another person at the jobsite.

Necessity:

An effective two-way communication means will facilitate effective responses to emergency situations in accordance with emergency plans and procedures (e.g., employee injury, elevator malfunction, etc.).

Subsection 3147.102(a)(3).

Specific purpose:

To require effective two-way communication between the elevator operator and all landings.

Necessity:

An effective two-way communication means allows for efficient floor service requests and acknowledgments between the elevator operator and each landing without having to resort to less safe methods.

Subsection 3147.102(a)(4).

Specific purpose:

To require emergency plans and procedures.

Necessity:

Effective emergency plans and procedures guide the operator and passengers in the safe use of the elevator during an emergency.

Subsection 3147.102(a)(5).

Specific purpose:

To require signage indicating the elevator is to be used for construction purposes only and

may only be operated by an authorized person.

Necessity:

This sign informs passengers of restrictions related to the use of the elevator.

Subsection 3147.102(a)(6).

Specific purpose:

To require signage at each landing with instructions on how to summon the elevator.

Necessity:

These instructions inform the passengers on how to summon the elevator to their landing (see subsection (a)(3) above).

Subsection 3147.102(a)(7).

Specific purpose:

To require securing the elevator after working hours.

Necessity:

Securing the elevator against unauthorized access prevents its operation by untrained persons.

Subsection 3147.102(b).

Specific purpose:

To require hoistway doors be provided with interlocks.

Necessity:

A hoistway door that is not in the closed and locked position when the elevator is not present at the landing exposes workers to falling and crushing hazards. Interlocks provide a capability and durability that are not provided by a latching “means” or combination mechanical locks and contacts. The use of interlocks would prevent an elevator from leaving a landing unless the hoistway door is in the closed and locked position, ensuring workers will not be exposed to an open hoistway or moving equipment. These hazards exist regardless of the elevator’s rated speed.

Subsection 3147.102(c).

Specific purpose:

To permit elevator operation with the emergency exit open for purpose of carrying materials that do not fit inside the car enclosure.

Necessity:

Many materials used in the construction of a building do not fit within an elevator enclosure (e.g., conduit, lumber, ladders, etc.). It is not uncommon for these items to be projected through an emergency exit opening to transport them throughout a building project. When the elevator is moving, this material can come into contact with the counterweight or other building construction members. This poses a significant risk to any worker riding in the elevator with the material. To ensure the elevator is being operated in a safe manner, it must be under the control of a CCCM.

Section 3147.103. Elevator Seismic Requirements.

Specific purpose:

New section containing seismic requirements for new elevator installations.

Necessity:

To apply seismic requirements to all electric elevators with counterweights, and direct-acting or roped-hydraulic elevator installations.

Subsection 3147.103(a).

Specific purpose:

To affirm seismic requirements apply to all electric elevators with counterweights, and direct-acting or roped-hydraulic elevator installations.

Necessity:

The state of California resides in a seismic risk zone 2 or greater as defined by earlier building codes, making the seismic requirements of ASME A17.1-2019, section 8.4 applicable. (See ASME A17.1-2019. Section 8.4(a)(5).)

Subsection 3147.103(b).

Specific purpose:

To require guide rail size and guide rail bracket spacing information on layout drawings.

Necessity:

To make information readily available that is necessary to determine elevator compliance with guide rail and supporting bracket seismic requirements.

Subsection 3147.103(c).

Specific purpose:

To require suspension member displacement detection means be provided on all electric elevators with counterweights.

Necessity:

Operating an elevator with suspension members displaced from their normal operating position can lead to suspension member failure, equipment damage, erratic operation, and passenger injury. The Division has observed suspension member failure and elevator equipment damage due to such displacements resulting from seismic events.

Subsection 3147.103(d).

Specific purpose:

To require elevator travelling cables be restrained near the midpoint of elevator travel.

Necessity:

The Division has observed travelling cable failure and extensive damage to elevator equipment due to excessive swinging/sway of these cables during seismic events. Restraining the traveling cable near the midpoint of the hoistway will greatly reduce the cable's potential to sway during a seismic event.

Subsection 3147.103(e).

Specific purpose:

To restrict the termination of earthquake mode to elevator personnel.

Necessity:

Due to the wide range of serious conditions that could be present subsequent to a seismic event, trained elevator personnel should survey the elevator prior to it being returned to service. The Division has observed additional equipment damage and exposure of passengers to hazardous conditions resulting from the termination of earthquake mode by untrained personnel.

Section 3147.104. Escalator and Moving Walk Seismic Requirements.

Specific purpose:

New section containing seismic requirements for new elevator installations.

Necessity:

To apply seismic requirements to all escalator and moving walk installations.

Subsection 3147.104(a).

Specific purpose:

To affirm seismic requirements apply to all escalator and moving walk installations.

Necessity:

The state of California resides in a seismic risk zone 2 or greater as defined by earlier building codes, making the seismic requirements of ASME A17.1-2019, section 8.5 applicable. (See ASME A17.1-2019, section 8.5(a)(5).)

Subsection 3147.104(b).

Specific purpose:

To require information related to escalator or moving walk seismic design be submitted to the Division.

Necessity:

This information is used by field inspectors to examine escalator and moving walk attachment to the building for required seismic movement and restraint, as determined by a California licensed engineer.

Subsection 3147.104(c).

Specific purpose:

To require balustrades withstand a minimum seismic force of 50 pounds along the exposed handrail.

Necessity:

The CBC requires handrails resist a linear load of 50 pounds per linear foot. See CBC, section 1607.8.1. During a seismic event (ground motion), balustrades would see compounded lateral forces imposed by passengers trying to stabilize themselves.

Subsection 3147.104(d).

Specific purpose:

To require escalators and moving walk intermediate supports to provide seismically necessary lateral movement.

Necessity:

Freedom of movement at intermediate supports prevents damage to the truss structure when the ends of the escalator or moving walk move during a seismic event.

Section 3147.200. Conveyances Covered by ASME A18.1-2020 as amended by the Group V Elevator Safety Orders.

Specific purpose:

To add new section to contain regulations for conveyances subject to ASME A18.1-2020.

Necessity:

Editorial change.

Subsection 3147.200(a).

Specific purpose:

To incorporate by reference ASME A18.1-2020 Safety Standard for Platform Lifts and Stairway Chairlifts, as amended.

Necessity:

The applicable consensus standard for platform lifts and stairway chairlifts, per the LC.

Subsection 3147.200(b).

Specific purpose:

To recognize the applicable electrical code enforced in the state of California as the CEC.

Necessity:

The California Building Standards Commission promulgates electrical code regulation for enforcement in California.

Subsection 3147.200(c).

Specific purpose:

To permit locking of lifts. To require lifts to be unlocked during business hours.

Necessity:

Allows lifts to be locked to prevent access to secured areas outside of business hours. Lifts need to be available for use by persons with disabilities during business hours.

Subsection 3147.200(d)(1).

Specific purpose:

To specify the minimum and maximum clearance between the platform enclosure and the machine housing.

Necessity:

The dimensions specified permit the ability to safely grasp the top of the platform enclosure without impingement, yet limit the opening available for other extremities to become entrapped between a stationary and moving surface.

Subsection 3147.200(d)(2).

Specific purpose:

To require a battery backup power source if the bottom runway door is equipped with an electric strike lock.

Necessity:

A loss of power would cause the electric strike lock to remain locked even if the lift is at a landing. A battery backup power source will reduce passenger entrapment by permitting the electric strike lock to function as intended when normal electric power is not available.

Subsection 3147.200(e).

Specific purpose:

To require certain conveyance equipment be approved by the Division.

Necessity:

The specified devices are subject to engineering or type testing, and/or have critical design, factor of safety, material, and performance criteria. An approval process that evaluates these devices to the requirements of the ESO ensures they are designed to perform their critical safety roles. Evaluating complex engineering information for each of these devices individually at each conveyance acceptance inspection is inefficient and repetitive.

Section 3147.300. Vertical and Inclined Reciprocating Conveyances Covered by ASME B20.1-2021 as amended by the Group V Elevator Safety Orders.

Specific purpose:

To add new a section to contain regulations for conveyances subject to ASME B20.1-2021.

Necessity:

Editorial change.

Subsection 3147.300(a).

Specific purpose:

To incorporate by reference ASME B20.1-2021 Safety Standard for Conveyors and Related Equipment, as excepted and amended.

Necessity:

The applicable safety standard per the LC. ASME B20.1-2021 covers multiple types of conveyors, not just vertical reciprocating conveyors and inclined reciprocating conveyors. Certain sections of the standard are not adopted as they address conveyor types that are not regulated by the ESO.

Subsection 3147.300(b).

Specific purpose:

To exclude conveyors equipped with automated transfer devices or systems.

Necessity:

These automated conveyor types are not subject to the ESO (see subsection 3000(d)(1)).

Subsection 3147.300(c).

Specific purpose:

To recognize the applicable electrical code enforced in the state of California as the CEC.

Necessity:

The California Building Standards Commission promulgates electrical code regulation for enforcement in California.

Subsection 3147.300(d).

Specific purpose:

To require permanent electrical lighting, capable of producing five foot-candles of light, in the hoistway, at each landing, and in the area of the controller and machine.

Necessity:

Conveyors and conveyor equipment can be installed in areas of a building that are not well lit by natural or artificial illumination. This proposed amendment is necessary to ensure the general public, workers, and elevator personnel have sufficient light when operating, maintaining, repairing, and working on conveyors.

Subsection 3147.300(e)(1).

Specific purpose:

To require sufficient guarding to protect from hazards related to shifting, projecting, or falling materials.

Necessity:

To provide guarding to prevent contact with moving equipment. Hazards such as shifting, projecting, or falling materials are unaddressed. For example, a person loading materials at a lower landing can be subjected to falling materials originating from the uppermost landing, where the landing entrance is reduced to 42 inches in height.

Subsection 3147.300(e)(2).

Specific purpose:

To require arrival indicator for solid panel doors.

Necessity:

A solid panel landing door prevents a person from visually verifying that the loading platform has arrived and is in position. Arrival indicators discourage attempts to open the landing door when the platform is not at the landing.

Subsection 3147.300(e)(3).

Specific purpose:

To require sufficient guarding to protect from hazards related to shifting, projecting, or falling materials.

Necessity:

To provide guarding to prevent contact with moving equipment. To prevent materials from being dropped down the runway onto workers loading the platform at a lower landing.

Subsection 3147.300(f).

Specific purpose:

To provide protection from moving equipment in machinery spaces.

Necessity:

The machinery space is a workspace for elevator personnel. This workspace may contain moving equipment, creating a hazard to workers.

Subsection 3147.300(g).

Specific purpose:

To not permit guarding exceptions in ASME B20.1-2021.

Necessity:

These conveyors can be operated by people untrained in the conveyor's operation and are unfamiliar with the hazards involved with its use. Warning means such as signs or warning lights, in lieu of physical guards, would not adequately address the hazard the moving equipment would pose.

Subsection 3147.300(h).

Specific purpose:

To limit the applicability requirement of ASME B20.1-2021, section 5.11.2(b) exclusively to conveyors not required to be loaded or unloaded by personnel.

Necessity:

Equipment that is automatically or remotely activated poses risks to persons loading the conveyor platform.

Subsection 3147.300(i).

Specific purpose:

To require additional conveyor design characteristics be provided on a separate dataplate adjacent to the manufacturer's nameplate.

Necessity:

Equipment that is automatically or remotely activated poses risks to persons loading the conveyor platform.

Subsection 3147.300(j).

Specific purpose:

To require the capacity of the conveyor be prominently posted in the conveyor platform carrier.

Necessity:

This information is essential when loading the platform to reduce the chance of overloading the conveyor.